The G7 Research Group – Paris Office
at the Munk School of Global Affairs and Public Policy at Trinity College
in the University of Toronto presents

The G7 from Charlevoix to Biarritz:
A Special Compliance Report
For the period from 10 June 2018 to 25 July 2019

Prepared by
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Feedback, as always, is welcome and is kept anonymous.
Unlike the regular annual compliance reports produced by the G7 Research Group,
this report has not been sent to stakeholders for review prior to publication. Scores can be
recalibrated if new material becomes available that meets the requirements set by the
methodology used for monitoring compliance.
We encourage readers to send comments to
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About the G7 Research Group – Paris Office

Founded in 1988, the G7 Research Group is a global network of scholars, students and professionals in the academic, research, media, business, non-governmental, governmental and intergovernmental communities who follow the work of the G7, the G8 and related institutions. The group’s mission is to serve as the world’s leading independent source of information, analysis and research on the G7. Founded in 1987, it is managed from Trinity College and the Munk School of Global Affairs and Public Policy at the University of Toronto. Participating researchers span the world.

The G7 Information Centre at http://www.g7.utoronto.ca, launched in 1996, is a free source of documentation, other information and analysis on the G7’s work.

Trinity College’s John W. Graham Library has become the global repository of G7, G8 and G20 documents, transcripts, audiotapes, media reports, interviews, studies, essays, memorabilia and artifacts.

The Paris Office of the G7 Research Group was founded in 2018 when France assumed the presidency of the G7. Its team comprises researchers from the University of Toronto, Western University, Sciences Po and the University of Oxford. Its purpose is to provide information and analysis on France’s role within the G7.
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Executive Summary

From 15 to 17 November 1975, French president Valéry Giscard d'Estaing hosted the United Kingdom, the United States, Italy, Japan and Germany at the Château de Rambouillet outside Paris to discuss multilateral cooperation in the midst of Cold War's economic and political turbulence. This G6, an informal summit, was intended by its host to be a one-time occurrence. The leaders in attendance, however, found the exercise so useful that they repeated it on an annual basis, adding the leaders of Canada in 1976 and what would become the European Union in 1977 to become the G7 of today.

From 24 to 26 August 2019, French president Emmanuel Macron hosted the G7 summit in the town of Biarritz on the Basque coast. Macron had an ambitious vision to renew the format of the G7. In a speech at the United Nations in September 2018, he stressed that “the time when a club of rich countries could alone define the world's balances is long gone.” With combatting inequality as its overarching theme, France saw its G7 presidency as “an opportunity to adjust the format of the group” by involving democracies with regional influence, African partners, and civil society to produce tangible solutions to combat all forms of inequality.

This study assesses the compliance of G7 members with commitments made at the 2018 Charlevoix Summit preceding the French presidency in 2019 on five priority issue areas for France: democracy, innovation, development, gender and the environment. The results again show France’s G7 leadership, now in members’ compliance with their summit commitments, including on French priorities.

Table A: Priority Commitments Selected for Assessment

<table>
<thead>
<tr>
<th></th>
<th>“Engage directly with Internet service providers and social media platforms [regarding malicious misuse of information technology by foreign actors, with a particular focus on improving transparency regarding the use and seeking to prevent the illegal use of personal data and breaches of privacy.]”</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>“We will promote innovation through a culture of lifelong learning among current and future generations of workers.”</td>
</tr>
<tr>
<td>3</td>
<td>“Supporting innovative financing approaches to achieve greater sustainable development outcomes and unlock resources such as crowdfunding, blended finance, risk mitigation tools and investor partnerships.”</td>
</tr>
<tr>
<td>4</td>
<td>“Building on our existing efforts, we will work with our partners, including developing country governments to increase equal access to quality education for girls and women.”</td>
</tr>
<tr>
<td>5</td>
<td>“[Canada, France, Germany, Italy, Japan, the United Kingdom and the European Union will promote the fight against climate change through collaborative partnerships and work with all relevant partners, in particular] the private sector [to identify and assess policy gaps, needs and best practices.]”</td>
</tr>
</tbody>
</table>
Table B: Compliance Scores

<table>
<thead>
<tr>
<th>Commitment</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
<th>European Union</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Democracy</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>0.75</td>
</tr>
<tr>
<td>2 Innovation</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>1</td>
</tr>
<tr>
<td>3 Development</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>0.89</td>
</tr>
<tr>
<td>4 Gender</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>0</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>0</td>
<td>0.63</td>
</tr>
<tr>
<td>5 Environment</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>N/A</td>
<td>+1</td>
<td>N/A</td>
<td>0.86</td>
</tr>
<tr>
<td>Average</td>
<td>+0.80</td>
<td>+1.00</td>
<td>+0.80</td>
<td>+0.20</td>
<td>+0.80</td>
<td>+1.00</td>
<td>+0.50</td>
<td>+1.00</td>
<td>+0.76</td>
</tr>
</tbody>
</table>

N/A = not applicable.

**Compliance Methodology**

The compliance report assesses the compliance of the G7 members with five priority commitments selected from the total 315 made at their summit in Canada on 8-9 June 2018. This selection reflects the key priorities of the 2019 French presidency, which assumed the role of host of the G7 after Canada. The analysis covers actions taken by G7 members since 10 June 2018, the day after the summit, until 25 July 2019, just prior to the 2019 Biarritz Summit.

To make its assessments, the G7 Research Group relies on publicly available information, documentation and media reports. To ensure the accuracy, comprehensiveness and integrity of these reports, we encourage comments and suggestions. Indeed, this is a living document, and the scores can be recalibrated if new material becomes available. All feedback remains anonymous and is never attributed. Responsibility for this report’s contents lies exclusively with the report’s authors and the analysts of the G7 Research Group. This report is produced entirely on a voluntary basis. It receives no direct financial support from any source. It is produced by a process insulated from the other major activities of the G7 Research Group, such as the “background books” produced GT Media or the pre-summit conferences sponsored by various institutions.

The report is based on robust research and compliance analysis conducted by a team of researchers from the University of Toronto, Western University, Sciences Po and the University of Oxford.
Sommaire exécutif


Du 24 au 26 août 2019, le président français Emmanuel Macron a accueilli le sommet du G7 dans la ville de Biarritz sur la côte basque. Macron avait une vision ambitieuse de renouveler le format du G7. Dans un discours aux Nations Unies en septembre 2018, Macron a souligné que «de temps où un club de pays riches pourrait à lui seul définir les équilibres du monde est révolu depuis longtemps.» Avec la lutte contre les inégalités comme thème principal, la France a vu sa présidence du G7 comme «une possibilité d’ajuster le format du groupe » en impliquant les démocraties ayant une influence régionale, les partenaires africains et la société civile pour produire des solutions tangibles pour lutter contre toutes les formes d’inégalités.

Ce rôle de leadership n’était pas nouveau pour la France. Pourtant, il n’existe pas de description complète du rôle de la France au sein du G7. Cette étude comble une lacune importante dans la littérature sur le G7 et la politique étrangère de la France en fournissant les premières recherches et analyses approfondies sur le leadership de la France au sein du G7.


Tableau A: Engagements prioritaires sélectionnés pour l’analyse

<table>
<thead>
<tr>
<th></th>
<th>Engagements prioritaires sélectionnés pour l’analyse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>« S’engager directement avec les fournisseurs de services Internet et les plateformes de médias sociaux [concernant l’utilisation malveillante des technologies de l’information par des acteurs étrangers, en mettant un accent particulier sur l’amélioration de la transparence concernant l’utilisation et en cherchant à empêcher l’utilisation illégale des données personnelles et les atteintes à la vie privée.] »</td>
</tr>
<tr>
<td>2</td>
<td>« Nous allons promouvoir l’innovation grâce à une culture d’apprentissage tout au long de la vie parmi les générations actuelles et futures de travailleurs. »</td>
</tr>
<tr>
<td>3</td>
<td>« Soutenir des approches de financement innovantes pour obtenir de meilleurs résultats en matière de développement durable et débloquer des ressources telles que le financement participatif, le financement mixte, les outils d’atténuation des risques et les partenariats avec les investisseurs. »</td>
</tr>
<tr>
<td>4</td>
<td>« En nous appuyant sur nos efforts existants, nous travaillerons avec nos partenaires, y compris les gouvernements des pays en développement, pour accroître l’égalité d’accès à une éducation de qualité pour les filles et les femmes. »</td>
</tr>
<tr>
<td>5</td>
<td>« [Le Canada, la France, l’Allemagne, l’Italie, le Japon, le Royaume-Uni et l’Union européenne encourageront la lutte contre le changement climatique grâce à des partenariats de collaboration et travailleront avec tous les partenaires concernés, en particulier] le secteur privé [pour identifier et évaluer les lacunes politiques, besoins et meilleures pratiques.] »</td>
</tr>
</tbody>
</table>
Tableau B: Scores de conformité

<table>
<thead>
<tr>
<th>Engagement</th>
<th>Canada</th>
<th>France</th>
<th>Allemagne</th>
<th>Italie</th>
<th>Japon</th>
<th>Royaume-Unis</th>
<th>Etats-Unis</th>
<th>Union européenne</th>
<th>Moyenne</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Démocratie</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>+0.75</td>
</tr>
<tr>
<td>2 Innovation</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>+0.75</td>
</tr>
<tr>
<td>3 Développement</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>+0.88</td>
</tr>
<tr>
<td>4 Inégalités hommes-femmes</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>0</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>+1</td>
<td>+0.63</td>
</tr>
<tr>
<td>5 Environnement</td>
<td>+1</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
<td>+1</td>
<td>N/A</td>
<td>+1</td>
<td>+1</td>
<td>+0.86</td>
</tr>
<tr>
<td>Moyenne</td>
<td>+0.80</td>
<td>1.00</td>
<td>+0.80</td>
<td>+0.20</td>
<td>+0.80</td>
<td>+1.00</td>
<td>+0.50</td>
<td>+1.00</td>
<td>+0.76</td>
</tr>
</tbody>
</table>

N/A = non applicable.

Méthodologie de conformité


L’étude a réuni une équipe internationale de chercheurs et d’analystes de l’Université de Toronto, de l’Université Western, de Sciences Po et de l’Université d’Oxford.
1. Democracy

“Engage directly with Internet service providers and social media platforms [regarding malicious misuse of information technology by foreign actors, with a particular focus on improving transparency regarding the use and seeking to prevent the illegal use of personal data and breaches of privacy].”

The Charlevoix Commitment on Defending Democracy from Foreign Threats

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Member</th>
<th>No Compliance</th>
<th>Partial Compliance</th>
<th>Full Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Canada</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>France</td>
<td></td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Germany</td>
<td></td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Italy</td>
<td></td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Japan</td>
<td></td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td></td>
<td></td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>United States</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>European Union</td>
<td></td>
<td></td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td></td>
<td></td>
<td>+0.75 (88%)</td>
</tr>
</tbody>
</table>

Background

The G7 countries have always accorded great significance to the theme of democracy.

At the 2018 Charlevoix Summit, the G7 members made various commitments aiming “to build a more peaceful and secure world,” to counter global security threats and terrorism and “to strengthen the implementation of the Women, Peace and Security (WPS) agenda,” with the strengthening of democracy and democratic institutions as core parts of these commitments. At this summit, the G7 countries emphasized the importance of taking “concerted action in responding to foreign actors who seek to undermine our democratic societies and institutions, our electoral processes, our sovereignty and our security.” The statement particularly identifies the threat of foreign “state actors” as “not just threats to G7 nations, but to international peace and security and the rules-based international order.”

The G7 members signed the Charlevoix Commitment on Defending Democracy from Foreign Threats, emphasizing that they “share common democratic values that are central to the development of free, open, well-governed, pluralistic and prosperous societies and recognize that equality is a core component of democracy.” The commitment notes that “foreign actors seek to undermine our democratic societies and institutions, our electoral processes, our sovereignty and our security”, constituting “a serious strategic threat which we commit to confront together, working with other governments that share our democratic values.” In order to defend democracy, the G7 members emphasize the importance of “a strategic approach that is consistent with universal human rights and fundamental freedoms, our international commitments to peace and security, and that promotes equality.”

2018 was the first time that a specific, separate commitment was agreed on regarding (the threat to) democracy. In most previous summits, democracy is often cited as a common value, among peace,

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security, the rule of law, freedom and respect for human rights, like in the preamble of the 2017 Taormina and 2016 Ise-Shima communiqués. The G7 members emphasize threats to cybersecurity by state and non-state actors, as well as corruption as significant threats to democracy.

Commitments around the theme of democracy at previous summits also focused on tools for reinforcing democratic processes. This was one of the intentions of the commitment to the Open Data Charter at the 2013 Lough Erne Summit.

Democracy was a major theme at the previous G8 summit held in France in 2011 at Deauville. Instead of issuing a communiqué at the end of the summit, the G8 members committed to the G8 Declaration: Renewed Commitment to Freedom and Democracy. The declaration “renewed [the G7’s] commitment to support democratic reform around the world.” The members also discussed the Internet at the Summit, “[as] a unique information and education tool, [which] helps to promote freedom, democracy and human rights.”

Most of the summits preceding 2011 had much less focus on democracy, with the word democracy mentioned very few times in the communiqués, and normally in the context of defining values to be defended in various contexts, like in the fight against corruption at the 2009 L’Aquila G8 summit.

**Commitment Features**

The G7 commitment is to “Engage directly with Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors, with a particular focus on improving transparency regarding the use and seeking to prevent the illegal use of personal data and breaches of privacy.” Malicious misuse of information technology by foreign actors includes actions that “seek to undermine our democratic societies and institutions, our electoral processes, our sovereignty and our security,” through information and communications technology.

To achieve full compliance, G7 members must engage with both Internet service providers and social media platforms regarding malicious misuse of information. Partial compliance is achieved when the member engages with either Internet service providers or social media platforms. No compliance is scored when the member engages with neither social media platforms nor Internet service providers regarding the malicious misuse of information.

**Scoring Guidelines**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>The G7 member has not engaged with Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors.</td>
</tr>
<tr>
<td>0</td>
<td>The G7 member has engaged with either Internet service providers or social media platforms regarding malicious misuse of information technology by foreign actors.</td>
</tr>
<tr>
<td>+1</td>
<td>The G7 member has engaged with both Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors.</td>
</tr>
</tbody>
</table>

Compliance Director: Hélène Emorine
Lead Analyst: Liam Bekirsky

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3 G7 Taormina Leaders’ Communiqué, G7 Information Centre (Toronto) 27 May 2017. Access Date: 12 December 2018. [http://www.g7.utoronto.ca/summit/2017taormina/communique.html](http://www.g7.utoronto.ca/summit/2017taormina/communique.html).
4 G7 Ise-Shima Leaders’ Declaration, G7 Information Centre (Toronto) 27 May 2016. Access Date: 12 December 2018. [http://www.g7.utoronto.ca/summit/2016shima/iseshima-declaration-en.html](http://www.g7.utoronto.ca/summit/2016shima/iseshima-declaration-en.html).
Canada: 0

Canada has partially complied with its commitment to “engage directly with Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors with a particular focus on improving transparency regarding the use and seeking to prevent illegal use of personal data and breaches of privacy.”

On 19 April 2018, Bob Zimmer, the chair of the House of Commons Standing Committee on Access to Information, Privacy and Ethics, along with other Canadian lawmakers, grilled Facebook Canada executives about data breaches by the social media platform, after the company admitted it exposed the information of 600,000 Canadian Facebook users.

On 27 June 2018, Facebook Canada announced the launch of a third-party fact checking program aimed at preventing the spread of false news on Facebook. The program is a part of Facebook Canada’s Election Integrity Initiative aimed at ensuring a space for authentic civic engagement. With this program, Canadians on the social media platform will be informed if a story shared by them on Facebook has been labelled as false.

In September 2018, the Canadian privacy commissioner announced an investigation of Facebook’s practice of collecting user data. Commissioner Daniel Therrien stated, “The digital world, and social media in particular, have become entrenched in our daily lives and people want their rights to be respected.”

On 9 November 2018, the Canadian Radio-television and Telecommunications Commission published a notice, calling for comments on the Internet Code. The commission acknowledged the growing consumer concerns about Internet services in general, and the absence of a fixed code of conduct for Internet service providers. The proposed code of conduct will “make it easier for individual and small business customers to obtain and understand the information in their Internet service contracts; establish consumer-friendly business practices for the Internet service industry where necessary; and contribute to a dynamic Internet market.” Content on the Internet does not fall under the purview of the code, however.

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In November 2018, Defence Minister Harjit Sajjan acknowledged that the problem of fake news had not sufficiently been dealt with, warning that Canada “was a likely target for misinformation campaigns spread through social media in the run-up to the 2019 federal election.”

On 10 December 2018, The Elections Modernization Act (Bill C-76) received royal assent in Canada. The bill requires online platforms to create a “registry of all digital advertisements placed by political parties or third parties during the pre-writ and writ periods and to ensure they remain visible to the public for two years.”

In January 2019, the Canadian government announced a series of new measures aimed at protecting Canada’s electoral system from foreign interference, and “enhancing Canada’s readiness to defend the democratic process from cyber threats and disinformation.” A “Critical Election Incident Public Protocol” was set up to notify the public about misinformation and attempts to spread fake news, in an impartial way. The Canadian government also announced a grant of $7 million to projects aimed at increasing public awareness of misinformation online.

On 19 February 2019, the Canadian Internet Registration Authority released a research report displaying Canadians’ opinions and experiences regarding the Internet and fake news, privacy, cybersecurity and access.

In May 2019, Prime Minister Justin Trudeau announced the launch of a digital charter to enforce rules governing social media platforms in order to protect Canadian citizens online. Speaking at the Viva Technology conference in Paris, the Prime Minister said that “The platforms are failing their users. And they’re failing our citizens. They have to step up in a major way to counter disinformation, and if they don’t, we will hold them to account and there will be meaningful financial consequences.” The principles of the charter include universal access; safety and security; control and consent; transparency, portability and interoperability; open and modern digital government; a

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level playing field; ensuring data and digital media are used for good; strong democracy; freedom from hate and violent extremism; and strong enforcement and real accountability.\textsuperscript{24}

While Canada has actively engaged with social media platforms regarding misinformation and the spread of fake news, it has not sufficiently engaged with Internet service providers on malicious use of information technologies.

Thus, Canada receives a score of 0.

\textit{Analyst: Shruti Slaria}

\textbf{France: +1}

France has fully complied with its commitment to engage with both Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors.

In August 2018, the French Ministries of Foreign Affairs and of the Armed Forces published a joint report addressing information manipulation of both state and non-state actors with the intention of undermining liberal democracies and their respective electoral processes.\textsuperscript{25} This report analyses past failures and successes of countering online activities threatening liberal democracies through various means (including electoral interference) and presents 50 recommendations for policy makers, governments, and private actors.\textsuperscript{26}

On 20 September 2018, ZD Net reported\textsuperscript{27} that the French cyber and information security agency (ANSSI) introduced a computer operating system called Clip OS, which it described as a security-hardened Linux-based system that is meant to better protect user data.\textsuperscript{28}

In October 2018, ANSSI hosted a Cybersecurity month. The Cybersecurity month hosted a set of events, which represented a culmination of six months of consultations with Internet service providers, Internet users, social media users, and journalists. These events equipped their respective audiences with methodologies to identify and tackle the presence of misinformation disseminated by illicit actors aiming to interfere with democratic processes.\textsuperscript{29}

On 12-14 November 2018, France hosted the Internet Governance Forum, during which ANSSI presented its commitment to strengthening public-private and civil cooperation to effectively counter

\begin{flushright}
\end{flushright}
threats to democracy coming from the cyberspace.30 According to ANSSI, “international regulation must define the responsibility of each actors in order to ensure the stability of cyberspace.”31

On 12 November 2018, Jean-Yves Le Drian, the French Minister for European and Foreign Affairs, published a declaration following the Paris Peace Forum.32 In the declaration, Le Drian affirms France’s commitment to public-private partnerships, including with Internet service providers and social media platforms, to tackle illicit activities undermining French democracy.33

On 14 November 2018, EurActiv reported that France is performing the best of all EU countries in protecting net neutrality. 34 This means that France effectively maintains its commitment to transparency in that it does not limit the citizens’ access to resources, but at the same time scans this space for potential illicit content.35

On 22 February 2019, ANSSI announced its participation in SPARTA, an initiative financed through the Horizon2020 financing programme of the European Union. The initiative brings together 44 actors private and public actors from 14 different member countries of the EU. According to ANSSI “SPARTA will setup unique collaboration means, leading the way in building transformative capabilities and forming a world-leading Cybersecurity Competence Network across the EU. From basic human needs […] to sovereignty (eGovernment, public administration), four research and innovation programs will push the boundaries to deliver advanced solutions to cover emerging challenges.”36

On 21 May 2019, the ANSSI and the Bundesamt Für Sicherheit In Der Informationstechnik (BSI) presented the second edition of the “Common Situational Picture.” The Common Situation Picture is a joint report that aims to demonstrate ANSSI’s and BSI’s willingness to improve their common communication and face together the growing challenges arising from a more digitalized and connected world. The reports also introduce some core principles and concepts of artificial intelligence and especially their possible future implications for Internet security, focusing, among other things, on the safety of civil society.37


G7 Research Group
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France has taken actions to engage directly with Internet service providers, social media platforms as well as citizens regarding cybersecurity and data protection at both the national and international level to enhance the protection of democratic processes against malicious misuse of information technologies by foreign state and non-state actors.

Thus, France receives a score of +1.

**Analyst: Samuel Ribansky**

**Germany: +1**

Germany has fully complied with its commitment to engage with both Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors.

On 19 September 2018, the federal German agency for security in information services (Bundesamt für Sicherheit in der Informationstechnik – BSI) published a press release commending Facebook for its professional approach in the timely notification of German federal authorities about the potential leak of the private data of upwards of 50 million users. According to BSI, the quick notification was appreciated, but also pointed towards the lack of quality of security, where more work needs to be done. As such, BSI committed to continue to engage with social media platform providers to resolve existing issues and prevent future such occurrences.

On 16 October 2018, the German BSI reported on a workshop it hosted on the safety and security of 5G networks. According to the BSI, this was the first time that Germany’s major mobile network providers had come together to discuss the technical details of securing the 5G networks, which are currently under construction. The mobile network providers further exchanged existing best practices in network security. BSI also noted that it would remain available to the network provider as the main advisory body on mobile network security.

On 21 November 2018, the authority of the German state of Baden-Württemberg (LfDI) imposed a fine of EUR20,000 on a social media provider for a violation of its data security obligations under Art. 32 of the European General Data Protection Regulation (GDPR). It was the first fine issued by a German data protection authority under the GDPR.

On 4 December 2018, the Bundesanstalt für den Digitalfunk der Behörden und Organisationen mit Sicherheitsaufgaben (BDBOS) and the BSI signed an inter-institutional agreement for the BSI to help

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BDBOS secure federal German networks, including landlines and data networks with the purpose of protecting them from external attacks.\(^{43}\)

On 16 December 2018, the BSI published its technical guidelines for broadband Internet providers. According to the BSI, “the technical guideline (TG) is aimed primarily at the manufacturers of broadband routers and defines a minimum level of IT-Security measures that should be implemented for routers in the retail sector. Therefore, the TG seeks to make the security features of broadband routers transparent for consumers. More specifically, the TG focuses on targeting threats pervasive in the Internet of Things (IoT) era, looking at the penetrability of smart appliances and how broadband Internet providers can help prevent data leaks and privacy breaches to which these appliances are vulnerable.”\(^{44}\)

On 18 December 2018, the BSI published a basic protection profile for shipping companies. The protection profile gives shipping companies a security base from which they can build their own tailored information technology security solutions.\(^{45}\) This initiative is a direct response to the NotPetya hacking attack, which first targeted Ukraine’s energy infrastructure and in 2018 Maersk shipping company’s IT system.\(^{46}\)

On 4 January 2019, the BSI engaged closely with an unspecified member of the German Bundestag, after being informed of a leak of personal information of politicians and other prominent figures online via Twitter. Further analysis allowed the BSI to identify earlier such attacks, of which it had no prior knowledge. According to its press website, the BSI has issued guidance for sharing personal information online while continuing its investigation into the leak.\(^{47}\)

On 25 May 2019, the BSI issued a press release detailing its cooperation with major social media platforms, including Facebook, Twitter, Instagram, Google, and YouTube, in the wake of the 2019 European Parliament elections. According to BSI, the partnership entailed increased support from the social media providers for candidates on the issues of account verification, as well as account security. The partnership enabled the social media platforms and the BSI to cooperate and coordinate in a timely and diligent manner in case of security breaches, the social media platforms switching part of its burden to identify the perpetrator on to the BSI.\(^{48}\)

Germany has taken initial steps and identified areas for further action to engage with both Internet service providers and social media platforms to improve personal data security and prevent its misuse by state and non-state actors.

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Thus, Germany receives a score of +1.

**Italy: +1**

Italy has fully complied with its commitment to engage with both Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors.

On 18 May 2018, Italy implemented new regulation for cybersecurity and transparency. According to the European Union Network and Information Security (NIS) directive, which the current government worked rigorously to put into place, both Digital Service Providers (FDS) and Essential Service Operators (OSE) are now obliged to work with the new-born Italian Computer Security Incident Response Team in order to guarantee the security of the cyberspace.

On 25 October 2018, in view of the next European elections, the head of the Authority for the Guarantee of Communications (AGCOM), Angelo Marcello Cardani, asked the CEOs of Facebook, Google and Twitter to enhance cooperation with Italian authorities in order to fight against the diffusion of fake news. In addition, this same agency published a report with the help of Internet service providers and social media platforms pledging tighter technical collaboration with the private sector with the aim of improving Italians’ media literacy and the containment of disinformation.

On 6 and 7 November 2018, Italy held IGF Italia, which focused particularly on the issue of cybersecurity connected to democracy. Social media platforms and Internet service providers participated in the debate on “Industry 4.0 and cybersecurity” and on the “Transparency and Democracy in digital electoral campaigns.” In the latter, the focus of the discussion between actors from the public and private sector was on the necessity of facing foreign interference and manipulation of the democratic process through fake news or hacking. Italy also participated in the IGF 2018 in Paris, where the government’s representatives highlighted the effort of their authorities in ensuring openness, transparency and the encouragement of awareness about these main topics.

On this occasion, the Five Star Movement and the League’s spokespersons underlined Italy’s engagement in ensuring efficient cybersecurity and in fighting the spread of fake news, in particular through a strict collaboration with the main operators of the Internet platforms, with the telecom operators and with the media.

On 29 November 2018, the Forum on Public Administration published a white paper about the digital transformation of the public administration after a consultation between public, private sector and the civil society. This paper stresses the necessity of promoting transparency and civic engagement in ensuring efficient cybersecurity and in fighting the spread of fake news, in particular through a strict collaboration with the main operators of the Internet platforms, with the telecom operators and with the media.

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participation, especially by using social media platforms, in order to guarantee citizens’ rights throughout this process of digitalisation of the public administration.\(^{55}\)

On 28 December 2018, the Italian government defined the FDS and OSE in every sector specified by the NIS, including digital infrastructures.\(^{56}\) 465 private and public entities, whose identity is protected, will have to follow high cybersecurity standards and to help the government track future cyberattacks.\(^{57}\)

On 30 December 2018, the Italian Parliament approved the Budget Law 2019. This latter law points out Italy’s engagement in digitalising the public administration’s structure, which is the cornerstone of the government’s functioning, by implementing the three-year plan for information and communications technologies for 2018-2020, particularly focused on cybersecurity through the cooperation with the private sector.\(^{58}\)

On 12 February 2019, Italy held the 2019 edition of the Italian Conference on Cybersecurity.\(^{59}\) On this occasion, the Minister for Defence, Elisabetta Trenta, reaffirmed the need for a closer collaboration between institutions, research centres and private actors at a European level and in the framework of NATO, as required by NIS and GDPR regulations.\(^{60}\)

On 12 March 2019, the Public Administration Minister, Giulia Buongiorno, approved a three-year computerization plan for the public administration.\(^{61}\) With this plan, the Italian government aims to accelerate the digitalisation of the administration through the direct involvement of private actors and enterprises in the development of integrated and interoperable services.\(^{62}\) The final text includes a chapter concerning cybersecurity and defence of the digital infrastructure of public administration.\(^{63}\)

On 21 May 2019, ZTE Corporation, one of the biggest Chinese state-owned enterprises in the telecommunications field, opened in Rome the first laboratory on cybersecurity in Europe with the approval of the Italian authorities.\(^{64}\) At the inauguration of the lab, the undersecretary of state for


defence, Angelo Tofalo, stated that the Italian government had the duty to cooperate with today’s main stakeholders in order to face future cybersecurity challenges.\(^{65}\) This laboratory is the third example of the collaboration between Italy and ZTE, after the establishment of a research centre and a joint training centre.\(^{66}\)

Italy has demonstrated the necessary political will to engage with Internet service providers and social media platforms in order to strengthen its cybersecurity against malicious misuse of its citizens’ data by foreign state and non-state actors.

Thus, Italy receives a score of +1.

**Japan: +1**

Japan has fully complied with its commitment to tackle malicious misuse of information technology by foreign actors by continuing to engage with Internet service providers and social media platforms by initiating talks on the issue both globally and domestically.

On 31 May 2018, under the section of Innovation Japan, the Japanese government published a video under the name of “Innovation Japan: The Democratization of IoT Communication.”\(^{67}\) The video reflects on the “groundbreaking cloud-based platform” invented by a rising Japanese startup. The technology not only reduces the cost of IoT (Internet of Things), but its cloud-like platform allows smaller companies to launch creative and innovative products and services. The website of the Government of Japan marks the invention as the ignition of social transformation, which can be called the democratization of the IoT.\(^{68}\)

In June 2018, some companies reported the data requests received from the Japanese government:

• During the period of January – June 2018, LINE, a messaging platform with servers based in Japan, reported that 86 percent of the global requests it received from law enforcement agencies came from Japan.\(^{69}\)

• During the period of January – June 2018, Google reported 251 requests for user data from Japanese authorities and produced some data in 86 percent of cases.\(^{70}\)

• During the period of January – June 2018, Facebook reported total of 17 cases involving 22 accounts.\(^{71}\)

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On 25 January 2019, the Japan Fair Trade Commission (JFTC) announced the official launch of an investigation into information technology giants to determine possible misuse of their influence on the market for the benefit of their partners or users.72 The investigation marked an initial step towards fair and transparent trade.

In January 2019, Japan announced that it was considering applying policies already applied to domestic companies prohibiting global information technology giants from using email content and other communications data without users’ consent.73

In March 2019, after receiving a written request from Australia, Japan supported the initiative in wake of Christchurch attack to arrange talks on tightening social media control during G20 summit in Osaka in June.74

On June 5, 2019 the Japanese government announced plans to submit a bill to parliament next year to regulate global and domestic information technology giants.75 The bill aims to enhance transparency in business transactions of tech firms. According to the draft economic growth strategy presented at a governmental panel, the bill will be presented to the ordinary Diet session in January.76

On 6 June 2019, Japanese government sources announced that G7 members will work together to boost regulations of information technology giants. Furthermore, the countries also agreed to share results of independent investigations, including proposed solutions of dealing with violations. The Japan Times reports that the issue is set to be discussed at the upcoming G7 summit in France.77

In June 2019, in the G20 summit framework, Prime Minister Shinzō Abe of Japan held a bilateral discussion with Scott Morrison, Prime Minister of Australia regarding his initiative to adopt a set of clear principles about what is expected of Social Media giants.78

On 28 June 2019, at the G20 summit, the Japanese Prime Minister formally launched Osaka Track, an overarching framework promoting cross-border data flow with enhanced protection.79 After the meeting, 24 countries signed the statement in support of Osaka Track, including China and Russia.

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Japan has fully complied with its commitment to engage directly with Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors. Japan has successful used its status as a host of G20 summit host to support and promote issue of data protection and monitoring, including social media monitoring in wake of Christchurch attacks.

Thus, Japan receives a score of +1.

**United Kingdom: +1**

The United Kingdom has fully complied with its commitment to engage with both Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors.

Since the publishing of the communiqué of the 44th G7 summit in Charlevoix, the Information Commissioner’s Office (ICO), the UK’s public watch dog responsible for data privacy and information security, fined multiple large companies for the misuse of citizen’s personal data. These included Facebook, Uber, Equifax, and the Heathrow Airport for the improper obtainment and subsequent handling of user data. Overall, the ICO fined over 30 entities for personal data storage and personal data use malpractice since 9 June 2018.

On 5 July 2018, the ICO launched the second round of funding for innovative privacy protection solutions. The grants, ranging from GBP20,000 to GBP100,000, will be awarded to companies and/or projects that devise solutions applicable to privacy protection challenges and are of clear benefit to UK citizens. The scope of participation in the grant competition is not limited to technological companies only. The areas covered by these grants are the following:

- Artificial intelligence, big data and machine learning. In particular, solutions that would enable effective transparency to individuals or verifiable audit trials;
- Biometric and facial recognition and data protection safeguards in public and private sector;
- Children’s’ data, age verification and parental consent verification solutions;
- Data trusts and the safe sharing of personal information;
- Good practice, compliance with the General Data Protection Regulation and self-assessment tools for small and medium organisations;
- Privacy enhancing applications of blockchain and distributed ledger technology that enhance privacy and accountability and minimise use of personal data;

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• Online advertising, cross device tracking and tools that provide revocable consent and transparency.

On 11 July 2018, the ICO published a report titled “Democracy disrupted? Personal information and political influence,” which aims to expose the malpractices of data-processing for political gain. While not only aimed at countering external threats to electoral integrity, this report also provides recommendations for all members of civil society, including for online media platforms, on how to avoid data processing malpractice. This report also recommended that the government engage in a thorough regulatory review to identify regulatory gaps in data and privacy protection.85 However, no such review has yet been scheduled.

On 13 September 2018, the European Court of Human Rights ruled that the UK’s mass surveillance programme mandated by the Investigatory Powers Act 2016 violated Article 8 of the European Convention on Human Rights. According to the court, the violation by the UK government concerns (1) the bulk interception of communications; (2) intelligence sharing with foreign governments; and (3) the obtaining of communications data from communications service providers.86

On 27 November 2018, the UK invited legislators from nine countries to ask questions to Facebook Vice-President of Policy Solutions Richard Allan at the House of Commons. Damian Collins, Chair of the Digital, Culture, Media and Sport select committee, led the questioning of the company’s executives “over both efforts to fight misinformation and data protection issues.”87 While the UK government has not yet introduced new regulation to enable Office of Communications (Ofcom), the British media regulator, to deal with some of these issues, Ofcom’s Chief Executive Susan White told the committee in October 2018 that social media platforms should “have systems, processes and governance in place so that the country can be satisfied that the harms are being addressed in a consistent and effective manner.”88

On 13 December 2018, the ICO published a list of advice for organisations on compliance with existing data protection regulation after Brexit. According to ICO, this guide works from the assumption that Brexit will happen and that there will be no withdrawal agreement. The guide offers six basic steps for companies to follow,89 but also offers a more comprehensive guide on complying with privacy protection rules post Brexit.90

On 9 January 2019, the ICO prosecuted SLO Elections, formerly known as Cambridge Analytica, for failing to comply with an enforcement notice issued in May 2018. The company was fined

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86 Big Brother Watch and Others v. the United Kingdom – complaints about surveillance regimes, European Court of Human Rights (Strasbourg) 13 October 2018. Access Date: 13 December 2018. https://hudoc.echr.coe.int/eng-press#/%22sort%22:[%22kdate%20Descending%22],%22itemid%22:[%22003-6187848-80262999%22]].
GBP50,000, plus expenses (GBP6,000) and a victim surcharge (GBP170). The subsequent communication from the office indicated that the ruling was meant to send a signal to entities not compliant with UK law.91

On 14 January 2019, the ICO published its draft “Opennes by Design: ICO’s access to information” strategy, which aims to improve citizens’ access to decisions made by public authorities.92 The strategy document93 has simultaneously been opened for consultation, where all members of the public can participate. According to ICO: “Our vision is to increase the public’s confidence in organisations that process personal data and in those responsible for making public information available. The transparency brought about by freedom of information is an important part of that vision and an essential part of our democracy. Amid concerns about the impacts of fake news, being able to access accurate and timely public information assumes increasing importance.”

The strategy revolves around five high-level priorities:

- Work in partnership to improve standards of openness, transparency and participation among public authorities in a digital age.
- Provide excellent customer service to members of the public and public authorities and lead by example in fulfilling our statutory functions.
- Raise awareness of access to information rights and make it even easier for the public to exercise their rights.
- Promote the reform of access to information legislation so it remains fit for purpose.
- Develop and sustain our international collaboration.

On 12 April 2019, the ICO opened the draft version of the “Age appropriate design: a code of practice for online services” document for consultation, which provides guidance for online services expected to be used by children. Introduced by the Data Protection Act 2018, the code sets out 16 standards of age appropriate design for online services like apps, connected toys, social media platforms, online games, educational websites and streaming services, when they process children’s personal data. It’s not restricted to services specifically directed at children. The document assigns personal privacy high importance. The Parliament is expected to vote on the document before the end of 2019.94

The United Kingdom has begun the process of engaging with both social media platforms and Internet service providers through research, legislative committees and grant funding to ensure data privacy and security, though they have not yet passed legislation to deal with the issues identified.

Thus, the United Kingdom receives a score of +1.

United States: 0

The United States has partially complied with its commitment to “engage directly with Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors with a particular focus on improving transparency regarding the use and seeking to prevent illegal use of personal data and breaches of privacy.” The US has engaged directly with social media platforms to eliminate the threat of interference by foreign actors; however, the American government has not directly engaged with Internet service providers.

On 11 June 2018, the Federal Communications Commission (FCC) brought into effect the Restoring Internet Freedom Order. It provides a framework for strong consumer protection and more transparency with an open, lightly regulated Internet. The FCC has imposed enhanced transparency requirements on Internet service providers to discourage harmful practices. The Federal Trade Commission will also be policing anticompetitive or unfair practices by Internet service providers. However, no direct engagement with the Internet service providers has been undertaken, especially in the context of misuse of information by foreign actors since the last G7 summit on 9 June 2018.

On 17 July 2018, the US Congress held a hearing in front of the House Judiciary Committee titled “Facebook, Google and Twitter: Examining the Content Filtering Practices of Social Media Giants.” Top executives from Facebook, YouTube and Twitter attended. The discussions included charges of politically motivated practices in the availability of content, increasing transparency as well as the threat to US elections from Russian Hackers.

On 5 September 2018, the US Congress held hearings with the Chief Executive Officer of Twitter, Jack Dorsey, as well as the Chief Operating Officer of Facebook, Sheryl Sandberg, the two largest social media platforms. US lawmakers directly engaged with these social media platforms to discuss ongoing efforts against foreign influence campaigns and the spread of misinformation.

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On 11 December 2018, the House Judiciary Committee called on Chief Executive Officer of Google Sundar Pichai, to testify before on a wide set of topics, including its data privacy and filtering practices. Other topics discussed included misinformation and transparency.103

On 30 March 2019, Facebook founder, Mark Zuckerberg asked for the government and regulators to play a more active role in four major areas – harmful content, election integrity, privacy and data portability.104 However, government action in regulating Internet content risks implicating the First Amendment as argued by several legal commenters.105 The policy debate on increased regulation is ongoing. Interaction between the US and social media platforms has been at the forefront, however so far there has been no direct interaction with Internet service providers in the same context.

The US has engaged extensively with social media platforms in order to ensure that there is no misuse of private data by foreign actors. It has done this through congressional hearings conducted with top executives from Facebook, Twitter and Google. Social Media platforms have pushed for increased regulation from the US government. However, the US has not approached Internet service providers despite the implementation of the Restoring Internet Freedom order. The US therefore partially complied with its commitment to directly engage with social media platforms and Internet service providers regarding malicious misuse of information technology by foreign actors.

Thus, the United States receives a score of 0.

**European Union: +1**

The European Union has fully complied with the democracy commitment by engaging with both Internet service providers and social media platforms regarding malicious misuse of information technology by foreign actors ahead of the 2019 European elections.

On 9 and 10 July 2018, Europol’s European Union Internet Referral Unit held the Referral Action Days, which brought together governments and representatives of different online platforms belonging to Google. The coordination focused on limiting the dissemination of terrorist propaganda online, exchanging information on best practices and ensuring operational cooperation.106

On 12 September 2018, the president of the European Commission, Jean-Claude Juncker, identified the protection of European “democratic processes from manipulation by third countries or private interests” as a priority during the annual State of the Union Address.107 As a result, on the same day, the European Commission published a Communication on “Securing free and fair European

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The G7 from Charlevoix to Biarritz: A Special Compliance Report

elections.”108 The Communication highlighted the fact that the data protection rules under the General Data Protection Regulation, which entered into force on 25 May 2018, also applied to electoral processes. In particular, the European Commission highlighted that “it is important for all actors involved in election processes – such as national electoral authorities, political parties, data brokers and analysts, social media platforms and online ad networks – to understand clearly how best to apply these rules and what is and is not allowed by them.”109

On 12 September 2018, the European Commission also released a Guidance Document on the application of Union data protection law in the electoral context, reminding that data controllers (such as online platforms) have a particular responsibility to process personal data in line with the General Data Protection Regulation. It also clarifies the transparency requirements of such data controllers, in particular the need to inform the individuals about the processing of their personal data in cases of profiling or micro-targeting. Social media platforms and online ad networks were also called upon to report any data breaches of their services.110

On 12 September 2018, the European Commission proposed a new Regulation to prevent dissemination of terrorist content online.111 The legislation applies to all hosting service providers offering services in the EU and introduces binding removal orders, whereby hosting service providers must remove or disable access to terrorist content which has been flagged by national authorities. Failure to do so would lead to a service provider facing penalties of up to 4 per cent of its global turnover of the last business year. It also requires hosting service providers to take proactive measures to prevent hosting terrorist content in the first place, to respect effective safeguards for fundamental rights, to nominate points of contact with national governments and Europol, and to report on their efforts to the European Commission.112 On 17 April 2019, the European Parliament adopted a legislative resolution on this proposal.113

On 18 September 2018, Europol published its 2018 Internet Organised Crime Threat Assessment report, where it identified the convergence of cyber and terrorism as a crucial challenge for European

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law enforcement. In this report, Europol stresses the need for online service providers to share best practices and strengthen their capacity to limit access to dangerous messages online.\textsuperscript{114}

On 26 September 2018, the European Commission published an EU-wide Code of Practice in Disinformation, a self-regulatory framework for tackling disinformation on online platforms.\textsuperscript{115} The Code covers five areas: to disrupt advertising revenues that spread disinformation, delete fake accounts and online bots, make political advertising more transparent, allow users to report disinformation effectively and expand on the research network to monitor disinformation.\textsuperscript{116} It follows from the Communication “Tackling online disinformation: a European approach.”\textsuperscript{117}

On 10, 11 and 16 October 2018, representatives of Google, Facebook, Twitter and Mozilla signed the Code of Practice on Disinformation.\textsuperscript{118} Microsoft followed suit on 22 June 2019.\textsuperscript{119} In conjunction with the European Commission, they also agreed to specific roadmaps in implementing the Code of Practice in view of the spring 2019 European Parliament election, to ensure the security and integrity of the aforementioned elections.\textsuperscript{120} The Commissioner for Digital Economy and Society Mariya Gabriel highlighted the fact that this was the first time an industry voluntarily agreed to self-regulate disinformation on the basis of common standards.\textsuperscript{121} The European Commission monitored compliance with the Code of Practice by requesting monthly reports from Google, Facebook and Twitter, and subsequently publishing its own monthly intermediate targeted monitoring reports from January 2019 to May 2019.\textsuperscript{122} In particular, the reports focus on the need for transparency of political ads and on the importance of increasing the scrutiny of ad placement, and of supporting the integrity of the services provided by online platforms. The extent of


compliance with the Code of Practice was found to depend on the online platform, with some performing better than others.\textsuperscript{123}

On 15 and 16 October 2018, the European Commission’s in-house think tank, the European Political Strategy Centre, held a High-Level Conference on “Election Interference in the Digital Age: Building Resilience to Cyber-Enabled Threats.”\textsuperscript{124} Several tech companies were invited to share insights on the collaboration between public and private sector on fighting the manipulation of technology by foreign actors in a way that leads to interference in elections, including “deep fakes” and bots. Thomas Myrup Kristensen represented Facebook during the conference.\textsuperscript{125} The Conference was explicitly linked to the G7 commitment related to democracy.\textsuperscript{126}

On 26 and 27 November 2018, the European Commission held the Annual Colloquium on Fundamental Rights with the theme of Democracy in the EU. The Colloquium included several round-tables related to the security of election processes from foreign interference, as well as protection from disinformation. It was attended by European policy makers, but also members of the business world and social media representatives.\textsuperscript{127}

On 5 December 2018, the European Commission released a report on the implementation of the Communication “Tackling online disinformation: a European Approach.”\textsuperscript{128} The report brought attention to the fact that online platforms such as Google and Facebook are interested in collaborating on European fact-checking projects in the context of the upcoming the European elections, such as the International Fact-checking Network and the European Broadcasting Union.\textsuperscript{129}

On 5 December 2018, the European Commission released a report on the implementation of the Communication “Tackling online disinformation: a European Approach.”\textsuperscript{130} The report brought attention to the fact that online platforms such as Google and Facebook are interested in

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collaborating on European fact-checking projects in the context of the upcoming the European elections, such as the International Fact-checking Network and the European Broadcasting Union.\textsuperscript{131}

On 5 December 2018, the European Commission released the Joint Communication “Action Plan against Disinformation.”\textsuperscript{132} This Communication planned the creation of an EU-wide Rapid Alert System, which will provide real-time alerts on disinformation campaigns. The Commission called on online platforms to collaborate in the creation of such a platform by providing “relevant and timely information.”\textsuperscript{133} On 14 June 2019, the European Commission released a report on the implementation of the Action Plan Against Disinformation, in which it noted that the Rapid Alert System has “strengthened cooperation with online platforms, although the platforms still need to become more responsive to external reports of inauthentic behaviour and malign content.”\textsuperscript{134} It also reminded relevant actors that “the private sector, in particular online platforms, have a particular responsibility in tackling disinformation.”\textsuperscript{135}

On 21 January, 27 February, 4 April and 7 June 2019, the European cooperation network on elections (constituted of national election network representatives) met to discuss the protection of free and fair European elections. Such meetings included measures to engage with social media platforms and increase cybersecurity.\textsuperscript{136}

On 13 March 2019, the European Data Protection Board adopted a statement whereby it reminds actors that the processing of personal data for political purposes is not limited to political parties, but extends to “social media platforms, interest groups, data brokers, analytics companies, ad networks.”\textsuperscript{137} Working with these actors is therefore seen as a crucial step to limit malicious misuse of information technology by foreign actors.


On 1 April 2019, the Romanian Presidency of the Council of the EU held a high-level conference titled “Greater Resilience to ensure free and fair elections.” The debates focused on disinformation and feedback on the implementation by online platforms of the Code of Practice Against Disinformation. Thomas Myrup Kristensen, Head of Facebook’s Brussels Office, shared Facebook’s steps to comply with the Code of Practice.

On 30 April 2019, the European Commission published a contribution to the informal EU27 leaders’ meeting in Sibiu (Romania) on 9 May 2019. This document engages with online platforms as key actors against disinformation, especially in light of the European elections, and calls for “effective policy measures to regulate online content and service providers.”

On 12 June 2019, the European Union Agency for Cybersecurity organised an industry event titled “Vision for a Stronger Cybersecurity Community going forward.” While it focused on the competitiveness of the cybersecurity sector in the EU, it also allowed a Facebook representative to discuss the regulation of the Internet and social media in the context of cybersecurity.

On 21 June 2019, Europol’s European Cybercrime Centre held law enforcement and private sector meetings for three industry Advisory Groups. In particular, the Advisory Groups on Communication Providers and Internet Security (including Microsoft) discussed cyber-attacks and information-sharing with law-enforcement, especially in the context of the deployment of 5G services.

The European Union has engaged with social media platforms regarding malicious misuse of information technology by foreign actors, especially as they relate to free and fair elections and counterterrorism. The European Union has made efforts to engage with Internet service providers regarding misuse of information technology by terrorist groups, and cyber-attacks more generally, although more could be done in this field.

Thus, the European Union receives a score of +1.

 Analyst: Isabella Leroy

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2. Innovation

“We will promote innovation through a culture of lifelong learning among current and future generations of workers.”

*The Charlevoix G7 Summit Communiqué*

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Background

Fostering innovation has been a consistent goal among G7 members across policy areas, particularly as a strategic area for investment to foster global economic growth, and more recently regarding fighting climate change. The Charlevoix G7 Summit focused on innovation across various policy areas including in new technologies, notably artificial intelligence, as presented in the Charlevoix Common Vision for the Future of Artificial Intelligence, and innovation about fostering economic growth while protecting the environment. The commitment around innovation selected for this report focuses on Preparing for jobs of the future and was the focus of a public engagement paper prepared by Canada as part of its G7 presidency. The paper focuses on the need to prepare “our companies and our people so that they can take advantage of [the opportunities presented by new technologies changing the nature of work].” The document emphasizes the importance of collaboration to ensure that “[G7 countries can] anticipate and prepare for future skill requirements, create jobs, and support our workers through better skills training and lifelong learning initiatives.”

This has been a recurring theme over the past few G7 meetings, with the 2018 commitment around innovation building on the adoption of the G7 People-Centered Action Plan on Innovation, Skills and Labour in Taormina in 2017. At the G7 Taormina 2017 Summit, the G7 countries committed “to rethink the future of work and of education,” including the adaptation of “education systems and...”

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working styles …, based on national circumstances,” as well the commitment to engage “Companies and social partners” more closely “in both initial and lifelong education and training.”149

At the 2016 Summit at Ise-Shima, a commitment was made to promote “the active role of women in STEM fields and careers” as a means to enhance “creativity and innovation.”150

In previous summits fewer specific commitments are made tying innovation and education. At the G7 2015 Summit in Schloss Elmau, general commitments are made to “foster growth by promoting education and innovation.”151 At the G8 Summit in Deauville, the G8 members committed “to prioritize growth-enhancing policies such as research, education and innovation.” Emphasis was placed on the link between innovation, growth and the Internet.152

The G7 members placed emphasis on protecting innovation as well as fostering it at the 2007 Summit in Heiligendamm with a focus placed on the protection of internet property rights.153 This was also echoed at the 2009 G8 Summit at l’Aquila which focused on intellectual property rights, innovation and Information and Communications Technologies (ICT), and mentioned the importance of human capital and skills among other drivers of innovation.154

Prior to 2007, G8 members made general commitments to work towards innovation and developing human capital. At the G8 Evian Summit in 2003, in the context of strengthening growth worldwide, the G8 members committed to “raise productivity through education and lifelong learning and by creating an environment where entrepreneurship can thrive, fostering competition and promoting public and private investment in knowledge and innovation.”155

Lifelong learning was an important focus of the 1999 summit in Köln, at which the G8 members adopted the Köln Charter: Aims and Ambitions for Lifelong Learning. Looking forward to the 21st century, the charter states that each G8 member must “ensure that its citizens are equipped with the knowledge, skills and qualifications they will need in the next century.”156 The summit communiqué highlights “the promotion of entrepreneurship and innovation, investment in human capital,” as priorities related to designing employment policies and commits to investing in people through “Basic education, vocational training, academic qualifications, lifelong upgrading of skills and knowledge for the labor market.”157

Commitment Features

The G7 commitment is to “promote innovation through a culture of lifelong learning among current and future generations of workers.” The promotion of lifelong learning means ensuring that workers and future workers have “access to the skills and education” necessary to promote innovation. This includes the expansion of “market-driven training and education, particularly for girls and women in the science, technology, engineering and mathematics (STEM) fields.” Innovation is defined as the ability to “adapt and prosper in the new world of work … through emerging technologies.”

To achieve full compliance, G7 members must take new initiatives to expand training and education for current and future workers around STEM fields. Partial compliance is achieved when previous initiatives are maintained and with new initiatives to expand training and education for only one of current and future workers. No compliance is scored when the G7 member has taken no new initiatives to expand training and education for current and future workers around STEM fields.

Scoring Guidelines

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>-1</td>
<td>The G7 member has not taken new initiatives to expand training and education for current and future workers around STEM fields.</td>
</tr>
<tr>
<td>0</td>
<td>The G7 member has taken new initiatives to expand training and education for either current and future workers around STEM fields, while maintaining previous initiatives taken for both current and future workers.</td>
</tr>
<tr>
<td>+1</td>
<td>The G7 member has taken new initiatives to expand training and education for current and future workers around STEM fields.</td>
</tr>
</tbody>
</table>

Compliance Director: Hélène Emorine
Lead Analyst: Liam Bekirsky

Canada: +1

Canada has fully complied with its G7 Charlevoix Summit commitment to innovation by continuing to uphold previously launched programmes and initiatives designed to expand training in science, technology, engineering and mathematics (STEM) for youth and current workers and by implementing new ones.

On 27 February 2018, Finance Minister Bill Morneau put forward Canada’s 2018-2019 fiscal year federal budget which expands the Innovation and Skills Plan¹⁵⁸ and further advances the innovation commitment in several ways. It introduces the College and Community Innovation Program which will seek to “create new quality jobs based on know-how and technological innovation,”¹⁵⁹ by “increasing the capacity of the colleges to transform the results of research and development (R&D) into economic activities easier and faster,”¹⁶⁰ and thus indirectly contributing to the innovation commitment.

The budget includes a CAD448.5 million top-up to the Canada Summer Jobs program, which provides funding to private-sector entities in order to offset the costs of student work over the

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summer.\textsuperscript{161} By 2019-2020 the program will double the amount of work placements it can fund, indirectly contributing to the innovation commitment.\textsuperscript{162}

The budget provides for special grants aimed at getting women into the technology sector among others.\textsuperscript{163} It also provides “over $65.9 million in grants and financial incentives to support apprenticeship and pre-apprenticeship programs,” and an overall CAD911 million will be given to Regional Development Agencies to support their efforts under the Innovation and Skills Plan.\textsuperscript{164}

Canada’s budget commits to “re-imagining” the National Research Council to see it providing support for “collaboration between federal scientists, business innovators and post-secondary students,”\textsuperscript{165} with CAD540 million allocated to it over five years.\textsuperscript{166}

The budget will invest CAD1.7 billion in the next generation of Canadian research and researchers over the next five years.\textsuperscript{167} One of the primary ways in which this funding will be operationalised will be through “the granting councils and research institutes so they can provide increased support and training opportunities for the work of some 21,000 researchers, students and high-quality personnel every year.”\textsuperscript{168}

Budget 2018 allocates CAD763 million over five years to “support the development of state-of-the-art research infrastructure at Canadian universities, colleges and research hospitals,”\textsuperscript{169} which will “provide graduates with the skills and experience to be able to launch rewarding careers,”\textsuperscript{170} thus indirectly furthering the innovation commitment agenda. The Government of Canada has also proposed the establishment of “permanent funding at an ongoing level of $462 million per year by

2023–24 for research tools and infrastructure,” \(^{171}\) supported by the Canada Foundation for Innovation.\(^{172}\)

On 19 March 2019, Canadian Finance Minister Bill Morneau presented the Canadian federal budget for fiscal year 2019-20 to the House of Commons. The budget included sustained or increased funding for a range of previously established programmes relevant to the Innovation Commitment, as well as four new initiatives.

The 2019 budget committed continued funding for a wide range of programs. The Canada Service Corps will reserve up to 15,000 service placements for young Canadians by 2023-24\(^{173}\) and will “continue to provide 1,000 individual grants every year for young people to create their own service projects.”\(^{174}\) In total, it will invest CAD341.8 million over five years starting in 2019-20 and CAD83.8 million per year ongoing.\(^{175}\) The professed aim is for Canadians to “serve their communities while gaining valuable skills and leadership experience.”\(^{176}\)

The Work-Integrated Learning (WIL) program will aim to create up to “84,000 new work placements per year by 2023-24”\(^{177}\) with an investment of CAD798.2 over five years.\(^{178}\) This will build on the investments of Budgets 2016-17 and 2017-18, which increased the number of jobs in STEM, including such fields as cybersecurity and artificial intelligence.\(^{179}\) The idea behind WIL is for young Canadians to gain “real-world experience by completing work placements with employers in relevant industries.”\(^{180}\)

The 2019 budget committed to continuing Canada Summer Jobs, with 70,000 job placements for young people in the summer of 2019 and an investment of CAD66 million over two years starting in 2019-20 in order to maintain the increase in job placements (previously 35,000).\(^{181}\)

Similarly, the budget commits funding in the amount of CAD38 million over five years starting in 2019-20 to Futurpreneur Canada to ensure it will remain a staple innovation program receiving (the

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previous iteration of Futurpreneur Canada saw funding of CAD14 million starting in 2017 over 2 years.\textsuperscript{182} It will provide support to approximately 1,000 entrepreneurs every year for the coming five years (starting in 2019-20) and will seek to engage 7,250 Indigenous young people “through outreach, access to business support tools and training over five years, starting in 2019–20.”\textsuperscript{183} an initiative to which CAD3 million of the program’s CAD38 million budget will be dedicated.\textsuperscript{184} It builds on past investments, having already helped 11,400 young people start their businesses over the last five years.\textsuperscript{185}

Budget 2019 will furthermore continue to support Skills Canada, with an investment of CAD46 million over four years starting in 2019-20, and an additional CAD10 million per year of ongoing funding.\textsuperscript{186} Skills Canada seeks to “promote trades and technology careers to young Canadians.”\textsuperscript{187}

The budget also recommits to CanCode, with a budget of CAD60 million over two years starting in 2019-20, which builds on a prior CAD50 million over two years investment in 2017.\textsuperscript{188} The program is on track to engage one million young people between kindergarten and Grade 12 in coding and has revised its aims to reach over one million students by 2021.\textsuperscript{189} CanCode supports the “development of coding, data, digital and technology-based skills,”\textsuperscript{190} and has helped “bridge digital divides by focusing on reaching young people that are traditionally underrepresented in STEM, such as girls and Indigenous people.”\textsuperscript{191}

Let’s Talk Science and PromoScience have both successfully interacted with millions of young people since their founding.\textsuperscript{192} As such, Budget 2019 will provide Let’s Talk Science with CAD10 million over two years starting in 2020-21.\textsuperscript{193} Canada committed to maintain funding established in 2017 for PromoScience (CAD10.8 million over five years starting in 2017-18).\textsuperscript{194} Both programs seek to engage younger people, including girls and “other groups that are underrepresented in STEM,”\textsuperscript{195} in

“hands-on STEM activities and science experiments, helping youth develop critical thinking skills and opening up doors to future study and work in these fields.”

Budget 2019 will further invest in post-graduate scholarships and fellowships by opening up “500 more master’s awards and 167 more three-year doctoral awards annually through the Canada Graduate Scholarships program.” It will invest CAD114 million over five years starting in 2019-20 and CAD26.5 million per year ongoing. The aim is to make “higher education more accessible for students seeking to pursue graduate studies and develop the research skills needed in the knowledge-based economy.”

Lastly, Budget 2019 will seek to further enhance Canada’s “world-class physics research” capabilities by providing TRIUMF (“a world-class sub-atomic physics research laboratory located in British Columbia, and home to the world’s largest cyclotron particle accelerator”) with CAD195.9 million over five years starting in 2020-21. This will come in addition to the CAD96.8 million already earmarked for the laboratory from the existing resources of the National Research Council.

The Government of Canada has also put forth four new initiatives aimed at improving innovation. First, the Canada Training Benefit (CTB) is a new programme established by Budget 2019 with an endowment of CAD1.7 billion over five years and CAD586.5 million per year ongoing. It is aimed at giving workers up to “four weeks of paid leave from work to learn new skills through Employment Insurance” and includes “[labour protections to protect jobs for workers who take a leave to upgrade their skills or learn new ones.” Individuals between the ages of 25 and 64 will gain CAD250 per year up to a lifetime ceiling of CAD5000 to spend on school or additional training. The rationale behind CTB is to allow workers to adapt to changing circumstances in order to either keep their current (evolving) jobs or seek out new ones.

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Secondly, Budget 2019 commits to a program aimed at providing parental leave for student researchers,\textsuperscript{210} based on the Government’s belief that “[e]xpanding paid parental leave will further improve equity and inclusion in research,”\textsuperscript{211} and likely attract talented individuals who were previously unable to conduct such work faced with the need to support and care for a family. The funding provided for the program will total CAD37.4 million over five years starting in 2019-20 and CAD8.6 million per year ongoing.\textsuperscript{212}

Thirdly, Canada has developed the Protein Industries Supercluster which will “apply plant genomics and new processing technologies to increase the value of key Canadian crops, including plant-based meat alternatives—such as pulses and flax-based proteins—that are in high demand in foreign market.”\textsuperscript{213} The Government will invest CAD153 million with expected returns including a CAD4.5 billion increase in Canada’s GDP and an additional 4,500 jobs both to occur over a 10-year time frame.\textsuperscript{214} This latest supercluster builds on previous successes, with five industry-led superclusters now up and running, “supported by a $950-million federal investment.”\textsuperscript{215} The superclusters, which cover industries such as “digital technologies, food production, advanced manufacturing, artificial intelligence in supply chain management, and ocean industries,”\textsuperscript{216} are slated to create “50,000 jobs and add $50 billion to the economy over the next 10 years.”\textsuperscript{217} By bringing together more than “450 businesses, 60 post-secondary institutions, and 180 other partners,”\textsuperscript{218} they aim to “generate new ideas, attract and develop talent, collaborate on research, develop new intellectual property and bring new products to market”\textsuperscript{219} both in Canada and around the world.\textsuperscript{220}

Finally, the Government of Canada will establish a new Strategic Science Fund starting in 2022-23,\textsuperscript{221} which will help make “make federal investments in third-party science and research more effective.”\textsuperscript{222} The “selection of recipient organizations and corresponding level of support will be determined through the Fund’s competitive allocation process”\textsuperscript{223} which will operate “using a

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principles-based framework for allocating federal funding that includes competitive, transparent processes\textsuperscript{224} in order to “protect and promote research excellence.”\textsuperscript{225}

The Government of Canada has (1) maintained all of its previous initiatives with regards to the G7 Innovation Commitment; (2) increased funding for said initiatives; and (3), developed and deployed a range of new programs to expand training and research opportunities in STEM for current Canadian workers and youth.

Thus, Canada receives a final score of +1.

\textbf{France: +1}

France has fully complied with its commitment to take new initiatives to expand training and education for current and future workers in science, technology, engineering and mathematics (STEM).

On 28 March 2018, Fields Medal winner and Member of Parliament for La République en Marche Cédric Villani published a 235-page report dedicated to reforms to stimulate growth in the high technology industry. Among its many proposals, several focused on education, suggesting more attention to mathematics in primary school, more funding for research as well as closer work with the private sector to find common solutions for the challenges the workforce will face in the more technologically-intensive labour market of the future.\textsuperscript{226} On 13 March 2018, the French government had published another report on public aid to innovation, titled “Rapport sur les aides à l’innovation,” co-signed by academics, entrepreneurs and public officials, stressing how the system was “complete, yet not performant enough.”\textsuperscript{227}

The President, Prime Minister Edouard Philippe and other ministers have reiterated the focus on innovation on numerous occasions. On 3 May 2018, the Prime Minister stated the need to “innovate, powerfully, profoundly, clearly” in order to “face the challenges of tomorrow.”\textsuperscript{228} On 12 June 2018, Minister of the Economy and Finances Bruno Le Maire affirmed on air the need for France to “invest on the future” in order to maintain its “technological sovereignty” and be “leading in innovation.”\textsuperscript{229} In May 2019, at the VivaTech startup conference in Paris, the President stressed his belief in the “creative destruction” potential technology has today.\textsuperscript{230} On 7 June 2018, at a bilateral

meeting with the Prime Minister of Sweden Stefan Löfven, the President reiterated the “prime role in innovation” he wants both France and the European Union to play.\textsuperscript{231}

The concrete steps taken to fulfill these pledges show that France is working towards meeting the engagements made in Charlevoix.

Taking a look at the measures specifically dedicated to future workers of STEM fields: On 25 September 2017, France announced its investment program in the field, devoting EUR12.5 billion to innovation-related research and training, both in the public and private sector through the third chapter of the Programme d’Investissement d’Avenir.\textsuperscript{232}

On 28 November 2018, the French government introduced a second plan, containing further, more targeted investments, detailing an injection of EUR665 million over a four-year span, specifically aimed at artificial intelligence and the attraction of researchers. Since the beginning of the Macron government’s term, the Ministry of Secondary Education, Research and Innovation has increased its budget by 5.3% and will increase by another EUR53.1 million in 2019 to reach a total of EUR52.3 billion. Once more, the Ministry defined this increase in funding as geared specifically towards research and innovation, augmenting more than proportionally the grants to laboratories and universities.\textsuperscript{233}

While budgetary efforts aiming at the preparation of future workers align with the engagements taken, other structural reforms have not taken these engagements into account. The Minister of National Education Michel Blanquer’s reforms, from the “Lycée 2021” to the banning of mobile phones in classrooms, take steps to change State primary education but do not take into account the principles set out by Cedric Villani’s report earlier this year, de facto leaving untouched the teaching of mathematics and the initiation to technology French pupils receive.\textsuperscript{234,235} Furthermore, the bulk of the proposed educational reforms within the “loi Blanquer” project still have to be definitively approved by the French Senate, as for now Parliament has only legislated on uninfluential parts of the reform, such as the legal obligation for kids to attend school starting from the age of three.\textsuperscript{236,237}

On 18 July 2018, the French government created a new body, the “Council of Innovation” (Conseil de l’Innovation), composed of civil society experts in the field and ministers dedicated to start-up policy and high technology.\textsuperscript{238} In its first gathering on 18 July 2018, the council set out a “plan de route,” a plan to follow in the next years, establishing needs from the simplification of the existing

innovation schemes, to the need for a focus on disruptive innovation and on synergy between civilian and military technological developments.\textsuperscript{239} The two other meetings held by the Council – which took place in December 2018 and April 2019 – reiterated these commitments and looked more closely at issues such as energy and cybersecurity.\textsuperscript{240,241} A second entity, called the Agency of Defence Innovation and attached to the Ministry of Defence, was created with the purpose of spurring development of dual-use technology and augmenting the before-mentioned synergy between the civilian and the military.\textsuperscript{242}

In October 2018, France further articulated and began the implementation of its EUR15 billion “Plan d’Investissement en Compétences (2018-2022),” part of the five-year “Grand plan d’investissement” published by the government, which aims to provide “a million low-qualification workers and unemployed, as well as a million young” with the tools to be more competitive and integrate themselves into the labour world, initially announced in September 2017. The plan includes cooperation agreements with regional governments starting from December 2018, nation-wide calls for projects (from the “100% Inclusion” project launched in June 2018, to the projects dedicated to professional integration of refugees which started in October 2018) and preparatory classes throughout the year.\textsuperscript{243} The plan also announced a cluster of initiatives, with the goal to “innovate and transform through training” as one of its declared three “Axis” of priority.\textsuperscript{244} Such initiatives do not exclusively seek to deepen investments, but have the larger aim of “transforming in depth”: to meet this goal, the Minister of Labour, Mariel Pénicaud, has also created an independent council made up of academics in order to evaluate and identify flaws in the current system.\textsuperscript{245} What remains to be seen is what, in the next months, the French government to implement such intentions and transform them into tangible improvements.

France has shown considerable effort to meet the engagement set this June in Charlevoix. Both for current and future workers, it has committed itself to boosting training and research in innovation. Some further structural steps will have to be taken in the future, but the government has been determined to achieve them over the course of this G7 compliance cycle and beyond.

Thus, France receives a score of +1.

\textit{Analyst: Nicola Bressan}


Germany: +1

Germany has fully complied with its commitment to implement new initiatives to expand training and education for current and future workers in science, technology, engineering and mathematics (STEM).

On 7 June 2018, the Federal Minister of Education and Research announced that Germany wanted to increase the number of people working in technical and scientific professions to tackle the shortage of skilled workers. To do so, the Federal Ministry of Education and Research wanted to strengthen STEM education in Germany with a “STEM Action Plan.” As a comprehensive action framework for STEM education, the “STEM Action Plan” not only compiles the newly planned measures, but also the ones that already exist. It is structured into four fields: Early childhood and school-based STEM education, STEM careers, Opportunities for women in STEM and STEM in society. The government will finance new measures with around EUR55 million by 2022.

On 5 September 2018, Germany’s federal parliament agreed to enact the High-Tech Strategy 2025 (HS 2025) which will extend and expand a similar initiative currently in place. HS 2025 will witness a total public investment of EUR15 billion in specific research areas to which Germany attaches a key technological priority. One of the five pillars of the strategy focuses on investments in education and training and the involvement of society to prepare people for upcoming changes. Commenting on the motion, Germany’s Education and Research Minister Anja Karliczek stressed that “we need suitable training and further education opportunities so that people are able to cope with the changes. I am therefore committed to digital education, lifelong learning and the establishment of a new continuing education culture in Germany.”

On 6 November 2018, the German Bundesregierung announced that it wanted to support continuing education and promote qualified immigration as part of a “skilled-worker strategy.” The strategy outlines Germany’s commitment “to support all employees in maintaining and adapting their qualifications and skills to the changing work environment, ensuring that there are skilled workers on the labour market of the digital future.” The strategy is aimed both at improving education for current and future workers.

On 15 November 2018, the German Federal Parliament adopted an Artificial Intelligence Strategy, which was jointly developed by the Federal Ministry of Economics and Energy, the Federal Ministry

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G7 Research Group

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of Education and Research, and the Federal Ministry of Labour and Social Affairs. The strategy sets a framework for a holistic political approach to the further development and application of Artificial Intelligence (AI) in Germany.254 As part of the strategy, Germany plans to invest a total of EUR3 billion in AI by 2025.255 In terms of STEM education, it will create 100 new professorships and new opportunities for more flexible and less formalized ways of gaining new digital competencies and training for workers.256

On 30 November 2018, the German Federal Parliament passed the “Qualifizierungschancengesetz” (Qualification Opportunities Act).257 It will expand the existing funding possibilities of the Germany’s Federal Employment Agency to enable workers to renew their qualifications through further training and ensure that career advancements or changes are made possible. The law is a direct response to the digital and demographic change that the labour market will be facing in the future.258

On 31 January 2019, members of the “Hightech-Forum” met for their constituent meeting. The High-Tech Forum accompanies the High-Tech Strategy 2025 of the German Federal Government and aims to closely link the promotion of technologies of the future with education and training issues. It is intended to encourage a large number of actors to play an active role in shaping progress.259

On 7 March 2019, Anja Karliczek, German Federal Minister of Education and Research welcomed the 300th partner to the “National Pact for Women in STEM-careers”, which was initiated in 2008 and continued in 2018/19. The initiative, a partnership between the Federal Ministry of Education and Research and partners from science, industry, the media and various other associations aims to attract significantly more young women to future careers in the STEM field. Under the motto “Come, do MINT”, young women are to be shown what today’s MINT world looks like and what opportunities are opening for interesting and responsible careers. The Federal Ministry of Education and Research supports the Pact with 3.2 million euros a year.260

On 16 March 2019, German Chancellor Angela Merkel reiterated the importance of supporting education in STEM fields in a video podcast saying that “these are the occupation of the future, and

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we are counting on them”. She also underlined Germany’s efforts on supporting STEM subjects and emphasized that both sexes must be equally active in this area.\textsuperscript{261}

On 5 April 2019, the German Federal Ministry of Education and Research announced that it is going to support ten research initiatives to promote structural change in the eastern regions of Germany with more than EUR70 million. The Federal Ministry of Education and Research is funding these initiatives and their implementation in the context of the “WIR – Wandel durch Innovation in der Region” program, which in itself is part of Germany’s “High-Tech Strategy 2025.” In total, the program is supported by EUR240 million to create new dynamics for the development of scientific, economic and social competences for an innovation-oriented structural change.\textsuperscript{262,263}

On 3 May 2019, the Joint Science Conference of the Federal Government and the federal states adopted a package of three science pacts. These pacts are intended to improve the quality of studies and teaching and maintain study capacities in Germany in line with demand. Measures are aimed at STEM education such as the expansion of the curriculum. From 2021 to 2023, the Federal Government will provide EUR1.88 billion annually and from 2024 onwards EUR2.05 billion each year. The federal states will provide additional funds of the same amount, so that the future treaty will provide a joint investment of around EUR3.8 billion annually until 2023 and a total of EUR4.1 billion annually from 2024 to promote studies and teaching.\textsuperscript{264}

On 23 May 2019, the German government decided to invest an additional EUR500 million in AI funding measures for the year 2019. Funding will be focused on research, transfer, social dialogue, technology assessment, qualification and data availability. The Federal Government is thus intensifying the implementation of its Artificial Intelligence Strategy and placing particular emphasis on the transfer from research to practice and social dialogue. Around EUR230 million of the AI funds will be invested in measures for the transfer of artificial intelligence into practice. More than EUR190 million will be invested in research as well as the support of young scientists. Around EUR55 million will be used for measures in the areas of social dialogue and participation, technology assessment and regulatory frameworks as well as for the promotion of company qualification measures.\textsuperscript{265}

On 12 June 2019, Germany’s Federal Minister of Education and Research together with the Federal Minister of Labour and Social Affairs introduced the “Nationale Weiterbildungsstrategie” (National Continuing Education Strategy). With the new strategy, the Federal Government, the federal states, industry, trade unions and the Federal Employment Agency are pooling their efforts for continuing education and training. These parties are committing themselves to organize continuing training in a way that the digital change can be successfully managed for every individual as well as for the economy and society as a whole. At the presentation in Berlin, Anja Karliczek, Federal Minister of Education and Research, said: “We want to develop a genuine continuing education culture in Germany. In the future, continuing vocational training must be part of everyday working life. For


example, we will be developing modular interactive learning platforms as part of an innovation competition to develop an interactive digital learning platform that will enable low-threshold access to lifelong continuing education and training opportunities.”

Germany has introduced new initiatives meant to expand training and education that are addressed both at current and future workers around STEM fields.

Thus, Germany receives a score of +1.

**Analyst: Calvin König**

**Italy: 0**

Italy has partially complied with its commitment to implement new initiatives to expand training and education for current and future workers in science, technology, engineering and mathematics (STEM).

On 12 July 2018, Italy’s Ministry of Education, Universities and Research launched a National Development Program that will allocate funds of about EUR23 million for the expansion of training courses at Higher Technical Institutes for 2018/2019. The actions indicated by the development program are aimed at helping at least 20,000 young people acquire a high technological specialization to by 2020.

On 4 September 2018 at the G20 summit in Argentina, Undersecretary of Education Lorenzo Fioramonti stressed the importance of remodeling workers’ training to align with technological and social evolutions and acknowledged that the education institutions must be receptive to the rapid changes that are taking place and capable of equipping students with skills that enable them to guide change. However, no concrete measures in terms of STEM education were mentioned.

On 28 September 2018, Marco Busetti, Italy’s Minister of Education, Universities and Research introduced a program aimed at combating school-drop out and enhancing the training of students. Among other initiatives such as the enhancement of basic curricular disciplines and the strengthening of foreign languages, music and theater, the program promotes an innovative new approach to the

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study of STEM disciplines. However, the program is only targeting Sicilian students and there is no current plan to implement it nation-wide.\footnote{A Palermo siglato Accordo di Programma per dare più tempo scuola e contrastare la dispersion. Bussetti: La Sicilia diventa laboratorio del Sud Italia. Finalmente un intervento strategico per il futuro dei giovani dell’isola, Ministero dell’Istruzionedell’ Universita e della Ricerca (Rome) 28 September 2018. Access Date: 27 December 2018. http://www.miur.gov.it/-/a-palermo-siglato-accordo-di-programma-per-dare-piu-tempo-scuola-e-contrastare-la-dispersione-bussetti-la-sicilia-diventa-laboratorio-del-sud-italia-f.}

On 30 November 2018, the Ministry of Labour and Social Policies, in collaboration with Google and Unioncamere, launched a new edition of the “Crescere in Digitale” project that was originally introduced in 2015.\footnote{Il Ministro Di Maio incontra i ragazzi a JOB&Orienta, Ministero del Lavoro e delle Politiche Sociali (Rome) 30 November 2018. Access Date: 28 December 2018. http://www.lavoro.gov.it/priorita/pagine/il-ministro-di-maio-incontra-i-ragazzi-a-joborienta.aspx/} It offers young people the opportunity to acquire digital skills that are important for entering the world of work. The training course has been updated to include new models that help young people to cope with technological changes.\footnote{Il Ministro Di Maio incontra i ragazzi a JOB&Orienta, Ministero del Lavoro e delle Politiche Sociali (Rome) 30 November 2018. Access Date: 28 December 2018. http://www.lavoro.gov.it/priorita/pagine/il-ministro-di-maio-incontra-i-ragazzi-a-joborienta.aspx/}

On 5 March 2019, the Ministry of Education, Universities and Research announced that it has allocated EUR1.6 million for the creation of digital learning environments in schools. The resources were freed with the decree for digital education signed in January 2018 by the Minister of Education, Marco Bussetti. The EUR1.6 million are added to the EUR 2.1 million that were allocated to 60 schools with the previous decree. The aim of the additional resources is it to “launch new learning environments in over a thousand Italian schools, which provide innovative technological equipment for the use of virtual and augmented reality in teaching, educational robotics, computational thinking, 3D printing.”\footnote{Scuola digitale, pubblicate le graduatorie per la creazione di ambienti didattici innovativi: 1.115 i progetti finanziati con i 22 mln a disposizione. Ministero dell’Istruzionedell’ Universita e della Ricerca (Rome) 16 January 2019. Access Date: 28 June 2019. https://www.miur.gov.it/-/scuola-digitale-pubblicate-le-graduatorie-per-la-creazione-di-ambientididattici-innovativi-1-115-i-progetti-finanziati-con-i-22-mln-a-disposizione.}

On 31 March 2019, the 4th edition of the Robotics Olympics kicked off. The competition is promoted by the Ministry of Education, Universities and Research in collaboration with the School of Robotics. Along with the competitions, free educational workshops were held, promoted by the School of Robotics in Genoa.\footnote{Scuola digitale, pubblicate le graduatorie per la creazione di ambienti didattici innovativi: 1.115 i progetti finanziati con i 22 mln a disposizione. Ministero dell’Istruzionedell’ Universita e della Ricerca (Rome) 16 January 2019. Access Date: 28 June 2019. https://www.miur.gov.it/-/scuola-digitale-pubblicate-le-graduatorie-per-la-creazione-di-ambientididattici-innovativi-1-115-i-progetti-finanziati-con-i-22-mln-a-disposizione.}

On 3 April 2019, the National Councilor of Equality together with the Ministry of Labour and Social Policies and the Ministry of Education, Universities and Research organized the “Science and women: welcome to STEM” conference. During his speech, the Undersecretary of Labour Claudio Cominardi highlighted the growing role that women will assume in the workforce and the
importance of encouraging women to work in STEM disciplines. However, no concrete measures in terms of STEM education were mentioned.\footnote{Convegno “Le scienze e le donne : benvenute STEM”. Ministero del Lavoro e delle Politiche Social (Rome) 3 April 2019. Access Date: 30 June 2019. https://www.lavoro.gov.it/stampa-e-media/Comunicati/Pagine/Convegno-Le-scienze-e-le-donne-benvenute-STEM.aspx.}

Italy has introduced new initiatives aimed at expanding the training and education of future workers, while maintaining previous programs. However, it has not taken any new measures that are meant to expand the STEM training and education of current workers.

Thus, Italy receives a score of 0.

\textit{Analyst: Calvin König}

\textbf{Japan: 0}

Japan has partially complied with its G7 Charlevoix Summit commitment to innovation. While Japan has maintained its previous initiatives and programs to expand training and education for current and future workers in science, technology, engineering and mathematics (STEM) and taken some new initiatives with regard to future workers, the government has failed to introduce any substantial new measures targeting current workers.


In December 2012, the 2nd Abe Administration initiated the Abenomics program, under which the Japanese Government continues to make sea-changes in human resources development, the treatment of women in the workplace, and approach to seniors.\footnote{Abenomics – Productive Individuals and Society, Government of Japan (Tokyo) 2018. Access Date: 4 January 2018. https://www.japan.go.jp/abenomics/productivity/index.html.} Under the former, the government is moving towards free education “for infants (from low income households), all pre-school children, and higher-education (university) students (from low income households).”\footnote{Abenomics – Productive Individuals and Society, Government of Japan (Tokyo) 2018. Access Date: 4 January 2018. https://www.japan.go.jp/abenomics/productivity/index.html.} It is also forging ahead with providing support “further education and mid-life career change for [i]ndividuals who seek to advance their skills …. [t]hose wishing to switch jobs …. [m]others returning to work after child-care leave, who wish to boost skills or change employment.”\footnote{Abenomics – Productive Individuals and Society, Government of Japan (Tokyo) 2018. Access Date: 4 January 2018. https://www.japan.go.jp/abenomics/productivity/index.html.} Furthermore, higher education curricula will become increasingly more tailored towards the needs of today’s professions “especially in terms of STEM education curricula.”

of technical skills such as in IT [information technology],”285 which will be supported by the introduction of “programming as mandatory study from elementary school to bolster societal IT knowledge in the future.”286

Concerning women, the government is seeking to provide “further and recurrent education for women returning to work after child-care leave,”287 and “[p]rovide female candidates with executive leadership training programs from the world’s leading business scholars.”288 This has the potential to increase the percentage of women in STEM fields, who, as of 31 March 2016, accounted for only 15.3 per cent.289 Finally, with regards to seniors, attempts will be made to “[p]rovide support in matching job openings and applications.”290

On 14 June 2018, Prime Minister Shinzo Abe finalized and approved the Integrated Innovation Strategy following the 39th meeting of the Council for Science, Technology and Innovation.291 The Strategy will be a base for its upcoming 2019 programs and budget related to science, technology and innovation.292 It will seek to “reform the management subsidies scheme for universities,” thus incentivizing rapid reform meant to facilitate innovation.293 It will also “allocate a greater portion of research budgets to young researchers.”294 Both are likely to indirectly strengthen Japan’s innovation commitment. Notably, the keywords characterizing the strategy do not include the training and development of current workers to meet the challenges of tomorrow’s digital economy.295

On 26 October 2018, China and Japan “signed an agreement to … step up cooperation in innovation,” alongside other measures for closer ties between the two countries.296 It is not clear what specific measures Japan will be deploying to enhance innovation cooperation.

The signing of the agreement was followed on 2 April 2019, by the First Japan-China Innovation Cooperation Dialogue that took place in Beijing, China. Both sides’ ministers – besides discussing and laying out their domestic innovation policies – engaged in talks concerning, among others, the

“harmonisation of standards,” “cooperation in the field of smart cities” and “the importance of efforts in the field of intellectual property.”

Furthermore, in a speech delivered on the 30 May 2019, Prime Minister Shinzo Abe highlighted “innovation” as one of Japan’s top priorities, specifically as a tool to “tackle global environmental challenges.” The recent G20 Summit, held in Osaka, was also portrayed by Prime Minister Abe as one focusing on “promoting free trade and innovation.” Such an agenda was reflected in the joint final statement of this year’s G20 conference, which placed emphasis on disruptive technologies which is best illustrated by the fact that “innovation” is mentioned 14 times in the 12-page text. Japan – this year’s summit host for the G20 – also took the opportunity to showcase Society 5.0, its program to achieve a “super-smart” society. The program is part of the Abe administration’s ongoing efforts to counter the danger of an ageing and shrinking population by integrating advanced technology in, inter alia, the fields of agriculture and disaster mitigation into society. Much of the work in furthering this project is currently being undertaken by the Tokyo Institute of Technology Consortium for the Promotion of a Super Smart Society which has the support of over 30 individual institutions. Furthermore, according to the Prime Minister, the current government’s innovation policies – as well as its focus on the insertion of women and foreigners into the job market – have been the “new dawn of a new era,” as he has stated in Davos’s 2019 World Economic Forum.

Innovation was a theme of relevance even within December 2018’s review and update of the “Fundamental Plan for National Resilience” that had been promulgated five years earlier. In it, innovation policies were highlighted as a means to safeguard society from exogenous natural and man-made shocks. To that end, the plan committed to investments in artificial intelligence (AI)

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technology, Internet of Things and cloud computing technology, as well as to promoting a stronger “industry-government-academia partnership.”

Additionally, on 19 June 2019, Japanese Prime Minister Shinzo Abe held the 45th meeting of the Council for Science, Technology and Innovation where the Integrated Innovation Strategy for 2019 was finalised. Prime Minister Abe stated that “the role of startups is extremely important,” and called on Council members to “implement policies which are concrete and address the issues attentively, so that cities, universities, and industries can work together to create an environment in which anyone can start a business and establish a so-called virtuous cycle in which the outcomes produced lead to the development of successive start-ups.”

Included in the 2019 IIS are a number of measures meant to bolster research and innovation (R&I). The first, is a 10.4 per cent increase in the R&I budget relative to the previous fiscal year which comes with a stipulation, namely, that ministries previously further away from the government’s innovation-stimulating activities increase their role therein (e.g., sectors such as agriculture are advised to step up their share of encouraging transformative technological innovation).

The second, is the Moonshot programme which is a “high risk and high impact programme for stimulating disruptive innovation” with a budget of JPY100 billion 80 per cent of which will go to the Ministry of Education, Culture, Sports, Science and Technology, while 20 per cent is earmarked for the Ministry of Economy, Trade and Industry. The aim of Moonshot is the “transformation of industry and society by disruptive innovations from novel ideas, for instance from emerging research and technologies.” The program is currently open to proposals and will “be implemented through competitive calls and a stage-gate system” as well as “encourage international collaboration.”

The third, is the Government’s attempt at “foster[ing] younger researchers for cutting-edge innovation.”\(^{317}\) To do so, Japan will “increas[e] the number of innovation programs and promoting an eco-system to commercialise research and creating start-ups.”\(^{318}\) The Government also wishes to encourage Japanese citizens to pursue their university studies abroad (e.g., at Master’s or PhD levels), in order to “increase the competitiveness of Japanese research and innovation in the global context.”\(^{319}\)

Furthermore, in fiscal year 2019 “one of the major initiatives in the science and technology budget is the enhancing and establishing programs for younger researchers”\(^{320}\) the budget for which has been increased by JPY8.6 billion to a total of JPY237.2 billion with the professed aim of “fostering excellent researchers.”\(^{321}\) Additionally, Japan has launched a plan to accelerate research by placing outstanding young researchers as the leaders of cutting-edge fields has been established with a budget of JPY32.8 billion.\(^{322}\) The Japanese Science and Technology Agency has also formulated the ACT-X programme “for researchers with unique and forward-looking ideas to continue their research without fear of failure.”\(^{323}\) ACT-X will fund 210 researchers, 60 more than the previous year.\(^{324}\)

Building on this, the Government has placed a priority on AI innovation, and hopes to “raise the number of AI experts by tens of thousands in 2025.”\(^{325}\) To do so, it will “introduce a merit-based pay system and allocate research funds towards these priority fields”\(^{326}\) as well as undertake the “unification of various data formats and standards in agriculture, health and medicine, disaster reduction and other areas by 2020”\(^{327}\) in order to “make it easier for companies and research institutions to use big data and therefore AI.” The Japanese Cabinet Office further plans to allocate resources to AI via the Public/Private R&D Investment Strategy Expansion Program (PRISM) (part...
of the Society 5.0 vision, PRISM is supported by the government by way of the Triple Helix Model.\textsuperscript{328} This programme will provide JPY160 billion “for AI research and development.”\textsuperscript{329}

Japan has maintained its previous, significant commitments to promote innovation, from STEM-training to infrastructure investment and R\&D expenditure. However, recent efforts are comparatively small and seem more linked to punctual events, such as Japan’s hosting of the G20 and of the 2020 Olympic Games, rather than a long-term plan. Some policy areas, such as the reinsertion of current workers from unproductive industries into more modern employment, would require further attention.

Thus, Japan receives a score of 0.

\textit{Analysts: Nicola Bresan and Wojciech Strupczewski}

**United Kingdom: +1**

The United Kingdom has fully complied with its commitment to new initiatives to expand training and education for current and future workers science, technology, engineering and mathematics (STEM).

On 8 June 2018, the UK government announced an international recruitment program for STEM teachers.\textsuperscript{330} All secondary state-funded schools in England are eligible for this program, to hire mathematics or physics teachers.\textsuperscript{331} The Department for Education funds the recruitment costs and acclimatisation package, and the recruiting school pays the teacher’s salary.\textsuperscript{332}

On 18 June 2018, Minister of State for Apprenticeships and Skills Anne Milton announced the creation of the Construction Skills Fund, to be funded by the Department for Education and administered by the Construction Industry Training Board.\textsuperscript{333} It will consist of 20 on-site training hubs, providing work experience and placements for people seeking to join the industry with specific pathways for unemployed people and career switchers.\textsuperscript{334}

On 18 June 2018, Parliamentary Under Secretary of State for the School System Lord Agnew announced that Doncaster University Technical College (UTC) would open in September 2020.\textsuperscript{335} It will train up to 750 13- to 19-year-old students in rail engineering, coding, and 3D design skills.\textsuperscript{336}

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There are already 49 UTCs in England, and this forms part of the UK government’s Industrial Strategy and its Year of Engineering initiative.\(^{337}\)

On 20 June 2018, Minister of State for Apprenticeships and Skills Anne Milton launched a GBP5 million scheme to encourage experts from technical sectors to work in further education.\(^{338}\) The Taking Teaching Further (TTF) program will pay for up to 150 professionals, in sectors such as computing and engineering, to retrain as further education teachers.\(^{339}\)

On 21 June 2018, the UK government announced a partnership with LEGO to bring a roadshow to UK primary schools as part of the Year of Engineering campaign.\(^{340}\) This roadshow will be led by engineers using LEGO Education projects to carry out hands-on learning and discover opportunities in engineering, as well as providing role models for them.\(^{341}\) It will also bring a pre-existing challenge for students to respond to global problems to a wider group of young people, with the winning teams showcasing their inventions in Parliament later in 2018.\(^{342}\)

On 27 June 2018, the second cohort of start-ups graduated from the Government Communication Headquarters (GCHQ) Cyber Accelerator, a nine-month program of access to the accelerator, the National Cyber Security Centre (NCSC) and Telefónica’s expertise and staff as well as GBP25,000 of funding, alongside mentoring and office space.\(^{343}\)

On 4 July 2018, the UK government announced that the University of Liverpool Mathematics College would open in 2020.\(^{344}\) It will welcome 80 A level pupils a year, to study maths, further maths, and physics.\(^{345}\) The government is encouraging highly selective maths universities to open maths


schools, and these schools get an extra GBP350,000 to support them in reaching out to female students and students from disadvantaged backgrounds.346

On 6 July 2018, Highways England held an insight day on problem-solving skills and engineering design for 35 students at Shireland Collegiate Academy in the West Midlands.347 This was part of the UK government’s Year of Engineering campaign, and also aimed to help ethnic minority and female young people to consider the profession because the Highways England workforce is currently 91 per cent male and 94 per cent white.348

On 16 July 2018, Economy Secretary Ken Skates announced that the Welsh government planned to establish a second Advanced Manufacturing and Research Institute in Deeside.349 The institute will focus on skills development in advanced manufacturing, materials, and technology, from apprenticeships through to postdoctoral research.350

On 17 July 2018, the Minister for Welsh Language and Lifelong Learning Eluned Morgan announced GBP7.2 million of funding, including GBP5.2 million of European Union funding, for two STEM-related projects.351 Gwynedd Council’s STEM Gogledd and Swansea University’s Technocamps 2 have been awarded GBP1.4 million and GBP3.8 million of EU funding, respectively.352 Over the next four years, STEM Gogledd will work with 600 young people to promote STEM subjects using activities in schools in Gwynedd, Anglesey and Conwy, and 60 per cent of participants will be female.353 Technocamps 2 targets secondary schools which do not teach computer science at General Certificate of Secondary Education (GCSE) level or have recently begun offering it, to provide computing workshops to 3,600 young people – two thirds of whom will be female.354

On 20 July 2018, the UK government launched a summer holiday campaign as part of the Year of Engineering. This included events around the country as well as activity ideas for families to take part in at home.

On 24 July 2018, The South of Scotland Economic Partnership awarded GBP7.68 million of Scottish government funding to projects across Dumfries and Galloway and the Scottish Borders, to provide careers opportunities and build community resilience. GBP6.6 million of this funding has been awarded to Dumfries and Galloway College and Borders College Scotland to create a physical and digital hub network to improve access to health and social care, renewable energy, and engineering and construction training across the South of Scotland.

On 31 July 2018, the NCSC, part of the GCHQ, began delivering three five-day programs in Cardiff for 14 to 17 year olds. These intended to give them an insight into future careers in cybersecurity.

On 1 August 2018, UK Research and Innovation offered up to GBP400,000 mentoring and business support for 8 female entrepreneurs – GBP50,000 each and a tailored support package – as part of the Women in Innovation awards series. To be eligible, their innovations must focus on one of the four Grand Challenges in the UK’s industrial strategy: artificial intelligence and data, the ageing society, clean growth, or future mobility and travel. The awards begin on April 2019 and will be provided for one year.

On 7 August 2018, the UK government provided GBP13 million in funding to six science centres in Scotland, Wales and England. To obtain this funding, the centres presented plans to engage with people and communities who do not usually visit science centres or take part in STEM training.

This funding was delivered through the Inspiring Science Fund, a joint initiative by Wellcome and the Department for Business, Energy and Industrial Strategy, which seeks to support underserved and underrepresented audiences to engage with and learn about science at science centres.\textsuperscript{365}

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On 8 August 2018, ADS Northern Ireland and Northern Regional College launched a nine-week Computer Numerical Control Academy in the framework of the Northern Ireland Department for the Economy’s Assured Skills program.\textsuperscript{369} This program was founded in 2010 and provides funding for short training courses in skills needed by companies.\textsuperscript{370}

On 10 August 2018, the Chancellor of the Exchequer Phillip Hammond announced an additional GBP780million of funding for high-tech hubs: laboratories, factories and advanced training centres.\textsuperscript{371} This is known as the “catapult” network, seeking to bring business, science and engineering together to catapult innovative projects onto the market by removing barriers to growth – access to finance, inadequate facilities, or skills shortages.\textsuperscript{372}

On 20 August 2018, 45 students took part in a UK government-recognized program – CyberFirst developed by GCHQ’s NCSC.\textsuperscript{373} It sought to give young people a realistic experience of work in the cyber industry and formed part of the Nuclear Decommissioning Authority (NDA)’s cyber


program. In this program, the NDA will invest GBP80 million over the next five years in cyber safety to close the skills gap and improve capability for the NDA and its businesses.

On 22 August 2018, the Northern Ireland Department for the Economy announced it was backing a Health Tech Academy, under the Assured Skills program, for graduates to train for the chance to join Deloitte in its UK health technology work.

On 23 August 2018, the UK Space Agency and Royal Astronomical Society launched a Space Badge with Girlguiding as part of a five-year partnership including space-related activities at Girlguiding national events. It is targeted at seven- to ten-year-old girls, and aims to improve gender balance in the UK space sector. It will be phased in to be fully rolled out by September 2019.

On 24 August 2018, the Digital Xtra Fund, a Scottish charity funded with public and private money, announced it would be making GBP75,000 (up to GBP5,000 per project) available for providers seeking to provide extra-curricular activities on digital skills, with a particular interest in underrepresented groups and those excluded through lacking resources or facilities.

On 27 August 2018, Minister for Digital Margot James launched a GBP1 million Digital Skills Innovation Fund and a GBP400,000 Digital Inclusion Fund. The former will be used to help women, disabled people, ethnic minorities and people living in lower socioeconomic areas to get the skills they need to work in digital roles. The latter will help older and disabled people to carry out basic tasks online such as booking a doctor’s appointment.

On 29 August 2018, Skills Development Scotland (SDS) announced the publication of an online guide, collating information on its digital skills programs in one place to make it more accessible to employers. It also announced a free event for employers in Glasgow to be held in September. The event will use case studies, panel discussions, workshops and a unique “digital skills surgery” to assist...
businesses in finding the right support for their needs.\textsuperscript{385} Minister for Public Finance and Digital Economy Kate Forbes was the keynote speaker.\textsuperscript{386}

On 30 August 2018, Deputy First Minister John Swinney allocated GBP2.6 million to Scotland’s science centres for 2018/19 to help them keep introducing science to new audiences.\textsuperscript{387} Deputy First Minister Swinney’s decision renewed Scottish government annual funding to Aberdeen Science Centre, Dundee Science Centre, Dynamic Earth [Edinburgh] and Glasgow Science Centre.\textsuperscript{388}

On 20 September 2018, Science Minister Richard Lochhead announced a new Young STEM Leaders Programme to be run by the by the Scottish Schools Education Research Centre in partnership with science centres, the science festivals and youth organizations.\textsuperscript{389} Young mentors will be trained and given support from STEM experts. The program will have accreditation options for the young people involved.\textsuperscript{390} The Scottish government will provide GBP500,000 in funding for the program and intends for initial opportunities to open up later in the 2018/19 academic year, with schools across the country becoming involved in the program by 2022.\textsuperscript{391}

On 20 September 2018, the Welsh government pledged GBP100 million in investment over 10 years for Blaenau Gwent and the wider South Wales Valleys to become a globally recognized technology centre.\textsuperscript{392} This Tech Valleys program will create around 1500 sustainable jobs over the decade, as well as developing local people’s skills.\textsuperscript{393}

On 24 September 2018, the Finance Secretary Mark Drakeford announced GBP5.7 million of EU funding for the Trio Sci Cymru project encouraging young people in West and North Wales and the South Wales Valleys to study STEM subjects – particularly triple science – at GCSE level and beyond through outreach activities outside the formal education system.\textsuperscript{394}

On 24 September 2018, two engineering companies in Ballymoney partnered with Northern Regional College to offer a Northern Ireland Department for the Economy-funded Assured Skills training program in welding to ten trainees, with a potential job offer at the end of the course.\textsuperscript{395}

\textsuperscript{385} Time for all businesses to "go digital", Skills Development Scotland (Glasgow) 29 August 2018. Access Date: 23 June 2019. \url{https://www.skillsdevelopmentscotland.co.uk/news-events/2018/august/time-for-all-businesses-to-go-digital/}.
\textsuperscript{386} Digital Minister explains why digital skills are important to Scotland, Skills Development Scotland (Glasgow) 25 September 2018. Access Date: 23 June 2019. \url{https://www.skillsdevelopmentscotland.co.uk/news-events/2018/september/digital-minister-explains-why-digital-skills-are-important-to-scotland/}.
\textsuperscript{387} Funding for science centres, Scottish Government (Edinburgh) 30 August 2018. Access Date: 12 December 2018. \url{https://www.gov.scot/news/funding-for-science-centres/}.
\textsuperscript{388} Funding for science centres, Scottish Government (Edinburgh) 30 August 2018. Access Date: 12 December 2018. \url{https://www.gov.scot/news/funding-for-science-centres/}.
\textsuperscript{394} £5.7 million EU funds to encourage STEM take up, Welsh Government (Cardiff) 24 September 2018. Access Date: 13 December 2018. \url{https://gov.wales/ps57-million-eu-funds-encourage-stem-take}.
\textsuperscript{395} Ballymoney companies team up with Northern Regional College to deliver Welding Academy, Department for the Economy (Belfast) 24 September 2018. Access Date: 7 March 2019. \url{https://www.economy-ni.gov.uk/news/ballymoney-companies-team-northern-regional-college-deliver-welding-academy}.
On 1 October 2018, the Chancellor of the Exchequer Phillip Hammond allocated GBP100 million to the first phase of the National Retraining Scheme, announced in the previous budget, which will be rolled out in 2019.\(^{396}\) It will include careers guidance and combined online and classroom training in transferable skills.\(^{397}\)

On 2 October 2018, Education Secretary Damian Hinds announced the establishment of 21 centres for excellence in mathematics, with at least one in each region of England.\(^{398}\) This forms part of the GBP40 million allocated in the 2017 Autumn Budget to improving basic mathematics education for low-attaining young people over the age of 16 over the following five years.\(^{399}\) Secretary Hinds also announced GBP38 million of funding for the first providers of T levels, to ensure that centres have the equipment and facilities they need to provide these qualifications.\(^{400}\) T levels are new technical post-16 qualifications, as announced by the UK government in 2017,\(^{401}\) which will begin in the 2020-21 academic year in digital, childcare and education, and construction.\(^{402}\)

On 8 October 2018, the UK Space Agency joined the WISE Campaign’s People Like Me initiative to work together on a resource pack to encourage girls to take up STEM subjects, especially those they tend not to normally choose.\(^{403}\) It introduces them to female role models, from different backgrounds, working in the space sector.\(^{404}\)

On 9 October 2018, Deloitte, supported by the Northern Ireland Department for the Economy Assured Skills program, launched a Robotics and Financial Data Academy for 25 graduates.\(^{405}\)

On 11 October 2018, Science Minister Sam Gyimah gave Culham Science Centre permission to expand.\(^{406}\) This would provide more space for hi-tech businesses in the Oxfordshire site, creating an estimated 200 new jobs in the area.\(^{407}\) The UK Atomic Energy Authority (UKAEA) would be able to


create new facilities for companies working in fusion-related fields.\textsuperscript{408} Minister Gwyimah also announced a GDP3,600,000 3-year scheme of academic exchange for post-doctoral researchers at UKAEA to make long-term visits to Princeton Plasma Physics Laboratory and work on fusion science.\textsuperscript{409}

On 12 October 2018, Minister of State for Apprenticeships and Skills Anne Milton announced the first 37 providers to get funding from the TTE\textsuperscript{410} program, as well as GBP900,000 funding for 20 projects to explore how industry and the further education sector could work together to ensure students gain the skills businesses need.\textsuperscript{411}

On 12 October 2018, the NCSC announced the launch of an innovation facility at one of its Cyber School Hubs in Beaufort Co-operative Academy, Gloucester.\textsuperscript{412} It includes 3D printers, virtual reality and an ethical hacking environment.\textsuperscript{413} It will be open to junior schools and secondary schools in the local area and will run after-school clubs as well as enabling cooperation with industry.\textsuperscript{414}

On 15 October 2018, Oxfordshire Advanced Skills, a partnership between the UKAEA and the Science & Technology Facilities Council, began construction on a new centre to allow it to accommodate more engineering and technology apprentices.\textsuperscript{415}

On 18 October 2018, Minister of State for Apprenticeships and Skills Anne Milton announced a consultation on reforming national standards on basic digital skills,\textsuperscript{416} introducing improved basic digital skills qualifications at two levels (beginner and essential),\textsuperscript{417} and allowing all adults lacking basic digital skills in England to enrol on the new qualifications for free from 2020.\textsuperscript{418}

On 19 October 2018, the British Embassy Lima launched two UK government-funded projects to counter gender stereotypes and empower girls in STEM.\textsuperscript{419} The first, STEM is for girls, sought to

train 80 professional women in STEM to give motivational talks to fourth and fifth grade girls in secondary schools as well as providing inspirational videos for teachers to use in public schools.\textsuperscript{420} The second, Girl Power Codefest, was led by the British Council and carried out in Pacific Alliance member countries.\textsuperscript{421} Girls aged 10-13 have been trained since August 2018 in a coding program called Micro:bit, and the project will end with a simultaneous Hackathon in Peru, Mexico, Colombia, and Chile.\textsuperscript{422}

On 30 October 2018, HM Government Envoy for the Year of Engineering Stephen Metcalfe launched the Northern Ireland Primary Engineer and Secondary Engineer Leader’s Award.\textsuperscript{423} This award is already running in England and Scotland and encourages young people to come up with their own inventions to solve real world engineering problems.\textsuperscript{424}

On 31 October 2018, the UK government announced that the Department for Digital, Culture, Media and Sport would work to improve digital skills with the Greater Manchester Combined Authority with GBP3 million investment\textsuperscript{425} to identify what skills were in short supply and design an approach to help people move into digital roles.\textsuperscript{426}

On 31 October 2018, Culture Secretary Jeremy Wright announced GBP50,000,000 of funding for Turing Artificial Intelligence Fellowships to help the UK attract, retain and develop the best global AI researchers.\textsuperscript{427}

On 3 November 2018, the Scottish government increased the number of places available on a pre-medical course offered by the Universities of Aberdeen and Glasgow from 42 to 50.\textsuperscript{428} It also committed to fund the program until 2022/23.\textsuperscript{429} This program aims to widen access and support students from disadvantaged backgrounds, as well as remote and rural areas, to meet the requirements to study medicine at university.\textsuperscript{430}


On 5 November 2018, the Scottish government announced that it would invest GBP5 million in the Interface program which connects industries to universities, research centres and colleges.\textsuperscript{431}

On 6 November 2018, Education Scotland announced a new grants program to support professional learning in STEM for practitioners in a variety of sectors: early learning and childcare, primary, Additional Support Needs, secondary and community learning and development, as well as for technical support staff.\textsuperscript{432}

On 7 November 2018, the UK government announced a GBP8 million professional development program to be available from Spring 2019 for teachers to help them understand and deliver the T levels and update their subject and industry knowledge to suit current business needs.\textsuperscript{433}

On 7 November 2018, the UK Hydrographic Office won Highly Commended in the large employer category at the National STEM Inspiration Awards, for its program of 28 STEM ambassadors working with over 2000 5 to 19 year olds over the last 18 months in the local area in order to encourage them to consider STEM careers.\textsuperscript{434}

On 9 November 2018, Girlguiding Scotland launched a digital activity badge, working with SDS and Education Scotland to encourage girls to develop their digital skills.\textsuperscript{435} It aims to change the perception that STEM subjects are for boys, and teach girls about computers, algorithms, creativity, design, and computational thinking as well as careers in the industry.\textsuperscript{436}

On 14 November 2018, Minister for Digital Margot James announced that the Cyber Discovery online program would be continued for a second year and extended to Scotland and Northern Ireland.\textsuperscript{437} This program uses interactive games to teach 14 to 18 year olds about cyber security, and allows the highest performers to attend a summer camp to improve their skills and meet industry leaders.\textsuperscript{438}

On 16 November 2018, the Scottish government announced it will extend a scheme encouraging people to retrain as secondary teachers in STEM subjects.\textsuperscript{439} It will be available for career changers


applying for teacher training courses starting in August 2019 and provides bursaries for students doing a Postgraduate Diploma in Education.

On 16 November 2018, the CyberFirst bursary scheme (run by the NCSC) closed for applications. The first cohort in 2015 was made up of 20 students, and now has around 500 students taking part. It provides undergraduates with GBP4,000 financial assistance per year, and paid cyber security work experience in the UK government or in industry. There are 60 students on the CyberFirst degree apprenticeship program, and the NCSC aims to have 1000 students in total across both schemes by 2020.

On 16 November 2018, the UK government announced a partnership with Facebook for the Year of Engineering, which is designed to make the industry more diverse and show young people it can be a career for them. Its engineers will participate in an educational one-to-one mentoring scheme for people from disadvantaged backgrounds.

On 16 November 2018, Culture Secretary Jeremy Wright announced a GBP1,000,000 Digital Leadership Fund for charity leaders in England. This will provide free or heavily subsidised courses to improve digital skills, including on online fundraising, social media, or updating IT systems to improve delivery. It may also include learning how to use emerging technologies – such as AI, to meet their charity’s goals.

On 18 November 2018, Universities Minister Sam Gyimah announced the expansion of accelerated two-year degrees to make them available for the vast majority of courses in future.

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On 20 November 2018, the NCSC announced the companies selected for the third round of applications for its Cyber Accelerator, designed to support technology start-ups with a focus on enhancing technological cybersecurity solutions.\footnote{Innovative cyber ideas chosen to benefit from NCSC Accelerator programme, National Cyber Security Centre (London) 20 November 2018. Access Date: 30 May 2019. https://www.ncsc.gov.uk/news/innovative-cyber-ideas-chosen-benefit-ncsc-accelerator-programme.} The nine-month program for each start-up includes access to GCHQ experts and a GBP25,000 grant.\footnote{Innovative cyber ideas chosen to benefit from NCSC Accelerator programme, National Cyber Security Centre (London) 20 November 2018. Access Date: 30 May 2019. https://www.ncsc.gov.uk/news/innovative-cyber-ideas-chosen-benefit-ncsc-accelerator-programme.}


On 21 November 2018, Portsmouth, Nottingham, South Tyneside and Torbay local authorities signed up to take part in an Opportunities Through Apprenticeships pilot scheme.\footnote{‘Opportunities Through Apprenticeships’ project is launched, Education and Skills Funding Agency (Coventry) 21 November 2018. Access Date: 12 December 2018. https://www.gov.uk/government/news/opportunities-through-apprenticeships-project-is-launched.} This will involve working with employers, training providers and local partners to encourage apprenticeships in sectors such as engineering, manufacturing, construction and information and communications technology (ICT), including forming an action plan to help break down barriers and support people to access apprenticeships in their local area.\footnote{‘Opportunities Through Apprenticeships’ project is launched, Education and Skills Funding Agency (Coventry) 21 November 2018. Access Date: 12 December 2018. https://www.gov.uk/government/news/opportunities-through-apprenticeships-project-is-launched.} These will run until 2020, and will be evaluated with lessons learned to be shared across other local authorities in England.\footnote{‘Opportunities Through Apprenticeships’ project is launched, Education and Skills Funding Agency (Coventry) 21 November 2018. Access Date: 12 December 2018. https://www.gov.uk/government/news/opportunities-through-apprenticeships-project-is-launched.}

On 21 November 2018, the UK government announced that Apple would participate in the Year of Engineering through providing school pupils who may not have participated in STEM outreach activities before with behind-the-scenes visits to its stores, where they will develop their own digital projects.\footnote{Apple set to inspire thousands of young people across the UK for the Year of Engineering, Department for Transport (London) 21 November 2018. Access Date: 19 January 2019. https://www.gov.uk/government/news/apple-set-to-inspire-thousands-of-young-people-across-the-uk-for-the-year-of-engineering.}

On 22 November 2018, the School Standards Minister Nick Gibb announced a GBP10.7 million investment in three organisations – Now Teach, Cognition Education and The Brilliant Club – to recruit and support up to 600 teachers over the next two years.\footnote{Drive to recruit professionals and PhD graduates into teaching, Department for Education (London) 22 November 2018. Access Date: 12 December 2018. https://www.gov.uk/government/news/drive-to-recruit-professionals-and-phd-graduates-into-teaching.} The latter will focus on recruiting...
PhD graduates to teach English Baccalaureate subjects, with at least 70 per cent of its participants expected to work on maths and physics.461

On 23 November 2018, the Northern Ireland Department for the Economy, Bazaarvoice and the Ulster University offered 15 training places in software engineering with a potential job at Bazaarvoice.462

On 26 November 2018, the Minister for Welsh Language and Lifelong Learning Eluned Morgan announced Welsh government investment of GBP300,000 in a forestry apprenticeship pilot.463 These apprentices will be supported by Coleg Sir Gâr to gain qualifications in Trees and Timber, Land-based Engineering and Environmental Conservation.464 This works alongside the Welsh government Employability Plan, as well as the Woodland and Trees Strategy for Wales.465

On 29 November 2018, Deloitte launched a Northern Ireland Technology Assured Skills Academy with the Northern Ireland Department for the Economy and Belfast Metropolitan College, leading to a guaranteed interview for 50 graduates.466

On 30 November 2018, Digital World, a SDS program, set out its plans for computer science events for pupils in Dundee, Inverness and Edinburgh in partnership with Police Scotland, the Royal Bank of Scotland, SDS and the University of Dundee as part of Computer Science Educating Week (3-9 December 2018).467 It will also provide an online cyber security tutorial which can be accessed across Scotland.468

On 6 December 2018, Education Secretary Damian Hinds gave a speech to business leaders on his plans to get more people into skilled jobs with higher wages.469 This included new higher technical qualifications as an alternative to a degree, sitting in between A levels and a degree in subjects like engineering and digital.470 He also published the latest T level action plan, setting out the next seven T level programs to be taught from 2021: health, healthcare science, science, onsite construction,

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Building services engineering, digital support and services and digital business services. Universities and colleges admissions services points – the equivalent number to three A levels – will be awarded for each T level, to show they are as rigorous as their academic equivalents and that they allow access to a degree, an apprenticeship or higher level technical training.

On 10 December 2018, Economy Secretary Ken Skates announced that the University of Sheffield Advanced Manufacturing Research Centre would manage Wales’ first Advanced Manufacturing Research Facility. The Welsh government is investing GBP20 million in the first phase of the facility in order to increase productivity, commercialization, innovation and skills development across a range of sectors including Aerospace and Automotive.

On 12 December 2018, Minister of State for Apprenticeships and Skills Anne Milton opened the second round of the TTF program for bids from colleges and post-16 providers to attract industry professionals to teach in further education.

On 12 December 2018, HM Government Envoy for the Year of Engineering Stephen Metcalfe held a reception for the winning teams in the Engineers of the Future competition, a robotics and coding contest for 7 to 16 year olds. The roadshows for Engineers of the Future focused on schools that had not participated in engineering activities before.

On 13 December 2018, Minister of State for Apprenticeships and Skills Anne Milton announced that Blaze a Trail would be the theme for National Apprenticeship Week 2019. NAW 2019 will involve events showcasing the benefits of apprenticeships for employers, individuals, local communities and the economy. It will seek to change perceptions about apprenticeships and who

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On 13 December 2018, UK Research and Innovation opened bids for a Knowledge Transfer Partnership, providing up to GBP40,000,000 for this purpose.\footnote{Collaborate to innovate: funding for business-academic projects, UK Research and Innovation (Swindon) 13 December 2018. Access Date: 19 January 2019. https://www.gov.uk/government/news/collaborate-to-innovate-funding-for-business-academic-projects.} They offer businesses funding support to bring in a new graduate and, accordingly, to explore new ideas and approaches.\footnote{Collaborate to innovate: funding for business-academic projects, UK Research and Innovation (Swindon) 13 December 2018. Access Date: 19 January 2019. https://www.gov.uk/government/news/collaborate-to-innovate-funding-for-business-academic-projects.} This is a pre-existing initiative which the government plans to expand over the next five years with GBP25,000,000 extra investment and 200 extra places for graduates and academics with businesses.\footnote{Collaborate to innovate: funding for business-academic projects, UK Research and Innovation (Swindon) 13 December 2018. Access Date: 19 January 2019. https://www.gov.uk/government/news/collaborate-to-innovate-funding-for-business-academic-projects.}


On 21 December 2018, Digital Minister Margot James announced that GBP2,500,000 would be invested in a new UK Cyber Security Council.\footnote{New funds to boost diversity of people working in digital and tech jobs, Department for Digital, Culture, Media and Sport (London) 21 December 2018. Access Date: 19 January 2019. https://www.gov.uk/government/news/new-strategy-sets-ambitions-for-a-cyber-security-workforce-fit-for-the-future.} This will be tasked with ensuring clear pathways for careers in cybersecurity, getting the right education and training in place for new talent in the field,
informing the UK workforce about cybersecurity risks, and leading by example in developing public sector cybersecurity capability.489

On 6 January 2019, the Department for Digital, Culture, Media and Sport awarded GBP400,000 of funding to three innovative projects to help people develop their digital skills.490 The first will take place in rural West Essex, equipping older homeowners with smart technology and training them to use it. They will then train their peers to use it to control appliances, book doctors’ appointments, make videocalls and shop online.491 Younger people will support them with digital skills in a buddy scheme.492 The other two projects are a weight loss app specifically designed for people with Down’s Syndrome, and research into technology use for end-of-life and palliative care patients and their carers to facilitate healthcare and improve digital skills.493

On 7 January 2019, Alchemy Technology Services in Derry-Londonderry launched an Assured Skills Academy funded by the Northern Ireland Department for the Economy and delivered in conjunction with North West Regional College, with a guaranteed interview at the end of the course for 20 trainees.494

On 9 January 2019, Southern Regional College launched a Northern Ireland Department for the Economy Assured Skills Academy in welding, with a guaranteed interview at the end of the course for 10 trainees.495

On 10 January 2019, UK Prime Minister Theresa May and Japanese Prime Minister Shinzo Abe announced GBP30,000,000 of initial funding for cutting-edge technology to boost innovation, create high-skilled jobs and improve people’s quality of life.496 This will develop partnerships between British and Japanese researchers and industry experts to work on robotic systems to assist the elderly

in independent living, developing new medical treatments, and new forms of greener transport and energy.\textsuperscript{497}

On 10 January 2019, Science Minister Chris Skidmore reopened the SatelLife Competition for its third year.\textsuperscript{498} It provides young people with a chance to propose suggestions on how to use satellite-collected data to benefit the UK economy, health or environment.\textsuperscript{499} It is open to 11 to 22 year olds and has a total prize fund of GBP5,000 – GBP7,500 each for the best individual and best team, and GBP5,000 for seven additional entries across the three age categories.\textsuperscript{500}

On 11 January 2019, Parliamentary Under-Secretary of State Lord Ian Duncan and Scottish Energy Minister Paul Wheelhouse MSP opened the National Decommissioning Centre (NDC).\textsuperscript{501} This is a partnership between the Oil and Gas Technology Centre and the University of Aberdeen, and the NDC has received GPB180,000,000 as part of the Aberdeen City Region Deal. It will develop new capabilities, skills and jobs to meet the decommissioning challenge.\textsuperscript{502}

On 11 January 2019, the NCSC opened the CyberFirst Girls Competition for the third time.\textsuperscript{503} It began in 2017 and is open to teams of up to four female pupils aged 12-13 in Scotland, England and Northern Ireland.\textsuperscript{504} The NCSC is also offering participants around 600 free places on 4/5 day CyberFirst Defenders residential and non-residential courses in April and May 2019, across the UK.\textsuperscript{505}

On 14 January 2019, Economy Secretary Ken Skates announced that the Welsh government and Thales were partnering to set up a GBP20,000,000 – GBP 10,000,000 from each of them – cyber centre in Blaenau Gwent.\textsuperscript{506} It will be the first of its kind in Wales and will allow small and medium enterprises (SMEs) and microbusinesses to test and develop digital concepts as well as providing a research lab for multinationals to make advances in technology.\textsuperscript{507} The University of South Wales will

run the Advanced Cyber Institute for academic research and the Digital Education Centre for SMEs, schools and individuals out of this location.\textsuperscript{508}

On 16 January 2019, Education Minister Kirsty Williams extended an existing financial incentives program for teacher training into the academic year 2019/20.\textsuperscript{509} This program is for postgraduates starting initial teacher education courses.\textsuperscript{510} Mathematics, physics, chemistry and computer science are eligible for up to GBP20,000 and there is a GBP3,000 supplement for those with a first-class degree, a master’s or PhD doing primary school teaching courses with a specialism in English, Welsh, mathematics or science.\textsuperscript{511}

On 16 January 2019, Apprenticeships and Skills Minister Anne Milton opened applications for providers to deliver the new T levels from 2021: health, healthcare science, science, onsite construction, building services engineering, digital support and services, and digital business services.\textsuperscript{512} T levels will be the equivalent of three A levels and will be given GBP500,000,000 of additional funding each year once fully rolled out. Successful providers will be announced in June 2019.\textsuperscript{513}

On 17 January 2019, Education Secretary Damian Hinds launched a campaign – “Fire It Up” to promote apprenticeships to young people, parents and employers.\textsuperscript{514} The UK government will also write to large school trusts who have not published information on their websites about their plans to get vocational education providers to talk to pupils in their schools.\textsuperscript{515} This is designed to change attitudes to apprenticeships, which have been seen as inferior to university in UK society.\textsuperscript{516}

On 18 January 2019, Economy Secretary Ken Skates announced that the first integrated research, development and innovation program in microelectronics had been approved by the European Commission, with the UK’s element spearheaded by the Welsh government.\textsuperscript{517} It will unlock

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EUR1,750,000,000 of funding for research activities and bring in up to EUR6,000,000,000 of private investment.518

On 18 January 2019, North West Regional College launched a Northern Ireland Department for the Economy Assured Skills Academy in welding, with a guaranteed interview at the end of the course for 13 trainees.519

On 28 January 2019, Sellafield Limited, a subsidiary of the NDA, launched the North West Nuclear Community Apprenticeship Programme to fund apprentice wage costs for the first year with small companies in Cumbria.520 These will address specific skills shortages in Cumbria and boost nuclear capability.521 The scheme is aimed at supporting students who have faced education or employment barriers.522 This is the first scheme of its kind in the UK and could be rolled out all over the country.523

On 28 January 2019, Digital Minister Margot James announced four new projects to increase diversity in the cyber security workforce.524 They will be funded under the next round of the Cyber Skills Immediate Impact Fund for a total investment of at least GBP500,000.525 The funded projects are Crucial Academy: Diversity in Cyber Security, which retrains veterans in cyber security with a focus on women, neurodiverse and Black, Asian and minority ethnic people; QA: Cyber Software Academy for Women; Blue Screen IT: HACKED which will scale up a program identifying, training and placing candidates in cyber security including neurodiverse people, people with special needs and those from disadvantaged backgrounds; and finally Hacker House Ltd: Hands on Hacking, Training and Employer Portal.526

On 30 January 2019, bids were opened for a GBP38,000,000 fund announced in the October 2018 Budget to help participating further education providers refurbish buildings, build new classrooms and upgrade equipment in preparation for delivering T levels.527 This round of applications relates to construction and refurbishment of buildings, and funding for specialist equipment will be allocated to

all providers in spring 2020.\textsuperscript{528} The UK government will provide an additional GBP500,000,000 every year to the further education sector once all T levels are completely rolled out.\textsuperscript{529}

On 4 February 2019, South Eastern Regional College launched a Northern Ireland Department for the Economy Assured Skills Academy in welding, with a guaranteed interview at the end of the course for six trainees.\textsuperscript{530}

On 5 February 2019, Digital Schools Awards Scotland launched a competence badge for cyber resilience and internet safety in Scottish schools.\textsuperscript{531} It will help provide education professionals with the resources and support needed to teach children about safe online behaviour.\textsuperscript{532} It is awarded to schools after completion of a self-assessment and provides guidance to schools that have gaps in their knowledge in order to meet the badge standard.\textsuperscript{533}

On 13 February 2019, DfE and the Institute for Apprenticeships and Technical Education awarded contracts to develop, deliver and award the first three T levels.\textsuperscript{534} NCFE Awarding was awarded the education and childcare T level contract, and Pearson was awarded contracts for design, surveying and planning as well as digital production, design and development.\textsuperscript{535} These will begin being taught from September 2020.\textsuperscript{536}

On 14 February 2019, the UK Space Agency held a showcase for 100 students aged 12-15 on careers using satellite data, involving its experts and others from the Environment Agency, the European Space Agency and the Satellite Applications Catapult as well as companies in a Careers Carousel.\textsuperscript{537}

On 21 February 2019, Business Secretary Greg Clark and Digital Secretary Jeremy Wright announced a joint government-industry package of new industry-funded AI masters combined with work-based placements.\textsuperscript{538} The UK government will invest up to GBP110,000,000 alongside industry funding for

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up to 200 new AI master’s places, 1,000 places for new PhDs at 16 UK Research and Innovation AI Centres for Doctoral Training, and up to five AI research fellowships.\footnote{539}

On 25 February 2019, the STEM Bursary Scotland opened for applications for academic year 2019/20.\footnote{540} 100 bursaries are available for a total cost of GBP2,000,000 – GBP20,000 each – to fund postgraduate teacher training courses beginning in August 2019.\footnote{541} Candidates must be career changers seeking to become STEM teachers – in physics, chemistry, maths, technical education, or computing science, with home economics included for the first time.\footnote{542}

On 3 March 2019, Fair Work Secretary Derek Mackay increased the Graduate Apprenticeships target from 800 in 2018/19 to 1300 in 2019/20.\footnote{543} Graduate apprenticeships provide work-based learning up to master's degree level in sectors looking for highly skilled workers, such as civil engineering, digital and cyber security.\footnote{544} They are open to new and existing employees.\footnote{545} This includes the expansion of the graduate apprenticeship in data science after a successful pilot program.\footnote{546}

On 4 March 2019, High Speed 2 Limited, a publicly funded company, began recruiting for new apprentices to help construct the high-speed railway.\footnote{547} Positions were made available in project management, human resources, cyber security, IT, health and safety, finance, commercial procurement and public relations.\footnote{548} The project plans to create 2,000 apprenticeships during its lifetime.\footnote{549}

On 4 March 2019, the UK government began its 12th annual National Apprenticeships Week.\footnote{550} Education Secretary Damian Hinds launched a top 100 apprenticeship employer league table and a new quality mark for apprenticeships.\footnote{551} Minister Hinds also visited WSP, a world leader in engineering professional services. Apprenticeships and Skills Minister Anne Milton visited a variety


of apprentice employers, including in the engineering, digital and medical fields. The Big Assembly 2019 was hosted by apprentices to let students, parents and career advisers find out about apprenticeships.

On 5 March 2019, Education Scotland announced it had awarded GBP187,000 under the Enhancing Professional Learning in STEM Grants Programme since its launch in October 2018. The funds will help to provide 24 professional learning programs and opportunities for education staff in order to help implement the STEM Education and Training Strategy. The second round of funding will be launched in April 2019.

On 5 March 2019, Minister for Business, Fair Work and Skills Jamie Hepburn opened the Openreach Scotland national fibre training school for digital engineers in broadband services. More than 2,000 engineers from all over Scotland will study there in 2019. Openreach is a UK telecommunications company which has invested GBP485,000 in the school.

On 7 March 2019, Education Minister Kirsty Williams attended the awards ceremony of the All Wales Coding Competition for 7-16 year olds. Since 2016, the Welsh government has invested GBP1,300,000 in expanding code clubs all over Wales, GBP1,200,000 for Swansea University to run computer coding workshops for pupils and teachers and an additional GBP1,200,000 to support Welsh universities to set up the Institute for Coding.

On 8 March 2019, Maritime Minister Nusrat Ghani announced GBP100,000 of funding for the 1851 Trust, which works to encourage young people to choose STEM subjects. It will be used for 10

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roadshows where girls aged 11-14 can speak to women working in the maritime sector before choosing their General Certificate of Secondary Education subjects.563

On 8 March 2019, Innovate UK announced the winners of its Women in Innovation grants of GBP50,000 business funding and a bespoke support package.564 Winning projects include an energy-efficiency monitoring AI airbrick, digital health tools, and a remote practical training system for car mechanics.565

On 12 March 2019, Highways England invited girls from the Bristol Free School to a tour and presentation at its M49 motorway scheme, where they met female engineers and business managers to provide them with an insight into construction and engineering.566

On 13 March 2019, Science Minister Richard Lochhead confirmed an additional GBP2,630,000 in funding for Scotland’s four science centres.567 It includes an operational grant for the centres, the fund includes a schools transport subsidy to support pupils in rural and deprived areas to access the centres and a community subsidy to support them to engage with a greater diversity of people.568

On 15 March 2019, Transport Scotland organised an event at Moray College University of the Highlands and Islands to allow local school children to present their projects to a judging panel from Transport Scotland and its design consultancy Mott MacDonald Sweco to celebrate the results of the Transport Scotland schools engagement program on the A96 Dualling Hardmuir to Fochabers scheme.569 This program involved training for teachers, and engineers from Mott MacDonald Sweco have assisted with presentations, question-and-answer sessions and class projects.570

On 15 March 2019, Minister for Digital Margot James announced a GBP100,000 award to CODE 4000, to allow it to extend its coding workshops for carefully vetted prisoners to Her Majesty’s Prison Holme House, after a successful trial.571 The award will also fund a new employment hub in

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Sheffield, to provide support, mentoring and training for graduates once they leave prison, with a view to developing a network of coding workshops in UK prisons.\textsuperscript{572}

On 18 March 2019, Education Minister Kirsty Williams launched a pilot degree apprenticeship scheme in Wales, with GBP20,000,000 Welsh government funding to fully fund the scheme and pay students’ fees.\textsuperscript{573} Courses will be led by universities and available in key economic sectors as identified by the Welsh government, including IT, engineering and advanced manufacturing.\textsuperscript{574} Students will work throughout their degrees, spending part of the week at university and the rest with their employer.\textsuperscript{575}

On 18 March 2019, a group of secondary school pupils from the Shetland Islands became Modern Apprentices for the day as part of SDS’s Scottish Apprenticeship Week.\textsuperscript{576} SDS specifically sought to tackle gender stereotypes, sending male pupils to traditionally female-dominated workplaces and female pupils to traditionally male-dominated workplaces.\textsuperscript{577} The male pupils went to experience social services apprenticeships in care homes and a nursery, and the female pupils went to experience maritime engineering and construction apprenticeships.\textsuperscript{578}

On 19 March 2019, the Scottish government’s Academy9 (A9) schools initiative, inspired by the A9 Dualling programme, held a conference for engineering, infrastructure and education professionals along with pupils from schools along the A9 to promote STEM education and employment opportunities.\textsuperscript{579}

On 22 March 2019, Education Minister Kirsty Williams announced Wales would fund Microsoft classroom software applications for all Local Authority overseen schools through an investment of GBP1,200,000.\textsuperscript{580} This includes Minecraft Education Edition with Code Builder to allow students to learn coding, with 5 downloads of the programs available to all teachers and learners.\textsuperscript{581}


\textsuperscript{573} Degree Apprenticeships offer best of both worlds, Welsh Government (Cardiff) 18 March 2019. Access Date: 30 May 2019. \url{https://gov.wales/degree-apprenticeships-offer-best-of-both-worlds}.

\textsuperscript{574} Degree Apprenticeships offer best of both worlds, Welsh Government (Cardiff) 18 March 2019. Access Date: 30 May 2019. \url{https://gov.wales/degree-apprenticeships-offer-best-of-both-worlds}.

\textsuperscript{575} Degree Apprenticeships offer best of both worlds, Welsh Government (Cardiff) 18 March 2019. Access Date: 30 May 2019. \url{https://gov.wales/degree-apprenticeships-offer-best-of-both-worlds}.

\textsuperscript{576} Shetland pupils are apprentices for the day, Skills Development Scotland (Glasgow) 18 March 2019. Access Date: 23 June 2019. \url{https://www.skillsdevelopmentscotland.co.uk/news-events/2019/march/shetland-pupils-are-apprentices-for-the-day/}.

\textsuperscript{577} Shetland pupils are apprentices for the day, Skills Development Scotland (Glasgow) 18 March 2019. Access Date: 23 June 2019. \url{https://www.skillsdevelopmentscotland.co.uk/news-events/2019/march/shetland-pupils-are-apprentices-for-the-day/}.

\textsuperscript{578} Shetland pupils are apprentices for the day, Skills Development Scotland (Glasgow) 18 March 2019. Access Date: 23 June 2019. \url{https://www.skillsdevelopmentscotland.co.uk/news-events/2019/march/shetland-pupils-are-apprentices-for-the-day/}.


\textsuperscript{580} Wales leads the way with Microsoft for schools, Welsh Government (Cardiff) 22 March 2019. Access Date: 30 May 2019. \url{https://gov.wales/wales-leads-way-microsoft-schools}.

\textsuperscript{581} Wales leads the way with Microsoft for schools, Welsh Government (Cardiff) 22 March 2019. Access Date: 30 May 2019. \url{https://gov.wales/wales-leads-way-microsoft-schools}.
On 25 March 2019, the NDA supported the first Nuclear Skills conference to discuss issues surrounding skills leadership, diversity, experts, and apprenticeships and sector transferability.\textsuperscript{582}

On 25 March 2019, the finals of the GCHQ NCSC’s CyberFirst Girls competition took place, with the top 10 teams of 12/13 year old girls competing using their coding and cryptography skills to respond to cyberattacks against a fictitious company.\textsuperscript{583}

On 27 March 2019, the Northern Ireland Department for the Economy, Alchemy Technology Services (ATS) and North West Regional College in Derry/Londonderry opened a training academy for 20 students and a guaranteed job interview with ATS in its Excellence for Digital Transformation in the UK and European insurance market at the end of the course.\textsuperscript{584}

On 29 March 2019, the Defence Science and Technology Laboratory’s staff acted as judges and project mentors for girls from Wiltshire schools in the annual Soroptimists STEM Challenge trophy on producing water supply systems for the developing world.\textsuperscript{585}

On 8 April 2019, EOS IT Solutions and Southern Regional College established a partnership under the framework of the Northern Ireland Department for the Economy’s Assured Skills Academy program to offer 20 people the chance to train as an AV Field Engineer.\textsuperscript{586}

On 10 April 2019, Education Secretary Damian Hinds announced the founding of 12 Institutes of Technology, which will be led by universities, Further Education colleges and employers.\textsuperscript{587} They will specialise in higher level technical training (foundation degrees and higher-level apprenticeships, for example) in STEM subjects, and will receive GBP170,000,000 of state funding for equipment and facilities.\textsuperscript{588} The Institute partnerships include Milton Keynes College, Cranfield University and Microsoft Ltd; and New College Durham, Newcastle University and Nissan.\textsuperscript{589} The first institutes are expected to open from September 2019.\textsuperscript{590}

On 14 April 2019, the NCSC launched a call for the fourth round of applications for its Cyber Accelerator, designed to support technology start-ups with a focus on enhancing technological


The nine-month program for each start-up includes access to NCSC and GCHQ experts, a GBP25,000 grant, access to Wayra’s investor network and a potential pathway to security experts from Telefónica’s brands.\(^5\)

On 18 April 2019, pupils and teachers from nine Aberdeenshire schools attended a celebration event as part of Transport Scotland’s schools engagement programme on the A96 Dualling East of Huntly to Aberdeen scheme.\(^5\) Local school children presented their projects to a judging panel from Transport Scotland and its design consultancy AmeyArup.\(^5\) This program involved training for teachers, and engineers from AmeyArup have assisted with presentations, Q&A sessions and class projects.\(^5\)

On 23 April 2019, Apprenticeships and Skills Minister Anne Milton MP announced new, free skills courses to help adults lacking digital skills.\(^5\) They have been designed to focus on basic daily administrative and communications tasks and will be available for free to anyone over 19 from 2020.\(^5\) They will include Essential digital skills qualifications from 2020, and Functional Skills qualifications from 2021 which are more focused on support to enter employment or further education.\(^5\)

On 29 April 2019, High Speed 2 Limited opened applications for women in the West Midlands to follow a six-week introduction program to construction.\(^5\) It will start with a two-week employability course and the possibility to obtain a Construction Skills Certification Scheme card.\(^5\) This will be followed by a four-week work experience placement with HS2 Ltd or one of its supply chain companies.\(^5\) These placements will be offered in various roles, including ecology, civil engineering, design and archaeology.\(^5\)

On 1 May 2019, pupils and teachers from nine schools in Inverness, Nairn and the Black Isle attended a celebration event as part of Transport Scotland’s schools engagement programme on the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme, and the nearby A9/A82

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Longman Junction Improvement scheme.\textsuperscript{603} Local school children presented their projects to a judging panel from Transport Scotland and its design consultancy Jacobs.\textsuperscript{604} This program involved training for teachers, and engineers from Jacobs have run engineering presentations and practical engineering tasks for around 550 pupils.\textsuperscript{605}

On 6 May 2019, an Education Scotland partnership program – RAiSE (Raising Aspirations in Science Education) – held a STEM fair for over 160 Primary Five pupils to share displays of their work and speak to local employers in Lochaber about STEM careers.\textsuperscript{606}

On 7 May 2019, Science Minister Chris Skidmore confirmed the first wave of Future Leaders Fellowships.\textsuperscript{607} These will be awarded to 41 early career researchers, who will get a share of GBP40,000,000. Their projects include medical research, 3D mapping, and climate change monitoring with cloud computing and AI. The scheme will be supported by GBP900,000,000 government investment in total over three years.

On 13 May 2019, the Chief Inspector and Chief Executive for Education Scotland, Gayle Gorman, launched National Digital Learning Week 2019.\textsuperscript{608} During the week, all early learning and childcare centres and schools across Scotland were invited to take part in five curriculum-focused challenges in STEM, social studies, expressive arts, literacy and numeracy.\textsuperscript{609}

On 19 May 2019, Education Secretary Damian Hinds announced additional support for employers to deliver industry placements as part of T Level qualifications.\textsuperscript{610} This includes new guidance for employers and providers on offering placements which suit their business and the needs of students who may work part time or provide care, a new GBP7,000,000 pilot scheme to explore how to cover the costs linked to hosting a placement, and how-to guides, workshops, and practical hands-on support for employers.\textsuperscript{611}

On 21 May 2019, Science Minister Chris Skidmore announced an Eco Innovators competition for 7 to 19 year olds to design electric vehicle chargepoints, with the winners having their design made into a prototype by industry experts and displayed at the Electric Vehicle Experience Centre in Milton

On 23 May 2019, the UK government announced additional funding to support early career maths and physics teachers in the North East, Yorkshire and the Humber, and Opportunity Areas [which receive education funding under a pre-existing social mobility program.] It will pilot a GBP2000 government incentive to remain in the profession for the first five years of their careers.

On 23 May 2019, the UK Space Agency announced the winners of its SatelLife competition for young people in using satellite applications. The overall individual prize and group prizes each carried a grant of GBP7,500, with GBP4,000 or GBP5,000 for runner-up individuals and groups.

On 28 May 2019, a team of Highways England experts visited two schools in Oakham to conduct “fun sessions” with 8 to 11-year olds. They assisted the students to use their STEM knowledge to plan, design and build their own road bridges and learn about Highways England’s work. The best poster winner will win their school a team of workers for a day from East Midlands Asset Delivery – a company made up of Highways England and its partners – which conducted these visits. The winning artist will also get a GBP25 gift voucher.

On 30 May 2019, Education Scotland announced GBP1,300,000 of new funding for the STEM programme which conducted these visits. Further funding to support 45 further education providers to recruit experienced industry

professionals from sectors such as digital, engineering and construction to teaching.622 Minister Milton also announced GBP900,000 in funding to support 22 projects examining how to improve the link between further education providers and industry.623

On 31 May 2019, Digital Economy Minister Kate Forbes announced a new GBP1,000,000 Digital Start Fund.624 This fund was designed to support training in software development and cybersecurity for those out of work and those on low incomes.625 Applicants could be awarded between GBP1,000 and GBP8,000 paid directly to the training provider, with possible funding for travel and childcare costs if needed.626 No digital experience was required.627 The eligibility requirements were being in receipt of Universal Credit or other income-based benefits or facing two or more recognised barriers to work.628 Courses would result in a qualification at Scottish Qualifications Level 7 or above.629 The fund will be open for applications until the end of March 2020, funds permitting, and courses will be available in Paisley, Edinburgh, Glasgow, and Inverness as well as through online learning.630

On 3 June 2019, the EdTech (Education Technology) Leadership Group held its first meeting, having been established to help schools use technology effectively in the classroom.631 This discussion focused on technological accessibility and inclusion for disabled pupils.632 The group’s work is the first step of a GBP4,600,000 program by the innovation foundation Nesta, which was part-funded from the UK government’s GBP10,000,000 investment in its EdTech Strategy.633 The

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EdTech Leadership group aims to set out a formal pact by the end of 2019, detailing how to get industry, government and the education sector to work together more effectively.634

On 3 June 2019, a new Deloitte Assured Skills Academy, funded by the Northern Ireland Department for the Economy, opened for applications.635 It will train 24 graduates in business consultancy using the latest technology and software, and successful students will get a guaranteed job interview with Deloitte.636

On 6 June 2019, the Northern Ireland Department for the Economy and Decora Blind Systems announced a Bridge to Employment three-week training program for unemployed people to learn window blind building and assembly.637 After successful completion of the training program, applicants will be guaranteed a job interview as a Production Operative with Decora Blind Systems.638

On 10 June 2019, Digital Secretary Jeremy Wright announced GBP18,500,000 new funding for skills in AI and data science.639 This included GBP13,500,000 to fund new degree and Masters conversion courses (for those who have degrees in other subjects) and scholarships at UK academic institutions over the next three years.640 It also provided GBP5,000,000 for an Adult Learning Technology Innovation Fund in partnership with Nesta, encouraging technology companies to develop solutions using AI and automation to improve the quality of online learning for adults and support them into skilled employment.641

On 12 June 2019, Economy Minister Ken Skates AM announced an award of GBP651,000 to software management company Link Data Management Solutions (LDMS), creating 80 jobs for highly skilled software professionals.642

On 17 June 2019, the Director of Skills at the Northern Ireland Department for the Economy Graeme Wilkinson launched PA Consulting’s Digital Engineering Assured Skills Academy.643


graduates will follow a nine-week training course at Belfast Met and have an interview with PA Consulting on successful completion.644

On 18 June 2019, Education Secretary Damian Hinds announced the second wave of further education providers to provide T levels from 2021.645 Secretary Hinds also confirmed the details of funding for T levels providers, with an additional GBP3,750,000 to support course development and offering.646 This will include additional funding for T level students who have not yet reached minimum Maths and English skills to continue working on them, for disadvantaged young people during T level industry payments, and for 18-year-old T level students to ensure they have access to the additional hours needed for larger T level courses.647

On 19 June 2019, Economy Minister Ken Skates delivered an update on the advanced manufacturing centre under construction in Broughton.648 The Welsh government has invested GBP20,000,000 in the centre, which will focus on advanced manufacturing sectors including aerospace, automotive, nuclear and food.649 Airbus are confirmed as the first major tenant.650 The centre shall be known as Advanced Manufacturing Research Facility Cymru.651

The United Kingdom has fully complied with its commitment to new initiatives to expand training and education for current and future workers around STEM fields. The UK developed new programs and delivery centres for STEM skills promotion for both current students of all ages and existing workers in a variety of fields from cybersecurity to manufacturing and construction. Existing funding schemes to train potential STEM teachers have been extended. The UK has also sought to improve digital skills for people from disadvantaged backgrounds and outreach by science centres for these groups. England continues to implement T levels as a new form of technical education. All nations of the UK have increasingly focused on non-university forms of training in STEM, including further education and apprenticeships. Encouraging women and girls to develop their STEM skills and consider those careers has been a key strand of the UK’s policy, and it has also announced

policies focused on Black, Asian and minority ethnic people, neurodiverse people, prisoners, and the elderly. However, the Northern Irish Executive remains vacant. As a result, Northern Irish officials have a restricted capacity to launch new policies and schemes and so have continued previous policies such as Assured Skills Academies rather than taken new action.

Thus, the United Kingdom receives a score of +1.

*Analyst: Hannah Bettsworth*

**United States: +1**

The United States has fully complied with its commitment to implement new initiatives to expand training and education for current and future workers science, technology, engineering and mathematics (STEM).

On 25 and 26 June 2018, the White House Office of Science and Technology Policy (OSTP) hosted the first-of-its-kind State-Federal STEM Education Summit, bringing together education and science leaders from eighteen federal agencies along with more than 200 SEM leaders from all 50 states. During the summit, administration officials engaged in a dialog with these stakeholder groups to consider their input for development of the upcoming Federal STEM Education Strategic Plan, which is required by the America COMPETES Act of 2010 (PL 11-358) to be updated every five years.

On 19 July 2018, President Donald Trump signed an executive order creating a National Council for the American Worker to spur job retraining for workers to gain new skills for a rapidly changing digital economy. The executive order highlights the need “to prepare Americans for the 21st century economy and the emerging industries,” and to foster an environment of lifelong learning and skill-based training. At the time of signing, Mr. Trump had secured pledges from 23 corporate chiefs and trade association leaders to provide retraining or apprenticeships for more than 3.8 million students and workers over the next five years.

On 31 July 2018, President Donald Trump signed the Strengthening Career and Technical Education for the 21st Century Act into law. This bill reauthorizes the Carl D. Perkins Career and Technical Education Act of 2006 and will be referred to as Perkins V. Perkins is a federal education program

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that authorizes the investment of USD1.229 billion for Fiscal Year 2019 in secondary and postsecondary career and technical education programs in all U.S. states and territories.\textsuperscript{659}

On 8 November 2018, the U.S. Department of Education announced that it was obligating USD279 million in STEM discretionary grant funds in Fiscal Year 2018, surpassing President Donald Trump’s directive to invest USD200 million in STEM education.\textsuperscript{660} At the announcement, U.S. Secretary of Education Betsy DeVos said “it is important that all students have access to a high-quality STEM education. These discretionary grant programs and this Administration’s increased focus on STEM will help ensure our nation’s students are exposed to STEM early in their lifelong education journeys.”\textsuperscript{661}

On 4 December 2018, the Trump administration released a five-year strategy to strengthen education in STEM fields. The plan sets a vision “where all Americans will have lifelong access to high-quality STEM education and the United States will be the global leader in STEM literacy, innovation, and employment.”\textsuperscript{662} The administration’s goals include building a strong foundation of STEM literacy, increasing diversity in STEM careers and preparing the STEM workforce of the future.\textsuperscript{663}

On 11 February 2019, President Donald Trump signed an executive order entitled “Accelerating America’s Leadership in Artificial Intelligence.” The Initiative implements a whole-of-government strategy in collaboration and engagement with the private sector, academia, the public, and like-minded international partners. Among other actions, key directives in the initiative call for federal agencies to prioritize research and development (R&D) investments in artificial intelligence (AI), enhance access to high-quality cyberinfrastructure and data, ensure that the nation leads in the development of technical standards for AI, and provide education and training opportunities to prepare the American workforce for the new era of AI. In terms of education and training opportunities the initiative calls for agencies to prioritize fellowship and training programs to help American workers gain AI-relevant skills through apprenticeships, skills programs, fellowships, and education in computer science and other growing STEM fields.\textsuperscript{664}

On 21 June 2019, the White House introduced its updated strategic plan for research and development of artificial intelligence. The “National AI R&D Strategic Plan: 2019 Update” defines the priority areas for Federal investments in AI R&D. This 2019 update builds upon the first National AI R&D Strategic Plan released in 2016, accounting for new research, technical innovations, and other considerations that have emerged over the past three years. This update has been

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developed by leading AI researchers and research administrators from across the Federal Government, with input from the broader civil society, including from many of America’s leading academic research institutions, non-profit organizations, and private sector technology companies. In terms of education and training one priority of the plan focuses on better understanding the national AI R&D workforce needs and address them with suitable policies.665

On 25 June 2019, the White House released a statement in which it announced that by the end of June 2019, the Department of Labor will award USD 183 million to consortia of businesses and educational institutions to support Industry-Recognized Apprenticeship programs in sectors where apprenticeships are not widespread, such as technology, health care and advanced manufacturing. The department will also continue to fund the apprenticeship course Congress has specifically appropriated for the program. The Industry-Recognized Apprenticeship is a program proposed by President Donald Trump as part of the “Pledge to America’s workers.”666

The United States has introduced new initiatives meant to expand training and education that are addressed both at current and future workers around STEM fields.

Thus, the United States receives a score of +1.

**Analyst: Calvin König**

**European Union: +1**

The European Union has fully complied with its commitment to new initiatives to expand training and education for current and future workers science, technology, engineering and mathematics (STEM).

On 8 June 2018, the first class of the two-year European Institute of Innovation and Technology (EIT) health master of science in innovation and health care graduated from Copenhagen Business School.667 This course was designed to teach students to enact, manage and implement innovations at all levels of the healthcare system, and was jointly delivered by Copenhagen Business School and the University of Copenhagen (Faculty of Health and Medical Sciences).668 It is accredited by the Danish government and EIT Health.669

On 11 June 2018, the European Commission announced a EUR9.2 billion investment in its Digital Europe Programme for 2021-2027 – the first pan-European digital program.670 Of this, EUR700 million will be invested in digital skills building through training courses and on-the-job

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Digital Innovation Hubs will carry out targeted programs to help small and medium enterprises (SMEs) and public administrations to train their staff to access new opportunities offered by technology.\textsuperscript{672} EUR1.3 billion will go towards widening use of digital technology across the economy and society, including facilitating access and knowledge for businesses.\textsuperscript{673} The Digital Innovation Hubs across Europe will be one stop shops for SMEs and public administrations for accessing expertise and advice.\textsuperscript{674}

On 19 June 2018, the European Commission held a full day event – Digital4Her – to encourage women’s participation in the technical sector and hold dialogues about how to promote digital skills and Science, Technology, Engineering and Mathematics (STEM) studies among girls.\textsuperscript{675} Ten female-led technology start-ups were selected to pitch their projects to a jury of investors and start-up program representatives.\textsuperscript{676} The European Network for Women in Digital was launched at this event,\textsuperscript{677} which facilitates partnerships to help get more women and girls into digital studies and careers across the EU.\textsuperscript{678}

On 19 June 2018, EIT RawMaterials called for applicants for the RawMatCop 2018-2020 program, building on experiences from the one-year RawMatCop 2017 program, both funded by the European Commission.\textsuperscript{679} This project aims to develop skills, expertise, demonstrations and applications between Earth observation data and the raw materials sector.\textsuperscript{680} It will provide two post-doctoral research scholarships for a year, and two academic placements with industry/authorities from six months to a year in duration, using Copernicus data for raw material related activities.\textsuperscript{681}

On 27 June 2018, the European Centre for the Development of Vocational Training (CEDEFOP) highlighted a European Commission call for proposals for deployment of skills assessments in the


implementation of Upskilling Pathways. Its budget for this co-financing is EUR1.5 million, and the funded actions will commence between November 2018 and January 2019 with durations of 12 to 24 months. Upskilling Pathways is an initiative established in June 2016 and targeted at adults with a low level of literacy, numeracy, and digital skills to help them move towards an upper secondary level qualification or equivalent. Such skills assessments will provide a basis for individualized learning plans. Under the European Union Programme for Employment and Social Innovation 2014 – 2020 financing instrument, beneficiaries must pay particular attention to vulnerable groups, gender equality, fighting discrimination and promoting sustainable, quality employment and social protection.

On 29 June 2018, the European Investment Bank agreed to provide a loan of EUR 27.3 million to Poznań Medical University. This loan was guaranteed by the European Fund for Strategic Investments so that the Polish government did not have to act as guarantor. The loan will fund a new medical simulation centre at the university, as well as a new site for pharmaceutical research laboratories and refurbishment of two university hospital wards.

On 3 July 2018, EIT Digital commenced the second edition of its Lisbon Summer School for students, with a focus on digital business cases for Longer Independent Living of people with disabilities and the elderly.

On 27 July 2018, CEDEFOP issued guidance for policy-makers and managers to use information and communication technologies (ICT) to help people find training and jobs and improve their

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employability and skills.690 It shares examples of best practice from across the EU to help readers apply it to their own services.691

On 10 September 2018, the European Commission opened a call for proposals for the European Research Council (ERC) Synergy Grant.692 This was aimed at teams of principal investigators, with a track record of achievements depending on their career stage, to allow them to work together across scientific fields and jointly address research problems, for breakthroughs they could not achieve alone.693 Synergy Grants can be awarded for up to a maximum of EUR 10,000,000 for a period of six years, reduced accordingly for a shorter period, with an additional EUR 4,000,000 to cover start-up costs for moving principal investigators, the purchase of major equipment and/or access to large facilities.694

On 10 September 2018, the European Commission opened a call for proposals for the ERC Starting Grant.695 This was aimed at principal investigators who were just beginning to start their own independent research team or program, which should be ground-breaking, ambitious and feasible.696 Synergy Grants can be awarded for up to a maximum of EUR 1,500,000 for a period of five years,
reduced accordingly for a shorter period, with an additional EUR 500,000 to cover start-up costs for moving Principal Investigators, the purchase of major equipment and/or access to large facilities.697

On 12 September 2018, the European Commission published a legislative proposal to establish the European Cybersecurity Industrial, Technology and Research Competence Centre, as well as the Network of National Coordination Centres.698 The former will facilitate the latter’s work and coordinate the use of cybersecurity funds under the 2021-2027 EU budget.699 Its objectives include improving the understanding of cybersecurity and contributing to reducing skills gaps in the Union related to cybersecurity.700 The EU proposed financial contribution to the Competence Centre will be EUR1,981,668,000 from the Digital Europe Programme, of which up to EUR23,746,000 for administrative costs, and EUR2.8 billion from the Horizon Europe programme, including for administrative costs.701 On 13 September 2018, the European Commission opened a call for proposals related to the Marie Skłodowska-Curie Innovative Training Networks, which supports selected joint research training and/or doctoral programs implemented by partnerships of academic institutions, businesses, SMEs and other socio-economic actors.702 Partnerships take the form of collaborative European Training Networks, European Industrial Doctorates or European Joint Doctorates.703 The latter two lead to a doctoral degree. They will support training models, including digital ones, on transferrable skills and

promoting the principles of Open Science, innovation and entrepreneurship.\footnote{Innovative Training Networks, European Commission (Brussels) 27 October 2017. Access Date: 19 December 2018. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-itn-2019;freeTextSearchKeyword=Training;typeCodes=1,0;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047830;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false.} The research training will have a non-academic aspect to it.\footnote{A blueprint for sectoral cooperation on skills (Wave II), European Commission (Brussels) 25 September 2018. Access Date: 18 December 2018. https://ec.europa.eu/social/main.jsp?catId=1415&langId=en.}


On 4 October 2018, the European Commission announced the beginning of EU Code Week 2018. This is a yearly event supported by the European Commission, and this year the event focused on schools and specifically called on teachers from all subjects to try out coding and technical activities in their classrooms. The Code Week website brings together resources, activities and toolkits to help participants organize their lessons.

On 4 October 2018, the Digital Skills and Jobs Coalition Governing Board presented its action plan for the months ahead. The Digital Skills and Jobs Coalition is a pre-existing initiative between Member States, companies, social partners, non-profit organizations and education providers to deal with the lack of digital skills in Europe. From December 2016 to July 2018, its members offered digital skills training to 10.9 million Europeans. Its current priorities include contributing to the Digital Opportunity Traineeship Initiative, expanding EU Code Week, building links between stakeholders and networks across Europe, supporting efforts to ensure funding for digital skills in the next EU budget, expanding membership and pledges across all sectors, raising workforce awareness about their need for digital skills, supporting the national coalitions, improving SMEs digital skills, and promoting and using existing tools to support acquiring and assessing digital skills.

On 16 October 2018, the European Commission opened a call for proposals under the Information and Communication Technologies work program to promote personalized and inclusive digital learning solutions for all, including the most vulnerable and disabled people. The EU will fund one proposal for around EUR7 million, which will in turn distribute EUR100,000 to EUR200,000 to small scale projects to work on specifically determined topics/challenges.

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721 An empowering, inclusive Next Generation Internet, European Commission (Brussels) 27 October 2017. Access Date: 19 December 2018. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/ict-30-2019-2020;freeTextSearchKeyword=Education;typeCodes=1,0;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false.

722 An empowering, inclusive Next Generation Internet, European Commission (Brussels) 27 October 2017. Access Date: 19 December 2018. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/ict-30-2019-2020;freeTextSearchKeyword=Education;typeCodes=1,0;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false.
On 23 October 2018, the European Commission opened a call for proposals under the European Maritime and Fisheries Fund for projects bridging the supply and demand gap and facilitating career advancement in the maritime industry. This included improving students’ advanced technical and soft skills. EUR 5.5 million was allocated to this in the 2018 budget.

On 24 October 2018, the European Commission launched a call for proposals under the Erasmus+ programme, allocating EUR 2,503.4 million to Education and Training. This included the Sector Skills Alliances, which aim at tackling skills gaps in specific sectors through identifying labour market needs and making vocational education and training more responsive to them with a particular focus on interdisciplinary projects between researchers from different fields of science. The grants could allow for 700 jobs to be created for postdocs, PhD students and other staff working in the grantees’ research team. These grants were reintroduced in 2017.

On 23 October 2018, the ERC announced the winners of its Synergy Grants, amounting to EUR250 million in total, which facilitate groups of two to four lead researchers to bring their skills, knowledge and resources together to address novel research issues. Most of the grantees will carry out interdisciplinary projects between researchers from different fields of science. The grants could allow for 700 jobs to be created for postdocs, PhD students and other staff working in the grantees’ research team. These grants were reintroduced in 2017.

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on digital skills. The current call includes a section focusing on six specific sectors to support the Blueprint for sectoral cooperation on skills: Batteries for electro-mobility, bio-economy, new technologies and innovation in agriculture, defence technologies, digitalization of the energy value chain, energy-intensive industries/industrial symbiosis, microelectronic manufacturing and design. The 2019 call also notes that proposals including digital and key-enabling technologies (advanced manufacturing technologies, advanced materials and nanotechnologies, life science technologies, micro-nanoelectronics and photonics, artificial intelligence, security and connectivity) will be considered highly relevant under the Award Criteria for the Blueprint for Sectoral Cooperation on Skills. The call closed on 28 February 2019.

On 5 to 9 November 2018, the European Commission and the Austrian Presidency organized the third European Vocational Skills Week. This involved 1,512 events all across Europe to help young people learn about Vocational Education and Training (VET) opportunities. The future of VET was a key focus for the Week, dealing with issues such as digitalization and internationalization. It reached over 2.2 million people.

On 9 to 11 November 2018, the first Leadership Intensive cross-Innovation Community event for female entrepreneurs took place in London. The participants made plans for coding boot camps,


G7 Research Group
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hackathons, talks with female leaders and established a community of women leaders in STEM to put those plans into action in 2019.742

On 13 November 2018, the Joint Research Centre (JRC) called on junior refugee scientists to take part in a European training and mentoring program.743 Each successful applicant will be given a JRC mentor and take part in research-focused training, as well as a skills and career development workshop.744 The workshop will take place in March or April 2019.745

On 15 November 2018, the European Commission organized the first seminar on the implementation of the five ongoing “Blueprint for sectorial cooperation on skills” projects which were introduced in the Skills Agenda 2016.746 These initial five projects – Automotive, Maritime technology, Space – geo information, textile, clothing, leather and footwear, tourism – are reaching their first anniversary and this seminar was set up to allow for knowledge sharing.747 Participants highlighted STEM subjects as a key competence for their industries.748 The long-term goal of the Blueprint groups is to facilitate a partnership between employers, education and training providers and social partners in order to develop new or updated vocational education and training with a view to creating a skills strategy for the sector.749

On 29 November 2018, the ERC announced the beneficiaries of its Consolidator Grant competition for scientists across Europe, as part of the Horizon 2020 research and innovation program.750 This amounted to EUR573 million in total and should create around 1,750 jobs for postdocs, PhD students and other staff working in the grantees’ research team.751

On 4 December 2018, the European Commission opened a call for proposals under the Marie Skłodowska-Curie Research and Innovation Staff Exchange scheme. This scheme supports the development of partnerships through seconded research and innovation staff exchange. These can be intersectoral, with third countries, or both. The aim is to support knowledge sharing, skills acquisition and career development for researchers as well as administrative, managerial and technical staff directly involved in the research and innovation activities of the proposal.

On 5 December 2018, the EIT announced two new Innovation Communities: EIT Manufacturing and EIT Urban Mobility. These teams will bring together business, education, research and public sector actors. EIT Manufacturing will seek to launch a physical and digital learning platform for the manufacturing sector, and EIT Urban Mobility will focus on lifelong learning education and training programs. The EIT will provide each partnership with a start-up grant of up to EUR4 million, which will increase on the proviso that they get results.

On 10 December 2018, the European Commission launched an annual scoreboard of 13 indicators (on Internet use, internet user skills, specialist skills and employment) to monitor women’s participation in the digital economy. It found a gender gap on all 13 indicators at EU level, with...

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752 Research and Innovation Staff Exchange, European Commission (Brussels) 27 October 2017. Access Date: 15 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-rise-2019;freeTextSearchKeyword=t;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=callTopicSearchTableState.

753 Research and Innovation Staff Exchange, European Commission (Brussels) 27 October 2017. Access Date: 15 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-rise-2019;freeTextSearchKeyword=t;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=callTopicSearchTableState.

754 Research and Innovation Staff Exchange, European Commission (Brussels) 27 October 2017. Access Date: 15 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-rise-2019;freeTextSearchKeyword=t;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=callTopicSearchTableState.

755 Research and Innovation Staff Exchange, European Commission (Brussels) 27 October 2017. Access Date: 15 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-rise-2019;freeTextSearchKeyword=t;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=callTopicSearchTableState.


some exceptions at country level.\textsuperscript{761} It will provide the Commission and EU members with information that can be analysed and used to develop improvement targets.\textsuperscript{762}

On 11 December 2018, the European Commission opened a call for proposals to integrate skills courses into PhD programs, especially those involving non-academic actors, within the Science with and for Society work program.\textsuperscript{763} The Commission suggested that an EU contribution of between EUR750,000 and EUR1 million per proposal would be sufficient to meet these goals.\textsuperscript{764}

On 11 December 2018, the European Commission opened a call for proposals under the Science with and for Society work program to create new local partnerships promoting science education for all citizens.\textsuperscript{765} Open schooling involves professionals from companies and civil society coming into the classroom, and the projects will involve cooperation between formal, non-formal and informal science education providers.\textsuperscript{766} The Commission expects that an EU contribution of EUR1.5 million per proposal would allow this goal to be met.\textsuperscript{767}

On 11 December 2018, the European Commission opened a call for proposals under the Science with and for Society work program to support citizen science projects.\textsuperscript{768} Specifically, it seeks to support hands-on citizen science activities which result in developing new knowledge, new technologies or new and improved ways of using existing technological or social innovations.\textsuperscript{769} Proposals can explore how citizen science affects scientific skills, serve to improve scientific literacy

of European citizens, counter anti-intellectual attitudes and promote social inclusion and employability.\textsuperscript{770} The Commission expects that an EU contribution of EUR2 million per proposal would allow this goal to be met.\textsuperscript{771}

On 11 December 2018, the European Commission opened a call for proposals under the Science with and for Society work program to support the expansion of EURAXESS Service Centres’ mandate.\textsuperscript{772} EURAXESS is a network which seeks to help researchers and entrepreneurs to advance their career in Europe – both those within and outside Europe.\textsuperscript{773} The suggested figure, of EUR3 million per project, will be used to support early career development for researchers and entrepreneurs and open up new pathways for them in industry.\textsuperscript{774}

On 17 December 2018, EIT RawMaterials announced a partnership with JA Europe to train 1200 young people aged 15-18 from Bulgaria and Romania in entrepreneurship and STEM skills.\textsuperscript{775} It will include mentorship by business professionals to encourage students to turn their ideas into opportunities in the raw materials sector.\textsuperscript{776} In academic year 2018-19, students will take part in a one-year entrepreneurship education program, and a JA program supporting them to move a business idea from concept to reality.\textsuperscript{777} They will also obtain an Entrepreneurial Skills Pass.\textsuperscript{778}


\textsuperscript{772} EURAXESS TOP V, European Commission (Brussels) 27 October 2017. Access Date: 19 December 2018. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/swafs-15-2018-2019;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31048026;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false.


On 10 January 2019, the European Commission supported Science, Technology and the ARTS (STARTS) program, involving artists and information technology experts teaching digital skills in schools, launched in Brussels. This involved a STARTS Academy encouraging students to develop and build their own prototypes of digital and tech devices. The STARTS academy consists of three themes: Digital Arts, which includes virtual and augmented reality; product development, including 3D printing, laser cutting and prototyping; and next generation of technology platforms exploring Artificial Intelligence and the Internet of Things.

On 15 January 2019, Romania published its program for its first-ever EU presidency. One of its policy debate priorities was digital skills and digital literacy, in order to reduce digital gaps and increase socioeconomic inclusion. It called for implementing measures on digital skills and digital literacy measures and making this a long-term priority for the EU.

On 22 January 2019, European Commissioner for Digital Economy and Society Mariya Gabriel officially launched the Women4Cyber network’s first meeting. It brought together female cybersecurity leaders to develop ways to attract more women into the industry and help them advance.

On 31 January 2019, the European Commission revealed participation figures for the 2018 EU Code Week. It set a new record with 2.74 million participants, 43,657 events and over 10 per cent of schools in Europe involved, including the Western Balkans countries.

On 11 February 2019, EIT organised one-day workshops around the International Day of Women and Girls in Science to encourage girls 12-18 to consider careers in technology, entrepreneurship and

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innovation. The first took place that weekend, for 25 17-18 year old women in Skopje, North Macedonia. The EIT also planned to hold Digital and Entrepreneurial Skills Workshops. Both types focus on countries eligible to participate in the EIT’s Regional Outreach Scheme. These countries are: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Slovakia, Slovenia, Spain, Romania, Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Republic of North Macedonia, Georgia, Moldova, Montenegro, Serbia, Turkey, Ukraine.

On 11 February 2019, the Council of the EU agreed conclusions on the development and use of artificial intelligence (AI) made in Europe. These included incorporating digital skills (with an AI focus) at all education levels and improving ICT programs at university level. It also called for AI and STEM training to have a much broader approach at all levels and to train professionals in the current labour market. It welcomed the Commission’s intent to support masters and PhDs in Artificial Intelligence as well as its proposal to encourage the introduction of Artificial Intelligence modules in interdisciplinary joint degrees.

On 12 February 2019, the EIT presented EIT Digital’s Strategic Innovation Agenda (SIA) for the period 2020-2022 to European Commission Vice-President Andrus Ansip, Member of the European Parliament Eva Kaili, and EIT Digital Supervisory Board chairman Raymond Freymann. The SIA includes an element on adapting the European education system to the digital economy.

On 13 February 2019, the European Research Council and Australian Research Council concluded an agreement to allow Australian researchers to visit Europe and temporarily join ERC-funded teams.

On 26 February 2019, the European Commission revealed the winning pilot projects to create the European Cybersecurity Competence Network. These four projects will implement various tasks,
including trainings or programs to close the cybersecurity skills gap in the EU.\textsuperscript{801} Overall EU investment in these projects will be over EU63.5 million.\textsuperscript{802}

On 27 February 2019, the EIT announced that, as part of its contribution to the Horizon 2020 Concordia project, it would design a cybersecurity specific methodology to create new courses and/or teaching materials.\textsuperscript{803} Such courses will be targeted at industry mid-level management and executives, more specifically three nanoMOOCs (Massive Open Online Courses) and two microMasters.\textsuperscript{804}

On 6 March 2019, EIT Digital’s ARISE Europe programme, seeking to stimulate regional growth in EU countries where it is not present, opened a call for an Innovation Centre in Slovakia.\textsuperscript{805} The successful bidder will receive a maximum of EUR 60,000 yearly to cover part of the costs of the agreed on activities, funded by Fondazione Bruno Kessler (a partner in EIT Digital).\textsuperscript{806} One of the aims of this Call is to support Slovakian talent growth by linking them to EIT Digital’s innovation and education activities.\textsuperscript{807}

On 6 March 2019, EIT Digital opened the EIT Digital Venture Program, supporting teams from 19 countries to develop and finalise their technology-related Minimum Viable Product (MVP) and establish their startup company.\textsuperscript{808} It will provide them up to EUR15,000 monetary support and an intensive six-week period to help them finish their MVP.\textsuperscript{809} Eligible people must reside in: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, North Macedonia, Greece, Malta, Montenegro, Latvia, Lithuania, Poland, Portugal, Serbia, Slovakia, Slovenia, or Romania.\textsuperscript{810}

On 7 March 2019, EIT Digital launched the construction of the EIT Digital 2020 activities. These are aimed at those planning to launch a digital tech startup/product, or to conduct entrepreneurial


digital tech education programmes. There are 5 key strategic areas: Digital Tech, Digital Industry, Digital Cities, Digital Wellbeing and Digital Finance. The EIT Digital Innovation Factory supports pan European entrepreneurial teams to launch new startups and new products, including with financial co-investment. The EIT Digital Entrepreneurship Academy supports development and deployment of courses with business development elements, and partners can co-invest with the EIT to get financial and experienced teacher advice. Selection will be finalised by the end of June and activities are supposed to start on 1 January 2020.

On 12 March 2019, the European Commission opened a call for proposals under the Horizon 2020 work program on stimulating demand for sustainable energy skills in the construction sector. This aimed to increase the number of skilled professionals in the sector, including designers, architects, engineers, building managers, technicians, installers, blue collar workers including apprentices, and other building professionals. It focused specifically on energy efficiency skills. The Commission’s suggested contribution per project was EUR500,000 to EUR1 million, and the total sum allocated to it in the 2019 budget was EUR6 million.

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815 EU Digital: stimulating demand for sustainable energy skills in the construction sector, European Commission (Brussels) 27 October 2017. Access Date: 4 April 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/1c-sc3-ee-3-2019-2020;freeTextSearchKeyword=skills;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.
816 EU Digital: stimulating demand for sustainable energy skills in the construction sector, European Commission (Brussels) 27 October 2017. Access Date: 4 April 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/1c-sc3-ee-3-2019-2020;freeTextSearchKeyword=skills;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.
817 EU Digital: stimulating demand for sustainable energy skills in the construction sector, European Commission (Brussels) 27 October 2017. Access Date: 4 April 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/1c-sc3-ee-3-2019-2020;freeTextSearchKeyword=skills;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.
818 EU Digital: stimulating demand for sustainable energy skills in the construction sector, European Commission (Brussels) 27 October 2017. Access Date: 4 April 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/1c-sc3-ee-3-2019-2020;freeTextSearchKeyword=skills;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.
819 EU Digital: stimulating demand for sustainable energy skills in the construction sector, European Commission (Brussels) 27 October 2017. Access Date: 4 April 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/1c-sc3-ee-3-2019-2020;freeTextSearchKeyword=skills;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.
On 18 March 2019, the European Commission announced it was accelerating the creation of the European Innovation Council to 2021. Its pilot phase began in 2017 and it has funded 1,276 innovative startups and SMEs for over EUR730 million in total. The Commission will commit an additional EUR2 billion of funding in 2019-20 to support advanced technologies from research and SMEs developing and scaling innovations to the stage where they can attract private investment. It also announced that the existing pilot would fund 68 more startups for EUR120 million overall.

On 19 March 2019, the European Commission opened a call for proposals related to Boosting emerging technologies. Such proposals must put future technology paradigms on the map and enact high-risk/high-reward research and innovation projects. They will fit into one of the following sub-topics: Human-Centric AI, Implantable autonomous devices and materials, or Breakthrough zero-emissions energy generation for full decarbonization. Projects under this call should establish a solid baseline of knowledge and skills, gathering the interdisciplinary communities around them and fostering an innovation ecosystem around the future technology in question. The Commission considered that projects lasting up to four years, and allocations of up to EUR4 million, would be sufficient to address this challenge.

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820 €2 billion to fast forward the creation of the European Innovation Council, European Commission (Brussels) 19 March 2019. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/fetproact-eic-05-2019;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-FETPROACT-2019-2020;sortQuery=openingDate;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState.
821 €2 billion to fast forward the creation of the European Innovation Council, European Commission (Brussels) 19 March 2019. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/fetproact-eic-05-2019;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-FETPROACT-2019-2020;sortQuery=openingDate;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState.
822 €2 billion to fast forward the creation of the European Innovation Council, European Commission (Brussels) 19 March 2019. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/fetproact-eic-05-2019;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-FETPROACT-2019-2020;sortQuery=openingDate;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState.
823 €2 billion to fast forward the creation of the European Innovation Council, European Commission (Brussels) 19 March 2019. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/fetproact-eic-05-2019;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-FETPROACT-2019-2020;sortQuery=openingDate;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState.
On 20 and 21 March 2019, European Commissioner for Digital Economy and Society Mariya Gabriel met with Code Week ambassadors and coordinators from education ministries before their meeting to plan the next EU Code Week.\(^{828}\) It will take place from 5-20 October 2019.\(^{829}\)

On 28 March 2019, the ERC announced the winners of its 2019 Advanced Grants round, amounting to EUR540 million in total, which will cover Physical Sciences and Engineering, Life Sciences, and Social Sciences and Humanities.\(^{830}\) The grantees are established leaders in their fields with a high-level research track record.\(^{831}\) The grants could allow for 2000 jobs to be created for postdocs, PhD students and other staff working in the grantees’ research teams.\(^{832}\)

On 1 April 2019, the Governing Board of the Digital Skills and Jobs Coalition met to discuss setting up a one-stop-shop web portal for digital skills.\(^{833}\) A Connecting Europe Facility call for National Digital Skills and Jobs Coalitions’ proposals to support national links to the portal will be launched in the 3rd quarter of 2019.\(^{834}\) The European Innovation and Networks Executive Agency will manage it and assign an overall amount of EUR 1 million for beneficiary grants.\(^{835}\)

On 3 April 2019, the EIT Food opened applications for fellowships for students from countries participating in its Regional Innovation Scheme,\(^{836}\) which includes EU and non-EU countries.\(^{837}\) It is divided into two components: RIS Fellowships and RIS Talents.\(^{838}\) The first is dedicated to MSc students, graduates and young entrepreneurs who will work in EIT Food partner companies.\(^{839}\) The second focuses on doctoral students and young postdocs who will take part in research and development projects in EIT Food partner organisations as well as EIT Food’s innovation

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projects. Internship opportunities include skills such as food chemistry, genetics, biology, and clinical studies.

On 4 April 2019, EIT Digital opened a Satellite in Scotland. It is funded by Scottish Enterprise, Scottish Funding Council and EIT Digital, and will host a new Doctoral Training Centre focusing on Fintech and Cyber Security. Students will be supported by universities across Scotland, with the first students expected to begin later in 2019.

On 11 April 2019, the European Commission opened a call for Marie Skłodowska-Curie Individual Fellowships. These provide opportunities for researchers of any nationality to work in Europe and beyond, with a particular focus on return and (re)integration of European researchers from outside Europe and those who have previously worked in Europe as well as researchers displaced by conflict outside the EU and Horizon 2020 countries. This can include a secondment phase outside academia.

On 15 April 2019, EIT RawMaterials confirmed the locations for its RawMaterials University Days. These will allow high school and university students to learn about education and career opportunities in relation to raw materials. The first will be held at Uppsala University, Sweden on 19 June 2019 for bachelor's, master's and PhD students in geoscience. The second will be held at

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844 Individual Fellowships, European Commission (Brussels) 27 October 2017. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-if-2019;freeTextSearchKeyword=';typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=callTopicSearchTableState.
845 Individual Fellowships, European Commission (Brussels) 27 October 2017. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-if-2019;freeTextSearchKeyword=';typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=callTopicSearchTableState.
846 Individual Fellowships, European Commission (Brussels) 27 October 2017. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-if-2019;freeTextSearchKeyword=';typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=callTopicSearchTableState.
Aalto University, Finland on 2 October 2019 for high school and bachelor’s students. The third will be held at the University of Bologna, Italy on the 14 October 2019 for 15 to 18 year old high school and 19-28 year old university students. The fourth will be held at New University Lisbon, Portugal on 23 October 2019 for high school and bachelor’s students. The fifth will be held at the University of Liège, Belgium for high school students on geology and geological engineering. The sixth and final RawMaterials University Day will be held at TU Bergakademie Freiberg, Germany for high school students.

On 24 April 2019, EIT Health launched its 2019 Summer School Programme. This year, there will be 13 summer schools across Europe, focusing on healthy lifestyles, innovation in healthcare and supporting digital transformation. Hosting Member States are the Netherlands, Sweden, Spain, Hungary, Portugal, Germany, Ireland and France.

On 25 April 2019, the EIT held the first round of Inspirational Leadership and Entrepreneurship workshops in Croatia, Italy, Montenegro, Turkey and the Republic of North Macedonia. These are one-day training sessions to inspire female students to consider careers in technology, entrepreneurship and innovation.

On 30 April 2019, the EIT InnoEnergy partnered with AXEL – The Energy Accelerator to launch a pitch competition for bachelor’s and master’s students to win a place at the 2019 edition of the
Energy Business Camp: a four-day summer camp on energy business creation.\textsuperscript{660} The goal of the Camp is to provide energy engineers with the skills to be able to make their ideas into businesses.\textsuperscript{661}

On 2 May 2019, the ERC awarded top-up funding to 54 of its grant holders to explore business opportunities, prepare patent applications or check the practical viability of scientific concepts.\textsuperscript{662} These proof of concept grants are worth EUR150,000 each, and include a new non-invasive test for cystic fibrosis in babies and a process to identify which antibiotics bacteria are less likely to become resistant to.\textsuperscript{663}

On 3 May 2019, EIT Digital invited European digital scale-ups to apply for the EIT Digital Challenge 2019.\textsuperscript{664} The competition has five categories: digital tech, digital cities, digital industry, digital wellbeing and digital finance.\textsuperscript{665} The 10 best companies, two in each category, will get prizes totalling EUR 750,000 in cash and in kind through a year of tailored support from the EIT Digital Accelerator.\textsuperscript{666}

On 8 May 2019, EIT Food opened applications for its summer schools aimed at professionals, students and researchers.\textsuperscript{667} The 2019 topics are food tech transitions: reconnecting agrifood, technology, and society in Stuttgart, Transitions to Sustainable Food Systems in Haifa and Munich, and New Product Development in Warsaw.\textsuperscript{668}

On 13 May 2019, EIT InnoEnergy launched a new master program in energy storage.\textsuperscript{669} As with other EIT InnoEnergy master’s programs, it will be delivered over two years by European universities with input from business schools and industry practitioners.\textsuperscript{670}

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On 15 May 2019, the European Commission announced that Croatia was the 26th member state to sign up to the Women in Digital declaration, which was already signed by 25 member states and Norway on 9 April 2019. Signatories, among other initiatives, will create a national strategy to encourage women’s participation in digital and establish a European Girls and Women in ICT day.

On 15 May 2019, the European Commission opened a call for proposals under the Euratom Work Programme 2019-2020 to bring innovation to nuclear education by employing and/or developing new methods and tools to make the field more attractive for a younger generation. The Commission suggested that an EU contribution of up to EUR2.5 million per proposal would be sufficient to meet these goals. The total budget allocation in the 2019 budget was EUR5 million.

On 21 May 2019, the European Commission opened a call for proposals for the ERC Advanced Grant 2019. This was aimed at experienced Principal Investigators with ground-breaking, ambitious and feasible scientific proposals. Advanced Grants can be awarded for up to a maximum of EUR2.5 million for a period of 5 years, reduced accordingly for a shorter period, with an additional EUR1 million to cover start-up costs for moving principal investigators, the purchase of major equipment and/or access to large facilities.

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873 Advancing nuclear education, European Commission (Brussels) 21 December 2018. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/nfrp-2019-2020-11;freeTextSearchKeyword=education;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.

874 Advancing nuclear education, European Commission (Brussels) 21 December 2018. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/nfrp-2019-2020-11;freeTextSearchKeyword=education;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.

875 Advancing nuclear education, European Commission (Brussels) 21 December 2018. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/nfrp-2019-2020-11;freeTextSearchKeyword=education;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.

876 ERC Advanced Grant, European Commission (Brussels) 21 May 2019. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2019-adg;freeTextSearchKeyword=typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.

877 ERC Advanced Grant, European Commission (Brussels) 21 May 2019. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2019-adg;freeTextSearchKeyword=typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.

878 ERC Advanced Grant, European Commission (Brussels) 21 May 2019. Access Date: 10 June 2019. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2019-adg;freeTextSearchKeyword=typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047824;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState.

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On 27 May 2019, EIT RawMaterials opened a call for applications for RawMatCop 2018-2020’s next cohort of 1-year Postdoctoral Research Scholarship Projects and 1-year Academic Placement Projects with Industry/Authorities.879 These must address raw material prospecting and exploration, raw material extraction and mining activities, or secondary raw material resources.880

On 3 June 2019, EIT Climate opened up applications for the EIT Climate-KIC ClimateLaunchpad competition, where participants receive training to pitch business ideas on cleantech.881 The overall prize in the Global Grand Final will compete for one of 10 placements in EIT Climate-KIC’s Accelerator program and prize money.882 The winner will get EUR10,000, the runner up EUR5,000 and third place EUR2,500.883

On 3 June 2019, the European Commission announced some of the details of its preparations for EU Code Week.884 Teachers and students will get new learning materials, lesson plans and online training.885 The first EU Code Week Icebreaker MOOC will take place between 3 – 26 June.886 This is for teachers of all subjects who want to learn about bringing coding into their classrooms, and will provide them with resources and materials to help them organise activities during Code Week.887 The EU Code Week Summer School will take place on the 9th-12th July for selected primary school teachers to give them the tools and resources to implement coding effectively in their classrooms.888 A Deep Dive MOOC will start on 16 September for five weeks, to allow teachers to build their coding and computational thinking skills.889

On 13 June 2019, the final of the 3rd edition of the EU Datathon took place, with 12 teams selected from 99 entries across Europe.890 Their challenge was to develop apps offering new insights or

services using data made available by the EU institutions. The three winning teams were awarded EUR15,000 each, the runners-up in each challenge EUR7,000 and the third placed teams EUR3,000. The challenges were: Innovative ideas through EU open data, New insights into economics and finance, and Tackling Climate Change.

On 13 June 2019, the European Commission announced the fourth edition of the CONNECT University Summer School would take place from 24 June to 5 July 2019, focusing on cybersecurity. Most of the sessions will be livestreamed, with cybersecurity experts discussing their knowledge and ideas. CONNECT University is an initiative of European Commission’s Directorate General on Communication Networks, Content and Technologies (DG CONNECT), which offers discussions, workshops and seminars on digital trends and challenges linked to EU policy. It primarily targets EU Institutions’ staff but often opens sessions to the public via live-streaming or recorded videos, as is the case with this summer school.

On 18 June 2019, CEDEFOP published a Digital Skills Map to collate information about ideas, projects and knowledge on digitalisation in vocational education and training. This aims to collect local know-how in order to share it with interested users, and understand which competences are important for the digital world and how they can be acquired.

On 20 June 2019, EIT RawMaterials partners launched a European Course on Geomatics for Mineral Resource Management MSc to train students in the latest research and to handle rising demand for raw materials while complying with safety, environmental and social regulations. It is a partnership between Técnico Lisboa, Delft University of Technology, Technische Universität Bergakademie Freiberg, Montanuniversität Leoben and Wrocław University of Science and Technology. Starting in the winter semester 2019/20, it will first be available at the TU Bergakademie Freiberg where students choose between the two specialisations: geomatics for mineral resource management and mine surveying, the latter which is a joint degree with Montanuniversität.

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Leoben.\textsuperscript{901} Joint-and double degrees, as well as exchange programs, are being developed and will be available in the upcoming year.\textsuperscript{902}

The EU has fully complied with its commitment on innovation. Digital Europe will invest in on-the-job digital-related traineeships and training courses, improved digital knowledge and access for businesses, and one stop Digital Innovation Hubs for advice. It has also promoted women’s STEM participation through Digital4Her and the European Network for Women in Digital, alongside facilitating meetings of female leaders in STEM who seek to make the field more appealing to women. The European Commission launched an annual scoreboard of women’s participation in the digital economy, with skills-related elements, to provide information allowing it and/or member states to develop targets. The EIT’s masters programs continue, including new opportunities in cybersecurity, and it also provides opportunities for post-doctoral research scholarships in STEM, for digital entrepreneurs, and for STEM work placements, as well as summer schools. It has announced new Innovation Communities who will contribute to improving training in their industries and has partnered with JA Europe to provide training and mentoring to future workers in Romania and Bulgaria. It also launched two new courses in Energy Storage and in Geomatics. The European Commission continues to fund and to further develop Upskilling Pathways for adults with literacy, numeracy, and digital skills. CEDEFOP guides Member State workers to use ICT to help improve employability and skills in their countries, as well as funding study informing policymakers on the skills gap for those in digitally-enabled work. The European Commission has also maintained funding for the Marie Skłodowska-Curie Innovative Training Networks supporting training and doctoral research. The European Commission’s “Blueprint for sectorial cooperation on skills” projects continue, with new Alliances to be launched in early 2019. EU Code Week continues for another year, as does European Vocational Skills Week. The Commission also opened a number of calls to apply for funding in STEM education and training-related project areas and continued to fund research, which in turn created additional scientific job opportunities. The Romanian Presidency made digital skills one of its policy priorities, and EU institutions and bodies held specific meetings and training for women and girls in STEM. DG CONNECT continues to open staff training in digital challenges up to the general public. The EU does not have a specific competence in education and training, but its support activities and its funding streams have been deployed to assist both current and future workers in STEM fields.

Thus, the European Union receives a score of +1.

\textit{Analyst: Hannah Bettsworth}


3. Development

“Supporting innovative financing approaches to achieve greater sustainable development outcomes and unlock resources such as crowdfunding, blended finance, risk mitigation tools and investor partnerships.”

*G7 Charlevoix Leaders’ Communiqué*

### Assessment

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### Background

In 2015, all United Nations member states adopted the Sustainable Development Goals (SDGs) for the 2030 Agenda for Sustainable Development. The SDGs include reducing poverty, inequality, climate change, increasing economic growth, and seeking out socio-economic strategies to foster greater global prosperity by 2030.

At the 2018 Charlevoix Summit, G7 members confirmed their commitment to fulfil the SDGs, in particular, regarding areas of gender inequality and world poverty. The G7 members recognized their unique responsibility in working to achieve the SDGs by stating that they “contribute the largest portion of development assistance and collectively host the greatest share of private capital wealth.” With this, they stated that they will leverage their economic power to support innovative financing mechanisms for sustainable development initiatives.

The Charlevoix Summit was not the first time G7 members sought out strategies toward achieving greater sustainable development. At the 2014 Brussels G7 Summit, the G7 members sought to “achieve the MDGs [(Millennium Development Goals)] and establish a ‘universal post-2015 agenda anchored in a set of clear and measurable goals.’” The MDGs were the predecessor to the SDGs

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and aimed to achieve eight specific goals by 2015 regarding issues such as universal primary education, poverty alleviation, and stopping the spread of HIV/AIDS.\textsuperscript{909} In Brussels, G7 members reiterated these goals, stating that work needed to be done in areas of poverty alleviation, climate change, peace and security, gender equality, and human rights to promote sustainable development.\textsuperscript{910} They also gave specific attention to promoting sustainable development in Africa via the African Partnership Forum, a partnership between the G7 and the African Union.\textsuperscript{911}

At the 2016 Ise-Shima Summit, G7 members declared their commitment to the SDGs by committing to the Addis Ababa Action Agenda, which “outlines the means by which countries will finance sustainable development, and, in particular, the actions needed to achieve the United Nations 2030 Agenda for Sustainable Development.”\textsuperscript{912} Such actions focused on strengthening domestic tax administrations in effort to finance domestic sustainable development.\textsuperscript{913}

At the 2017 Taormina Summit, the G7 members reiterated their commitment to the SDGs by pledging to focus on sustainable development initiatives in Africa since Africa holds the “most vulnerable people” and it is a “highly neglected region.”\textsuperscript{914} Strategies suggested to fulfil this goal included “supporting the African Union Agenda 2063, in order to provide the young generation in particular with adequate skills, quality infrastructures, financial resources, and access to a sustainable, prosperous and safe future,” and encouraging blended finance and public-private partnerships.\textsuperscript{915}

**Commitment Features**

At Charlevoix, the G7 members agreed to “support innovative financing approaches to achieve greater sustainable development outcomes and unlock resources such as crowdfunding, blended finance, risk mitigation tools and investor partnerships.”

With this commitment, the G7 members seek to use finance and other financial resources to fulfil the SDGs, especially the goals of gender equality and world poverty.\textsuperscript{916} The G7 members identify that public sector finance approaches alone do not suffice in achieving greater sustainable development outcomes.\textsuperscript{917} Therefore, G7 members recognize that they should support “innovative financing approaches” and “unlock resources” such as, but not limited to, crowdfunding, blended finance and risk mitigation tools to support sustainable development outcomes.\textsuperscript{918} G7 members

\textsuperscript{914} G7 Taormina Leader’s Communiqué, G7 Information Centre (Taormina) 27 May 2017. http://www.g7.utoronto.ca/summit/2017taormina/communique.html.
\textsuperscript{915} G7 Taormina Leader’s Communiqué, G7 Information Centre (Taormina) 27 May 2017. http://www.g7.utoronto.ca/summit/2017taormina/communique.html.
\textsuperscript{917} Charlevoix Commitment on Innovative Financing for Development, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/financing-commitment.html.
\textsuperscript{918} Charlevoix Commitment on Innovative Financing for Development, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/financing-commitment.html.
recognize that they should also advance partnerships with the private sector to further investment for sustainable development outcomes.919

“Blended Finance” is defined by the Organisation for Economic Co-operation and Development as “the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries, with ‘additional finance’ referring primarily to commercial finance.”920 More specifically, “blended finance attracts commercial capital towards projects that benefit society while providing financial return to investors.”921

In the context of the commitment, a risk mitigation tool refers to risk insurance or an opportunity to “strengthen resilience of vulnerable and developing countries.”922

Private sector investor partnerships may include partnerships with “local and international institutional investors, philanthropic organizations … [and] multilateral development banks.”923

The main goal of this commitment is to support innovating financing approaches to achieve greater sustainable development.924 The G7 members’ focus in this commitment is to “unlock resources, such as crowdfunding, blended finance, [and] risk mitigation tools” which are non-traditional finance approaches and are suggested as tools to achieve greater sustainable development.925 In addition to supporting innovative financing approaches, the G7 members have also pledged to achieve greater sustainable development outcomes by seeking investor partnerships.926 Innovative finance approaches and seeking investor partnerships are separate actions that must be taken for a G7 member to fully comply with this commitment.

Thus, to receive a score for full compliance, the G7 member must support innovative financing approaches and unlock resources, such as crowdfunding, blended finance, risk mitigation tools and seek investor partnerships to achieve greater sustainable development outcomes.

For a member to receive a score for partial compliance, the G7 member must only support innovative financing approaches and unlock resources but not seek investor partnerships or not support innovative financing approaches and not unlock resources but seek investor partnerships to achieve greater sustainable development outcomes.

For a member to receive a score of no compliance, the G7 member must have made no effort to support innovative financing approaches and unlock resources or seek investor partnerships to achieve greater sustainable development outcomes.

**Scoring Guidelines**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>The G7 member is not supporting innovative financing approaches and is not unlocking resources, such as crowdfunding, blended finance, risk mitigation tools OR seeking investor partnership to achieve greater sustainable development outcomes.</td>
</tr>
<tr>
<td>0</td>
<td>The G7 member is supporting innovative financing approaches and unlocking resources but is not seeking investor partnerships OR is not supporting innovative financing approaches and not unlocking resources but is seeking investor partnerships to achieve greater sustainable development outcomes.</td>
</tr>
<tr>
<td>+1</td>
<td>The G7 member is supporting innovative financing approaches and is unlocking resources, such as crowdfunding, blended finance, risk mitigation tools AND is seeking investor partnerships to achieve greater sustainable development outcomes.</td>
</tr>
</tbody>
</table>

*Lead Analyst: Tyler Rae McMurdo*

**Canada: +1**

Canada has fully complied with its commitment to support innovative financing approaches and is unlocking resources, such as crowdfunding, blended finance, risk mitigation tools and is seeking investor partnerships to achieve greater sustainable development outcomes.

On 16 August 2018, Minister for International Development Marie Claude Bibeau visited Cote d’Ivoire and met with African Development Bank President Akinwumi Adesina where they “exchanged views on gender empowerment, renewable energy, agriculture and innovative financing mechanisms.”

On 22 September 2018 at the G7 environment ministerial meeting in Halifax, Nova Scotia, Minister of Environment and Climate Change Catherine McKenna stated that “Canada, along with its partners, understands that fighting climate change presents [an] economic opportunity … worth CAD26 trillion and 65 million jobs worldwide by 2030.” McKenna, at the meeting, announced climate change funds including “CAD2 million funds” for the National Adaption Plan Global Network, “reiterated Canada’s CAD100 million commitment to support expansion of climate risk insurance coverage in Caribbean countries” and “committed CAD2 million to establish a new initiative to empower women entrepreneurs working on climate solutions in vulnerable small-island states.” At the meeting, “G7 representatives agreed that climate change is already imposing a high

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price on people and communities … which requires further supporting, including through innovative financing.”

On 7-9 November 2018, Canada participated in the first African Investment Forum hosted in South Africa. Parliamentary Secretary to the Minister of International Trade Diversification Omar Alghabra, at the Forum, stated that “the Africa Investment Forum is an important platform for advancing the region’s infrastructure imperative, as well as for demonstrating Canada’s support for innovative financing for developing countries while at the same time showcasing Canadian expertise can be a part of the solution.”

On 4 December 2018, the Development Finance Institute Canada Inc., an arm of Export Development Canada, operating under the Canadian brand name of FinDev (a Canadian institution dedicated to providing financial services to the private sector in developing countries) announced a commitment of USD20 million to Climate Investor One’s Construction Equity Fund to support the transition to renewable energy in “least developed countries and low-and-middle income countries.” This fund, which is also an “innovative blended finance initiative” is stated to help avoid “approximately 1.2 million tons of carbon dioxide emissions” and “create over 25,000 temporary and permanent jobs.” As per Managing Director of FinDev Canada Paul Lamontagne, “FinDev Canada and Climate Investor One are responding to the urgent call for a more sustainable economy by funding new sources of renewable energy.” This initiative is also hoped to contribute to the SDGs by promoting “climate change mitigation and adaptation, women’s economic empowerment and job creation.”

On 14 March 2019, Minister of Environment and Climate Change Catherine McKenna announced that Canada would host the Nature Champion Summit on 24-25 April 2019 “to ramp up global

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action to protect nature.” The summit is expected to “bring together major philanthropists, business leaders, non-governmental organizations, United Nations agencies, Indigenous leaders and environment ministers from around the world to build a high-ambition coalition and drive global nature protection forward” by focusing on several themes including innovative financing for “nature-based solutions.”

On 11 April 2019, Paul Lamontagne of FinDev Canada, United States’ Overseas Private Investment Corporation (OPIC) Acting President and Chief Executive David Bohigian and Nanno Kleiterp of the European Development Finance Institutions signed a memorandum of understanding committing the United States, European Union and Canada to innovative development financing under an OPIC project. Unlike state-led models, OPIC projects “[connect] private American lenders with governments and developers in developing countries.” It is founded on a commitment to the developing country’s sovereignty, environmental protection, local job creation, transparency and sustainability.

On 18 April 2019, Permanent Representative of Canada to the UN Marc-André Blanchard stated at the Forum for Financing for Development (FfD) that the UN General Assembly’s High-level Dialogue on FfD in September 2019 “will provide a new chance to galvanize action by engaging world leaders on FfD.” This forum was intended to serve as a back-drop for conclusions and recommendations for the Addis Ababa Action Agenda which seeks to carry-out the SDGs through financing.

On 28 June 2019, at the Ministerial on Climate Action in Brussels, Belgium, Minister McKenna along with Minister for Women and Gender Equality Maryam Monsef announced that Canada has planned to contribute CAD223.5 million to the Canadian Climate Fund for the Private Sector in the Americas (C2F) project. In partnership with the Inter-American Development Bank and IDB Invest, this initiative is the second phase of the C2F project and will help countries in the Americas and the

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Canada has demonstrated support for innovative financing approaches (such as at the African Investment Forum and through funding initiatives) and has been unlocking resources such as blended finance and risk mitigation tools, while also seeking partnerships with the private sector (including Climate Investor One) to achieve greater sustainable development outcomes.

Thus, Canada receives a score of +1.

\textit{Analysts: Natasha Pirzada and Tyler Rae McMurdoo}

**France: +1**

France has fully complied with its commitment to support innovative financing approaches including unlocking resources, such as crowdfunding, blended finance and risk mitigation tools, and is seeking investor partnerships to achieve greater sustainable development outcomes.


On 4 September 2018, the Agence française du développement, through its institution Proparco, disbursed a loan of EUR8 million to Cambodia for supporting rural women and to make the “microfinance sector in Cambodia more sustainable.”\footnote{Cambodia Project, Proparco (Paris) 4 September 2018. Access Date: 27 December 2018. https://www.proparco.fr/en/amk-2018.} This demonstrates France’s support of innovative financing mechanisms, particularly microfinance, in reducing global poverty and achieving greater sustainable development outcomes.

On 25-26 September 2018, French President Emmanuel Macron delivered speeches at the United Nations General Assembly and the One Planet Summit. At the General Assembly, Macron called for cooperation on mobilizing sovereign funds to finance low-carbon climate policies and touched on the importance the One Planet Summit has in reaching climate change goals through innovative mechanisms (including finance). At the 2018 One Planet Summit, which brought “Heads of State, business leaders, and other non-state actors” together to “build trust and collaboration for ongoing multilateral climate action,” and sought to “chart the way forward to mobilize the financial sector towards low carbon and resilient solutions and the protection of the most vulnerable; harness technology and nature based solutions; and build the business model of a fair and sustainable ecological transition,” Macron delivered the closing speech. These consecutive speeches demonstrate France’s support of partnerships between public and private sectors to foster innovative financing for sustainable development outcomes.

On 26 September 2018 at the One Planet Summit held in New York, France announced that in collaboration with Germany, the Hewlett, Grantham and IKEA foundations and asset manager BlackRock, it would form the Climate Finance Partnership. This will be a joint investment vehicle between governments, foundations and private investors to develop climate friendly infrastructure in emerging economies, particularly in Africa, Latin America and Asia.

On 9 October 2018, the PACTE Law, which emphasizes utilizing public listing, investment capital, crowdfunding and initial currency offering to achieve greater sustainable development outcomes, was approved in the National Assembly.

On 18 December 2018, Minister of Europe and Foreign Affairs Jean-Yves Le Drian announced France’s priorities for its G7 presidency. He reiterated that addressing global inequalities, economic progress and social justice, technology, and climate will be the main priorities of the summit.

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further stated that “In order to make progress together on climate action, involving public and private finance, the President has decided to organize, with the United Nations and World Bank, a One Planet conference on climate and environmental action, during the G7 summit here, with all the partners concerned: states, international organizations, NGOs [non-governmental organizations] and the private sector.”

On 1 April 2019, Minister Le Drian stated at the United Nations High-Level Event on Climate Change that France is “convinced of the urgent need to redirect private financial flows … by increasing the transparency and accountability of the financial system with respect to climate and by developing instruments that combine public and private funding.”

On 7 May 2019, it was reported by the International Institute for Sustainable Development that the Government of France will lead one of the nine transformational initiatives to be held at the Climate Action Summit on 23 September 2019 in New York. The Climate Finance and Carbon Pricing track will be led by France, Jamaica and Qatar and supported by the World Bank and “will focus on delivering on former commitments of providing USD 100 billion annually by 2020 for mitigation and adaptation.”

On 26 June 2019, prior to the G20 Osaka Summit, Macron and Japanese Prime Minister Abe met in Tokyo during the French leader’s official visit and announced a joint cooperation agreement between the two countries as an “exceptional partnership.” The “partnership” unveils a five year road map through to 2023 that deepens cooperation on maritime security and sustainable infrastructure development. With this agreement France and Japan are jointly seeking to assist countries to build quality infrastructure, achieve “economic growth” and ensure “debt sustainability.”

France has been a leader and advocate for supporting the United Nations Sustainable Development Goals — particularly the climate action goal. France has demonstrated its support for innovative finance approaches by unlocking resources such as crowdfunding, and enacting legislation to improve finance approaches toward sustainable development. France has also sought investor partnerships with the private sector and developing countries to achieve greater sustainable development outcomes.

Thus, France receives a score of +1.

Analyst: Natasha Pirzada and Tyler McMurdoo

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Germany: +1

Germany has fully complied with its commitment to support innovative financing approaches and unlock resources and seek investor partnerships to achieve greater sustainable development outcomes.

On 11 June 2018, Chancellor Angela Merkel released a joint press statement with International Monetary Fund Managing Director Christine Lagarde, Organisation for Economic Co-operation and Development (OECD) Secretary-General Angel Gurría, International Labour Organization Director-General Roberto Ryder, World Trade Organization Director-General Roberto Azevêdo, World Bank Chief Executive Officer Kristalina Georgieva and African Development Bank President Akinwumi Adesina regarding their meeting in Berlin on the same day. The statement affirmed the signatories’ support for private sector investment to achieve sustainable development in Africa and highlights the Africa Investment Forum as a new forum for pooling resources of multilateral development banks and international finance institutions to “de-risk and leverage” existing funds. It also identifies mobilizing private capital to increase climate and green finance.

On 19 June 2018, Germany and France released the Meseberg Declaration asserting their “common ambition” regarding, among other issues, climate policy. In the Declaration, they agree “to set up a joint interministerial High Level Working Group on climate change to intensify co-operation ... and build up common views on energy transition and tools for triggering sustainable finance.”

On 25 September 2018, the Hub for Sustainable Finance Germany (H4SF) under the patronage of the Ministry of Finance and the Ministry for the Environment, Nature Conservation and Nuclear Safety hosted the second German Sustainable Finance Summit. The H4SF is a joint initiative by


the German Council for Sustainable Development, a government-appointed advisory body, and Deutsche Börse AG, a private diversified exchange organisation. The summit brought together political representatives, academics, private sector players and civil-society stakeholders to “discuss and develop positions that will facilitate sustainable finance.” The agenda included recommendations from the Steering Committee of the H4SF, including the creation of incentives and guarantees to support sustainably produced goods and services.

On 26 September 2018 at the One Planet Summit held in New York, the French government announced that in collaboration with Germany, the Hewlett, Grantham and IKEA foundations and asset manager BlackRock, it would form the Climate Finance Partnership. This will be a joint investment vehicle between governments, foundations and private investors to develop climate friendly infrastructure in emerging economies, particularly in Africa, Latin America and Asia.

On 30 October 2018, Chancellor Angela Merkel attended and delivered a keynote speech at the G20 Investment Summit – German Business and the Compact with Africa (CwA) Countries hosted by the German African Business Association and the Sub-Saharan Africa Initiative of German Business (SAFRI). Merkel announced a package of measures to support sustainable development in Africa, including a EUR1 billion development investment fund for small and medium enterprises to finance loans and joint ventures, and guaranteeing German investments in CwA countries against political risks and payment risks. The summit had high-ranking German government and industry representatives engaged in dialogue with African business and investment partners, where “declarations of intent were also signed.”

On 5 November 2018, Federal Minister of the Environment, Nature Conservation and Nuclear Safety Svenja Schulze opened the High-Level Political Forum on Sustainable Development 2018 with...
a speech on sustainability and climate action. She said that all countries “have to increase our efforts to mobilise investments in sustainable technologies,” and further that “environmental innovations need more support for market introduction.”

On 7 November 2018, the German government adopted updates to the German Sustainable Development Strategy pursuant to recommendations made in the International Peer Review facilitated by the Council for Sustainable Development. The update highlights climate change policies and innovation and digitization as two major national challenges. The review itself includes recommendations to use public policy to facilitate private sector transitions to sustainable development, and support partnerships and reform financial systems to increase the availability of sustainable finance.

On 28 November 2018, Federal Minister of Economic Cooperation and Development Gerd Müller announced that the German government would contribute an additional EUR1.5 billion to the UN Green Climate Fund, doubling the country’s total contribution. The UN Green Climate Fund “is a unique global platform to respond to climate change by investing in low-emission and climate-resilient development.”

On 28 November 2018, the OECD, UN Environment and the World Bank Group published a report entitled Financing Climate Futures: Rethinking Infrastructure. The report was supported financially by the German Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), and it examines areas such as financial systems and development finance and how they will need to be transformed in order to align financial flows with low-emission and sustainable societies.

On 10 December 2018, Germany jointly with the European Union, Denmark, and United Kingdom announced their intention to commit up to EUR80 million for the sixth round of Nationally Appropriate Mitigation Actions (NAMAs) Support Projects through the NAMA Facility. NAMAs are defined by the United Nations Framework Convention on Climate Change as actions which

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reduce emissions in developing countries and are prepared within a national governmental initiative.\textsuperscript{991} Included in the NAMA Facility’s mandate is “unlocking investment opportunities by providing tailor-made finance to fund projects” such as piloting financing models for low-carbon development and boosting private sector investment in the same.\textsuperscript{992}

On 11 December 2018, Environment Minister Svenja Schulze announced that Germany will contribute an additional EUR70 million to the Adaptation Fund, which she stated, “helps those most affected directly on the ground with innovative and effective projects.”\textsuperscript{993} The Adaptation Fund finances projects and programmes that help vulnerable communities in developing countries adapt to climate change.\textsuperscript{994}

On 12 December 2018, Germany’s state-owned KfW Development Bank partnered with the World Bank in signing a EUR15 million grant for climate risk insurance in Central America.\textsuperscript{995} This insurance is intended to mitigate the negative impacts of adverse climate-related events.\textsuperscript{996} The joint funding makes the insurance more affordable for the insured states as risk-pooling and buffering reduces the insurance premiums.\textsuperscript{997}

On 16 January 2019, the SANAD Fund invested USD4 million in Vitas Palestine Microfinance Company to support financing for small enterprises as well as low-income households to support economic development in the region.\textsuperscript{998} The SANAD Fund was initiated by the KfW Development Bank, and both the bank and the Federal Ministry of Economic Cooperation and Development (BMZ) remain major investors in the fund, which is itself a public-private partnership.\textsuperscript{999}

On 30 January 2019, the BMZ and the World Bank Group announced a deeper partnership for economic development in Africa.\textsuperscript{1000} The joint initiative in Morocco, Tunisia, Côte d’Ivoire, Ethiopia,
Ghana, and Senegal will see the BMZ and World Bank Group deliver joint financial support for technical assistance, development policy operations, and potential reforms to increase private investment.\textsuperscript{1001} Key sectors covered in the project include renewable energy, jobs and skills training, and investment policy.\textsuperscript{1002}

On 26 March 2019, the BMU launched a call for ideas for emissions reduction, climate change adaptation, and biodiversity conservation programmes in developing countries and emerging economies.\textsuperscript{1003} The call is seeking innovative financing mechanisms, among other thematic programme areas.\textsuperscript{1004} The BMU has set aside EUR240 million for the selected programmes through its International Climate Initiative (IKI) funding instrument.\textsuperscript{1005}

On 13 April 2019, the BMZ and the World Bank Group signed a declaration of intent to “foster cooperation on sustainable and inclusive development in the Middle East and North Africa Region.”\textsuperscript{1006} The partnership will centre around cooperating to maximize finance for development in the medium- to long-term.\textsuperscript{1007} As part of this project, the BMZ will contribute up to EUR24 million to the World Bank’s Iraq Reform and Reconstruction Fund to support the country’s reconstruction and longer-term development.\textsuperscript{1008}

On 24 May 2019, the InsuResilience Investment Fund established by Germany’s KfW Development Bank announced it would invest USD6 million in Agritask, an agricultural technology company.\textsuperscript{1009} Agritask enables agricultural producers to access more accurate risk analysis, reduce their operational

costs, and benefit from more advanced insurance options.\textsuperscript{1010} InsuResilience’s investment will support Agritask in expanding its support for small-scale farmers.\textsuperscript{1011}

Germany has supported innovative financing approaches such as risk-reducing guarantees and sustainable, green finance in an effort to achieve the Sustainable Development Goals. It has also sought investor partnerships with private sector firms, international financial institutions, and multilateral development banks to achieve greater outcomes.

Thus, Germany receives a score of +1.

\textit{Analyst: Jaquelin Coulson}

\textbf{Italy: 0}

Italy has partially complied with its commitment to support innovative financing approaches such as unlock resources and seek investor partnerships.

On 6 November 2018, Italian Minister for the Environment Sergio Costa inaugurated the international Ecomondo and Key Energy expos at the Rimi Expo Centre.\textsuperscript{1012} This event held, in collaboration with the Italian Ministry for the Environment, Land and Sea, and the Chinese Ministry of Industry and Information Technology, a Sino-Italian Forum on Green Industry Development.\textsuperscript{1013} This forum presented an opportunity for Italy and China to share best practices regarding green industry development.\textsuperscript{1014}

On 14 January 2019, during a meeting at the Permanent Mission of Italy to the United Nations, Ambassador Mariangella Zappia announced that “inclusiveness” will be a key topic at the Financing for Development Forum that will be held in New York in April.\textsuperscript{1015} She was reported to have said, “civil society, the private sector, local authorities, the academic world – all these actors experienced first-hand the impact of the national policies. For this reason, it is essential that they are all consulted – involving, first and foremost, the youth – throughout the entire process, to understand their needs and maximize the resources and tools available to achieve a positive impact on people’s lives.”\textsuperscript{1016}

Moreover, she stated that Italy will be providing funds to facilitate participation of civil society at the Forum.1017

On 11-15 April 2019, at the Financing for Development Forum held in New York, Italy co-facilitated along with Zambia the formulation of an Outcome Document which is “capable of leveraging on innovation, technology, private sector partnerships and gender equality to intensify global action in support of the Sustainable Development Goals.”1018 The Italian Minister for Economy and Finance Giovanni Tria addressed the forum on the opening day through a panel that advocated “inclusive growth” and “reduced inequalities.”1019

On 11 March 2019, the Government of Italy contributed EUR5 million in support of ElectriFI, the EU initiative to de-risk sustainable energy investments in the Sahel region of Africa and Sub-Saharan African countries.1020 Director-General Italian Ministry of Environment, Land and Sea Francesco La Camera signed the agreement that demonstrates, according the European Commission’s Director-General for International Cooperation and Development Stefano Manservisi, “the Italian government’s commitment to help mobilize private sector investment in rural and underserved areas.”1021

Italy has supported innovated financing approaches by unlocking financial resources to achieve greater sustainable development outcomes (for example by providing funding to ElectriFI), but it has not sought investor partnerships.

Thus, Italy receives a score of 0.

**Analysts: Natasha Pirzada and Tyler McMurdo**

**Japan: +1**

Japan has fully complied with its commitment to support innovative financing approaches and unlock resources, and seek investor partnerships to achieve greater sustainable development outcomes.

On 17 July 2018, Prime Minister Shinzo Abe, President of the European Council Donald Tusk and European Commission President Jean-Claude Juncker signed the EU-Japan Economic Partnership Agreement.1022 The agreement aims to achieve goals set in the 2030 Agenda for Sustainable Development and the Paris Agreement, specifically enhancing climate resilience and sustainable

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development. It will focus on trade and investment in renewable energy and “goods that contribute to enhanced social conditions and environmentally sound practices.”

On 7 October 2018, Japanese ministers and 52 African countries reaffirmed their commitment to sustainable development on the African continent. Representatives addressed challenges of infrastructure, maritime security and climate resilience to which Japanese Foreign Minister Taro Kono emphasized the importance of investments that sustain the continent’s independent fiscal capabilities.

On 9 November 2018, the Japan Sports Agency and the Bill and Melinda Gates Foundation announced their partnership on the “Our Global Goals” project. The project aims to promote the Sustainable Development Goals (SDGs) in light of the Olympic and Paralympic Games Tokyo 2020. The Gates Foundation will also work with non-governmental organizations to provide funding for educational and in-field programs to achieve the SDGs.

On 13 November 2018, Japan and the United States committed to investing in the development of the Indo-Pacific region’s “energy, infrastructure, and digital connectivity” sectors. This development project will be carried out using “co-financing options for private investments” from the United States’ Overseas Private Investment Corporation and the Japan International Cooperation Agency. Part of this commitment between Japan and the US which is based on a Memorandum of Understanding with Australia, is also to “catalyze Indo-Pacific investment projects that produce quality infrastructure, increase connectivity, and promote sustainable economic growth.”

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On 14 November 2018, Abe announced Japan’s initiative to train 80,000 engineers, researchers and business managers in Southeast Asia to strengthen the region’s manufacturing and artificial intelligence industries and “support smart-city development.”[1033] Prime Minister Abe also reaffirmed Japan’s commitment to a “Free and Open Indo-Pacific” in announcing a minister-level meeting to be held this year between localities in Southeast Asia and Japanese companies who will cooperate on efforts such as renewable energy, sewage systems, and traffic.[1034]

On 27 November 2018, UN Development Programme Administrator Achim Steiner and Minister of Economy, Trade, and Industry Hiroshige Seko signed a Memorandum of Understanding with the Japan Business Federation to facilitate SDGs achievement with help from the private sector.[1035] Corporate executives were consulted to collaborate on the SDGs in their businesses.[1036]

On 11 March 2019, Vice President of the Japan External Trade Organization Katsumi Hirano encouraged Japanese companies to invest in the African continent at the Africa Investment Forum (London).[1037] He cited Africa’s steady population growth, which is projected to reach 2.5 billion by 2050, as an incentive to tap into markets that will be occupied by one-quarter of the global population.[1038] The event was also attended by delegates from various African countries who sought the development of their infrastructure, energy, and technology sectors.[1039] In addition to emphasizing the role of the private sector, Japan seeks to collaborate with the United Kingdom which has committed itself to becoming the largest G7 investor in Africa.[1040]

On 17 April 2019, at the United Nations Economic and Social Council forum, Director of the Global Issues Cooperation Division at Japan’s Ministry of Foreign Affairs Kotaro Katsu announced that Japan would take advantage of its G20 presidency to “promote innovative

financing.”\textsuperscript{1041} Katsuki identified that financial innovation such as “blended financing and an international solidarity tax” contributes greatly to inclusive development.\textsuperscript{1042}

On 3 May 2019, Finance Minister Taro Aso criticized China for making loans to developing countries while taking out its own loans from the Asian Development Bank (ADB), resulting in repayment issues for the developing countries due to vague interest commitments set by China.\textsuperscript{1043} Japan aims to restructure ADB loans to primarily fund infrastructure development in developing countries by developing guidelines based on repayable loans.\textsuperscript{1044} Japan also plans to use its G20 presidency to address the issue on a global scale by holding G20 members accountable to a previously-adopted set of operational guidelines regarding sustainable financing.\textsuperscript{1045}

On 26 June 2019, prior to the G20 Osaka Summit, Prime Minister Abe and French President Emmanuel Macron met in Tokyo during the French leader’s official visit and announced a joint cooperation agreement between the two countries as an “exceptional partnership.”\textsuperscript{1046} The “partnership” unveils a five year road map through to 2023 that deepens cooperation on maritime security and sustainable infrastructure development.\textsuperscript{1047} With this agreement France and Japan are jointly seeking to assist countries to build quality infrastructure, achieve “economic growth” and ensure “debt sustainability.”\textsuperscript{1048}

Japan has supported innovative financing approaches through the EU-Japan Economic Partnership Agreement and has employed risk mitigation tools to ensure the resilience of vulnerable and developing countries in spirit of sustainable development. It has also strengthened ties with the U.S. to seek private investors, while also partnering with the Bill and Melinda Gates Foundation in effort to achieve greater sustainable development outcomes.

Thus, Japan receives a score of +1.

\textit{Analyst: Sofía López}


**United States: +1**

The United States has fully complied with its commitment to support innovative financing approaches and unlock resources, and seek investor partnerships to achieve greater sustainable development outcomes.

On 3 October 2018, the US Senate passed the Better Utilization of Investments Leading to Development Act. Under the Act, the US International Development Finance Corporation (IDFC) was created which consolidates all other government development organizations. IDFC will “incentivize private-sector investment in emerging economies” and increase the lending ceiling for private sector investments to USD60 billion.

On 17 October 2018, the US African Development Foundation (USADF) and All-on (an energy impact investment company) announced their partnership to provide off-grid renewable energy to Nigeria. USADF and All-on will use blended financing to fund Nigerian energy companies, with an aim to fund 30 companies within three years.

On 13 November 2018, the US and Japan committed to investing in the development of the Indo-Pacific region’s “energy, infrastructure, and digital connectivity” sectors. This development project will be carried out using “co-financing options for private investments” from the United States’ Overseas Private Investment Corporation (OPIC) and the Japan International Cooperation Agency. Part of this commitment between the US and Japan which is based on a memorandum of understanding with Australia is also to “catalyze Indo-Pacific investment projects that produce quality infrastructure, increase connectivity, and promote sustainable economic growth.”

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On 13 December 2018, the US Agency for International Development (USAID) implemented a private sector engagement policy to incentivize companies in assisting with sustainable development.\textsuperscript{1057} The aim of this policy is for developing countries to become self-reliant.\textsuperscript{1058}

On 7 February 2019, President Donald Trump signed a presidential memorandum that launched the Women’s Global Development and Prosperity (W-GDP) initiative.\textsuperscript{1059} The W-GDP promotes women’s economic empowerment by providing workforce skills training, supporting entrepreneurship and amending policies that inhibit women’s participation in the economy.\textsuperscript{1060} The government additionally created a USD50 million W-GDP Fund to encourage private sector engagement and interagency collaboration to reach the goal of impacting the lives of 50 million women by 2025.\textsuperscript{1061}

On 19 February 2019, OPIC invested USD85 million in SunFunder’s Solar Energy Transformation Fund which aims to “support businesses providing solar solutions” to off-grid communities in Sub-Saharan Africa and India where access to electricity is unreliable.\textsuperscript{1062} This is part of a larger blended financing package between OPIC, SunFunder, Calvert Impact Capital, Ceniarth and the IKEA Foundation.\textsuperscript{1063} The nine-year project is expected to “improve energy access for three million people and mitigate 480,000 tons of CO2 emissions annually.”\textsuperscript{1064} OPIC’s support for this project additionally advances its 2X Women’s Initiative that empowers women-led businesses.\textsuperscript{1065}

On 11 April 2019, OPIC Acting President and Chief Executive David Bohigian, Nanno Kleiterp of the European Development Finance Institutions and Paul Lamontagne of FinDev Canada signed a memorandum of understanding committing the United States, European Union and Canada to


innovative development financing under an OPIC project. Unlike state-led models, OPIC projects “[connect] private American lenders with governments and developers in developing countries.” It is founded on a commitment to the developing country’s sovereignty, environmental protection, local job creation, transparency and sustainability.

On 17 May 2019, the US State Department hosted the Ethiopia Partnership Forum which brought together 400 business leaders and Ethiopian and US government officials to present a multitude of investment opportunities (from agriculture, to the power sector and startups) in the African country. US Ambassador to Ethiopia Michael Raynor discussed the “shift away from a state-led model of economic development” and emphasized the private sector’s potential in contributing to Ethiopia’s continued economic success.

On 5 June 2019, Circulate Capital announced its partnership with USAID to combat plastic pollution in South and Southeast Asian oceans using a blended finance model. USAID will provide USD35 million in funding and a 50 per cent loan-portfolio guarantee to incentivize investment and business development in the region’s municipal waste recycling programs.

On 12 June 2019, the Asian Development Bank and USAID invested USD7 billion in clean energy projects across Asia and the Pacific. Through this, energy systems will increase in capacity by six gigawatts and regional energy trade will increase by 10 per cent over five years. These aims will primarily be achieved through mobilization of private sector investment in the energy sector.

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Currently, private sector actors have committed to leveraging each dollar invested by a range of 2.5.\footnote{Regional energy project backed by USAID, ADB to unlock private investment, BusinessWorld (New Delhi) 18 June 2019. Access Date: 29 June 2019. https://www.bworldonline.com/regional-energy-project-backed-by-usaid-adr-to-unlock-private-investment/}


The United States has supported innovative financing approaches by unlocking resources such as blended finance to increase Nigeria’s access to energy and improve the country’s energy sector’s self-reliance. The US has also demonstrated an effort to seek private sector partnerships, for example through the IDFC and USAID, to provide sustainable development aid to vulnerable countries. Thus, the United States receives a score of +1.

\textit{Analyst: Sofia Lopez}

United Kingdom: +1
The United Kingdom has fully complied with its commitment to support innovative financing approaches and unlock resources, and seek investor partnerships to achieve greater sustainable development outcomes.


Summit will be hosted in London, where the UK will be “supporting partner countries in developing their business environments and institutions, integrating into global value chains, building ties with investors and tackling barriers to growth.”

On 5 September 2018, the UK made a commitment to become the G7 member to contribute the largest foreign direct investments in Africa by 2020. The Commonwealth Development Corporation (CDC) and UK government will use blended finance as GBP8 billion is required to achieve this goal. Over the next few years, “CDC funds will be co-invested on equal or comparable terms with private sector investment.”

On 21 September 2018, the UK provided aid to Indonesia and Liberia to protect endangered wildlife. Furthermore, the government is working with Partnerships for Forests to create sustainable jobs as an alternative to deforestation and hunting for local communities. Specifically, the Department for International Development (DFID) is working in Liberia on a public-private partnership that is investing in developing sustainable rubber and cocoa which consequently curbs illegal wildlife hunting.

On 7 October 2018, the DFID provided GBP6 million in funding to the Illegal Wildlife Trade (IWT) Challenge Fund to protect endangered species. The aid will be used to support “Green Corridors” for wildlife while simultaneously supporting regional economic security. The IWT Challenge Fund, an agency of the Department for the Environment, Food and Rural Affairs, aims to take advantage of private sector partnerships for economic development and to achieve the SDGs, including poverty reduction.

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On 28 November 2018, CDC announced an initiative to invest up to USD4.5 billion in Africa over the next four years. The first concrete action taken in this initiative is a USD25 million fund to Synergy which will support small and medium sized enterprises in Nigeria. Additionally, the CDC granted a USD100 million loan to Indorama, a fertilizer company, as the focus of this initiative is infrastructure, power, manufacturing and agriculture development.

On 10 December 2018, the UK jointly with the European Union, Denmark, and Germany announced their intention to commit up to EUR80 million for the sixth round of Nationally Appropriate Mitigation Actions (NAMAs) Support Projects through the NAMA Facility. NAMAs are defined by the United Nations Framework Convention on Climate Change as actions which reduce emissions in developing countries and are prepared within a national governmental initiative. Included in the NAMA Facility’s mandate is “unlocking investment opportunities by providing tailor-made finance to fund projects” such as piloting financing models for low-carbon development and boosting private sector investment in the same.

On 11 December 2018, the UK provided GBP100 million in funding for electricity access in sub-Saharan Africa. This fund will support the development of solar, wind, hydro and geothermal projects which is expected to save three million tonnes of carbon and provide an additional 2.4 million people per year with access to clean energy. Moreover, the fund “could unlock … GBP156 million of private finance into renewable energy markets in Africa by 2023.” This is part of the UK’s larger commitment to invest GBP5.8 billion in international climate finance by 2020.

On 11 January 2019, Innovate UK and Sky Ocean Ventures partnered to provide UK businesses GBP6 million in public and private funding. The funding will support innovators presenting new ideas to combat ocean plastic pollution and promote a circular economy, and will also go into

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1094 Britain’s CDC to invest up to $4.5 billion in Africa over next four years, Reuters (Lagos) 28 November 2018. Access Date: 21 May 2019. https://uk.reuters.com/article/uk-nigeria-cdc-group/britains-cdc-to-invest-up-to-4-5-billion-in-africa-over-next-four-years-idUKKCN1NX23E.
1095 Britain’s CDC to invest up to $4.5 billion in Africa over next four years, Reuters (Lagos) 28 November 2018. Access Date: 21 May 2019. https://uk.reuters.com/article/uk-nigeria-cdc-group/britains-cdc-to-invest-up-to-4-5-billion-in-africa-over-next-four-years-idUKKCN1NX23E.
1096 Britain’s CDC to invest up to $4.5 billion in Africa over next four years, Reuters (Lagos) 28 November 2018. Access Date: 21 May 2019. https://uk.reuters.com/article/uk-nigeria-cdc-group/britains-cdc-to-invest-up-to-4-5-billion-in-africa-over-next-four-years-idUKKCN1NX23E.
“quickly get[ting] products and services to market.” This initiative aims to enable entrepreneurs to continue supporting innovation through both investments and mentorship. On 7 February 2019, Karandaaz Pakistan, a company funded by the UK Department for International Development, signed an agreement with JS Bank to invest PKR1 billion in small and medium enterprise financing. This will provide Pakistan an economic boost through job creation, raising household incomes and significantly, securing future generations’ prosperity.

On 27 February 2019, the UK, through the World Bank, granted a USD250 million loan to Jordan. This loan allows Jordan to borrow money at a lower rate, making debt more manageable. Prime Minister May stated the UK’s intention to increase investor confidence in the Jordanian economy and also called on CEOs and international partners to invest in the Jordan.

On 27 February 2019, International Trade Secretary Liam Fox announced that UK Export Finance is investing GBP130 million in UK firms to assist in three development projects in Ghana. This investment encompasses projects that seek to improve electricity, water access, hospitals and other infrastructure developments.

On 28 February 2019, the UK-India Green Growth Equity Fund announced a GBP250 million investment into Ayana Renewable Power. The investment will contribute to India’s goal of operating on 175 gigawatts of renewable energy, specifically through solar and wind generation.

EverSource Capital signed onto the project along with CDC and the National Investment and

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Infrastructure Fund of India.\textsuperscript{1116} The two countries expect to see rewards from climate financing and more jobs in India through green growth.\textsuperscript{1117}

On 4 March 2019, Secretary of State for International Development Penny Mordaunt announced a campaign by the government to end global period poverty by 2030.\textsuperscript{1118} The UK is to provide GBP2 million in aid to organizations currently combating period poverty.\textsuperscript{1119} The private sector levered the project’s initial funding of GBP250,000 and will additionally contribute expertise in an advisory taskforce made up of government departments, manufacturer’s, retailers and charities.\textsuperscript{1120}

On 15 March 2019, the UK government and InfraCo Africa invested USD2.2 million for the construction of two solar plants in Kenya’s Samburu and Transmara regions.\textsuperscript{1121} This will provide clean and affordable energy to the populations and fulfills Kenya’s commitment to Universal Electricity Access by 2022.\textsuperscript{1122} Private sector investment in solar energy have tended towards large-scale plants, thus, this investment will demonstrate the profitability of local, small-scale plants.\textsuperscript{1123}

On 30 April 2019, the UK, through the World Bank, provided Colombia with an aid package intended to assist in the settlement of displaced Venezuelans in the country.\textsuperscript{1124} This aid package grants Colombia access to low-interest loans, improving the Colombian government’s ability to invest in infrastructure such as health and education.\textsuperscript{1125} Further, it will generate growth in sectors with low carbon emissions.\textsuperscript{1126}

On 3 May 2019, Foreign Secretary Jeremy Hunt announced GBP64 million worth of funding for Kenyan businesses.\textsuperscript{1127} This includes a GBP52 million investment from the government and


The availability of clean energy is expected to generate 5,600 jobs in the Kenyan economy. Another part of the fund is a GBP1.4 million investment in Kenya’s and Nigeria’s creative industries which will provide 540 entrepreneurs access to skills training in the UK.

On 19 June 2019, Innovate UK and ENGIE (an energy and services firm) collaborated to “support projects working on the transition to clean energy.” This will be accomplished through a competition in which successful applicants will receive GBP4 million in government grants and private investment to create “innovative projects that decarbonise, digitise and decentralise … energy.” This initiative ultimately aids the UK’s sustainable transition to clean energy.

The United Kingdom has used supported innovative financing approaches such as blended finance to increase its aid efficiency in Africa to achieve the SDGs. It has also supported innovative financing approaches in the private sector through third parties and is seeking investor partnerships with African government and private sector leaders.

Thus, the United Kingdom receives a score of +1.

*Analyst: Sofía López*

**European Union: +1**

The European Union has complied with its commitment to support innovative financing approaches and unlock resources and seek investor partnerships to achieve greater sustainable development outcomes.

On 10 July 2018, the Strategic Board of the European Fund for Sustainable Development (EFSD) pledged to mobilise EUR800 million in guarantee operations. The Board anticipates that by mitigating investment risk, this move will leverage EUR8-9 billion of public and private investment in job creation and specified sectors such as agribusiness, sustainable cities, and sustainable energy and connectivity.

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On 17 July 2018, President of the European Council Donald Tusk, President of the European Commission Jean-Claude Juncker, and Prime Minister of Japan Shinzo Abe signed the EU-Japan Economic Partnership Agreement (EPA). The EPA reaffirms the parties’ commitments to the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change and emphasizes the “importance of enhancing the contribution of trade and investment to the goal of sustainable development.” In this Agreement, the EU also commits to cooperate with Japan to promote innovation, climate finance, and trade and investment which is of relevance to addressing climate change.

On 12 September 2018, the European Commission proposed a new “Africa – Europe Alliance for Sustainable Investment and Jobs,” which Commissioner for International Cooperation and Development Neven Mimica says “is about unlocking private investment” and exploring other economic opportunities. The proposal outlines key development strategies such as boosting private sector investment through the de-risking of investment projects via blending grants and loans, and guarantees. It proposes prioritizing financing for “value-adding sectors with a high potential for sustainable job creation, notably for women and youth,” and supporting policy frameworks in the sectors of sustainable energy, sustainable use of natural resources, and waste and water management.

On 6 November 2018, the EU pledged EUR26 million to be contributed through the Global Financing Facility (GFF) to improve the health and quality of life of women, children and adolescents. Established at the World Bank Group, the GFF is a mechanism that develops “smart financing” approaches, facilitates stakeholder dialogue, and seeks private sector resources to work towards the SDGs pertaining to reproductive, maternal, newborn, child, and adolescent health and nutrition.

On 27 November 2018, the European Commission announced a EUR474 million financial package for Afghanistan, with EUR311 million allocated to government reforms. Supported reforms will include public financial management and macro-economic stability, with a particular focus on

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Domestic revenue mobilisation is a strategy that emphasizes addressing governance issues which inhibit tax and non-tax revenue collection in order to fully access existing state revenue flows, reduce development aid dependency, and create “space for sustainable budget expenditures.”\footnote{1146}

On 10 December 2018, the European Union jointly with Germany, Denmark, and United Kingdom announced their intention to commit up to EUR80 million for the sixth round of Nationally Appropriate Mitigation Actions (NAMAs) Support Projects through the NAMA Facility.\footnote{1147} NAMAs are defined by the United Nations Framework Convention on Climate Change as actions which reduce emissions in developing countries and are prepared within a national governmental initiative.\footnote{1148} Included in the NAMA Facility’s mandate is “unlocking investment opportunities by providing tailor-made finance to fund projects” such as piloting financing models for low-carbon development and boosting private sector investment in the same.\footnote{1149}

On 13 December 2018 the European Commission released the Summaries of the EU External Investment Plan Guarantees, European Commission (Brussels) 13 December 2018.\footnote{1150} “This EFSD-backed programme will focus on areas such as loans for small firms, agriculture, and renewable energy.\footnote{1151} These guarantees are intended to spur sustainable development by attracting investment by private companies, local banks, and institutional investors to least-developed and fragile countries.”\footnote{1152}

On 18 December 2018, the European Commission and Dutch Development Bank FMO concluded an agreement on the NASIRA Risk-Sharing Facility – the first EIP guarantee to be finalized with an agreement.\footnote{1153} The Facility will use EUR75 million in EFSD funds to support access to affordable loans for micro-, small- and medium-sized enterprises through local banks, microfinance institutions,

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\begin{itemize}
\item \footnote{1148} Nationally Appropriate Mitigation Actions (NAMAs), United Nations Climate Change (Bonn) Access Date: 18 May 2019. https://unfccc.int/topics/mitigation/workstreams/nationally-appropriate-mitigation-actions/.
\item \footnote{1149} About Us, NAMA Facility (Berlin) Access Date: 18 May 2019. https://www.nama-facility.org/about-us/.
\end{itemize}
and other non-banking financial institutions. Priority will be given to refugees, internally displaced people, women, and young people.

On 18 December 2018, the EU and the International Fund for Agricultural Development launched a new Agri-Business Capital Fund (ABC) to increase access to finance for smallholder farmers. The EU will contribute EUR45 million in funding, and the Government of Luxembourg and international NGO the Africa Green Revolution Alliance will each contribute EUR5 million. ABC will use blended finance to provide small-scale loans and attract private investment in agri-business, a sector which the EU asserts has potential to have a development impact in Africa.

On 4 February 2019, the European Investment Bank (EIB) approved EUR4.8 billion of financing for “private sector, transport, energy, housing and water investment,” and also met with 120 non-governmental organization and civil society representatives to discuss EIB priorities. The combination of direct and indirect funding is designed to support private sector investment in projects which “meet the highest environmental and social standards,” both within Europe and abroad. The bank also announced a new programme to support small loans for “innovative companies owned by women in Italy.”

On 7 March 2019, the European Parliament and EU members reached an agreement on rules of disclosure requirements related to sustainable investments. The European Commission stated that...

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such rules strengthen and improve innovative financial products, and as such “are an integral part of the EU efforts, under the EU’s sustainable development agenda and the carbon neutrality agenda, to connect finance with needs of the real economy.”\textsuperscript{1163} The new rules are claimed to support the SDGs by eliminating “greenwashing” and integrating environmental, social or governance risks into the appraisal of an investment.\textsuperscript{1164}

On 15 March 2019, the European Bank for Reconstruction and Development (EBRD) announced it would issue a loan of up to EUR10 million to BMCE Bank of Africa to boost investments in Morocco’s green economy.\textsuperscript{1165} The EBRD will also extend a EUR50 million risk-sharing facility to BMCE Bank of Africa with the intention of improving access to financing for local businesses and expanding the bank’s financial products.\textsuperscript{1166}

On 21 March 2019, the European Commission organized its second high-level conference on sustainable finance.\textsuperscript{1167} The conference focused on discussions of how to align private capital with sustainable finance and development on a global scale.\textsuperscript{1168} Government and private sector representatives discussed the need for a “coherent international financial system” based on international coordination and digitalization as a method of mobilizing sustainable finance.\textsuperscript{1169}

On 22 March 2019, the European Commission hosted a high-level conference on financing sustainable growth.\textsuperscript{1170} The objective of the conference was to work towards “unlock[ing] the full potential of sustainable finance and investment” by “involving the private sector,” and more specifically to present the Commission’s Action plan and agree on next steps towards its implementation.\textsuperscript{1171}

On 11 April 2019, Nanno Kleiterp of the European Development Finance Institutions, Paul Lamontagne of FinDev Canada and United States’ Overseas Private Investment Corporation (OPIC) Acting President and Chief Executive David Bohigian Nanno Kleiterp of the European Development Finance Institutions signed a memorandum of understanding committing the US, EU and Canada to innovative development financing under an OPIC project.\textsuperscript{1172} Unlike state-led models,
OPIC projects “[connect] private American lenders with governments and developers in developing countries.” It is founded on a commitment to the developing country’s sovereignty, environmental protection, local job creation, transparency and sustainability.

On 16 April 2019, the EU and China issued a joint statement agreeing to “reinforce cooperation on green finance to harness private capital flows” and work towards “a successful outcome of the SDGs.”

On 14 May 2019 in Mauritius, EU representatives participated in an event with the African, Caribbean and Pacific Group of States (ACP) regarding private sector development. Notably, Chargé d’affaires, European Union Delegation in Mauritius and Seychelles gave a speech in which he emphasized the EU’s desire to collaborate with the private sector in ACP countries to achieve the SDGs. He further affirmed the EU’s support for innovative approaches to investment, blended finance operations, guarantees, and microfinancing through international financial institutions as means to improving economic growth and other development outcomes in the ACP countries.

On 16 May 2019, the EU announced that it would provide EUR25.8 million in financial support for EURIZ, a new program offering guarantees to local banks in the ACP area. Jointly supported by the ACP states, EURIZ enables banks to partially hedge their credit risk, and thus more easily offer loans to micro, small, and medium enterprises. EURIZ is focused on enterprises in key sustainable development sectors such as agriculture, health, education, and the green economy, and over 6200 such enterprises are expected to gain access to affordable credit in the coming years under this scheme.

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On 10 June 2019, EU representatives attended the Renewable Energy Forum in Conakry, hosted by the President of the Republic of Guinea and co-organised with the European Commission.\textsuperscript{1182} At the forum, Director General for International Cooperation and Development at the European Commission Stefano Manservisi announced a reinforced collaboration with the International Renewable Energy Agency in boosting private sector investments for sustainable development in Africa, and emphasized the EU’s commitment to supporting its African partners in the fight against climate change.\textsuperscript{1183}

On 18 June 2019, the European Commission published new guidelines on corporate climate-related information reporting.\textsuperscript{1184} As part of the EU’s Sustainable Finance Action Plan, the guidelines are intended to increase private investment in the EU’s transition to a zero emissions economy by 2050, with a particular interest in greening sectors such as manufacturing, agriculture and energy.\textsuperscript{1185} By providing criteria to assess whether any particular investment may be considered green and sustainable, the guidelines will help investors and the EU to finance investments which will best fulfill the EU’s environmental objectives.\textsuperscript{1186}

On 19 June 2019, the European Commission concluded an agreement with FMO to help further implement the Nasira Risk-Sharing Facility and train entrepreneurs.\textsuperscript{1187} The agreement will support the facility’s objective of providing small business owners from vulnerable and under-served populations access to affordable microloans through local banks as well as non-banking financial institutions.\textsuperscript{1188} Sub-Saharan Africa is a particular area of focus for this facility.\textsuperscript{1189}

The European Union has supported innovative financing approaches such as blended finance, guarantees, micro-loans, and domestic revenue mobilization in an effort achieve the SDGs. It has also sought investor partnerships with private sector firms, financial institutions, and third-party organizations to achieve greater SDG outcomes.

Thus, the European Union receives a score of +1.  

\textit{Analyst: Jaquelin Coulson}


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4. Gender

“Building on our existing efforts, we will work with our partners, including developing country governments to increase equal access to quality education for girls and women.”

*G7 Charlevoix Leaders’ Communiqué*

<table>
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<th>Partial Compliance</th>
<th>Full Compliance</th>
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**Background**

The G7 has a long history of making commitments surrounding gender issues. These commitments have often involved issues of health, economic empowerment, safety, human trafficking, and protection against sexual violence for women and girls.  

At the 1990 Houston Summit, the G7/G8 “formally adopted the importance of women’s economic empowerment … mainly focus[ing] on issues pertaining to health and education.”  

At the 2002 Kananaskis Summit, G7 members stated that improving education for girls is a priority, especially in “countries with significant gender disparities.”  

At the 2015 Schloss Elmau Summit, the G7 “generated an unprecedented 29 commitments on gender-related issues” and also promoted female entrepreneurship, participation in international peace and security, improving education for girls, and reducing the gender wage gap as key parts of these commitments.  

At the 2016 Ise-Shima Summit, G7 members committed to promoting women’s economic empowerment through mechanisms such as capacity building of women, enhancing leadership opportunities, improving education for women and girls, raising awareness about women’s issues, and address barriers to quality education for girls.

In 2017, G7 members adopted the G7 Roadmap for a Gender-Responsive Economic Environment. Through this, the G7 leaders committed to advancing gender inequality in three

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ways: “1) Increasing women’s participation and leadership at all levels of decision-making; 2) Increasing women’s access to good quality jobs; and 3) Eliminating violence against women and girls.”

The G7 in 2018 under Canadian leadership included gender considerations into many of its commitments and stated that “gender equality is a … top priority for the G7 during Canada’s Presidency.” Indeed, Trudeau established a Gender Equality Advisory Council for Canada’s G7 presidency which “is mandated to promote a transformative G7 agenda and support Leaders and ministers in ensuring that gender equality and gender-based analysis are integrated across all themes, activities and outcomes of Canada’s G7 Presidency.” Under the current governance of Prime Minister Justin Trudeau, Canada maintains a feminist foreign policy approach. The Canadian government believes that “supporting gender equality and the empowerment of women and girls is the best way to build a more peaceful, more inclusive and more prosperous world.”

At the G7 Charlevoix Summit, G7 members identified that “girls … are more likely to be taken out of school due to displacement-related poverty, [and] are forced to marry early and face sexual and gender-based violence.” Thus, the G7 members indicated that it is important to take a global approach for this commitment. In addition, G7 members stated they will “work with the Sustainable Development Goal[s]” to fulfill this commitment since “[g]ender equality and the empowerment of women and girls are critical to building peace, reducing poverty, growing our economies, and achieving sustainability.”

**Commitment Features**

At Charlevoix, the G7 members agreed that “building on our existing efforts, we will work with our partners, including developing country governments to increase equal access to quality education for girls and women.”

In reference to the commitment, “partners” is defined as: developing countries, schools, UN agencies, civil society organizations, the private sector, humanitarian and development organizations, and other governments.

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“Quality education” is defined as at least 12 years of education from “early years through to secondary school,” “learning basic literacy and numeracy skills in order to progress through education,” healthcare education including sexual education, and a learning environment free from sexual violence.\footnote{Charlevoix Declaration on Quality Education for Girls, Adolescent Girls and Women in Developing Countries, The Charlevoix G7 Summit Communiqué (Charlevoix) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/education-commitment.html.}

To receive full compliance, the G7 member must work with partners including developing country governments to increase equal access to quality education for girls and women.

To receive partial compliance, the G7 member must work with only developing countries and no other partners OR with other partners but no developing countries to increase equal access to quality education for girls and women.

To receive a score of no compliance, the G7 member has not made any effort to fulfil the commitment.

**Scoring Guidelines**

<table>
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<th>Score</th>
<th>Description</th>
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<td>-1</td>
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</tr>
<tr>
<td>0</td>
<td>The G7 member is working with only developing countries and no other partners OR with other partners but no developing countries to increase equal access to quality education for girls and women.</td>
</tr>
<tr>
<td>+1</td>
<td>The G7 member is working with partners including developing country governments to increase equal access to quality education for girls and women.</td>
</tr>
</tbody>
</table>

*Lead Analyst: Tyler Rae McMordo*

**Canada: +1**

Canada has fully complied with its commitment to work with partners, and governments of developing countries, to increase access to quality education for girls and women.


Canada, and other countries and organizations agreed to continue to increase the timeline on girls education by finding solutions to stop impediments that deny girls and women the right to 12 years of safe and quality education, and encouraged, through a joint statement

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“governments, international organizations, civil society and the private sector to join [then] in [their] commitment to undertake individual and collective action to dismantle barriers to girls’ education.”¹²⁰⁹

On 26 November 2018, Head the Government of the UK’s Department for International Development Philip Smith, spoke on behalf of Canada, the UK, Netherlands, and the European Union at the 2nd African Girls Summit on Ending Child Marriage.¹²¹⁰ Smith reaffirmed the development partners’ commitment to support educational opportunities for African girls and acknowledged the need to strengthen policy implementation, engage with local leaders, end child marriage, and improve girl-centred sex education in African countries.¹²¹¹

On 2 December 2018, Prime Minister Trudeau announced that the Government of Canada will pledge CAD50 Million to Education Cannot Wait “to support education for women and girls around the world.”¹²¹² Education Cannot Wait is a global fund which supports quality education for children in crises and ensures equal access to education for girls.¹²¹³

On 10 May 2019, Canada signed a joint declaration with the G7 members to establish gender equality as a crucial global cause “at a time when two-thirds of the 774 million illiterate adults worldwide are women.”¹²¹⁴ All G7 members supported increased women and girls’ access to quality education agreeing that “[p]roviding safe and quality education is crucial.”¹²¹⁵

Canada has taken measures to work with partners and governments of developing countries to increase access to quality education for girls and women. It has pledged to support education in developing countries such as Kenya, and it has pledged funds to Education Cannot Wait, in means of supporting greater access to education for girls and women.

Thus, Canada receives a score of +1.

**France: +1**

France has fully complied with its commitment to work with partners, including developing country governments to increase access to quality education for girls and women.

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On 26 September 2018, Canadian Prime Minister Justin Trudeau, French President Emmanuel Macron, United Kingdom Prime Minister Theresa May, Jordan, Kenya and Niger co-hosted the event “12 Years to Break Barriers and Leave No Girl Behind” during the 73rd Session of the United Nations General Assembly. The event also included multilateral agencies and “civil society” organizations. Canada, and other countries and organizations agreed to continue to increase the timeline on girls education by finding solutions to stop impediments that deny girls and women the right to 12 years of safe and quality education, and encouraged, through a joint statement “governments, international organizations, civil society and the private sector to join [then] in [their] commitment to undertake individual and collective action to dismantle barriers to girls’ education.” Macron added, “If we don’t [invest in girls’ education] … there will be a crisis,” and “stressed the need for quality education to advance gender equality.”

On 27 September 2018, President Macron stated that France remains determined to increase aid for Africa and less developed countries. France confirmed that it will increase grants from EUR10 billion to EUR15 billion from 2020 to 2030. Although these funds will be used for various projects, part of the money will be designated to providing girls with “quality education” in Africa. Macron stated, “France is committed to helping the youth, especially the girl [children] in Africa overcome poverty by getting them quality education.”

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On 18 December 2018, Minister of Europe and Foreign Affairs Jean-Yves Le Drian summarized the main priorities during the 2019, G7 Summit in Biarritz.\textsuperscript{1226} There will be five points of focus for the French Presidency, and the G7 will be adopting the “Biarritz Pact for Equality” to increase equality and education, “of girls in particular.”\textsuperscript{1227}

On 10 May 2019, French Minister of State for Gender Equality and the Fight against Discrimination Marlene Schiappa signed a joint declaration with the G7 members to establish gender equality as a crucial global cause “at a time when two-thirds of the 774 million illiterate adults worldwide are women.”\textsuperscript{1228} All G7 members supported increased women and girls’ access to quality education agreeing that “[p]roviding safe and quality education is crucial.”\textsuperscript{1229}

France has worked with partners, such as Canada and the United Kingdom, civil society organizations, and governments of developing countries to increase access of quality education for girls and women. It continues to work with Africa to develop education for girls and women, as well as working with civil society organizations to find solutions to problems that hinder the success of a quality 12-year education for girls and women.

Thus, France receives a score of +1.

\textit{Analyst: Aaron Kivell}

\textbf{Germany: 0}

Germany has partially complied with its commitment to work with partners, including developing country governments to increase access to quality education for girls and women.

On 1 December 2018 at the G20 summit in Buenos Aires, the German government committed, with the G20, to improve quality education for girls and women.\textsuperscript{1230} The G20 stressed the importance of education for girls as well as further improving employment and education policies which will allow for the development of extensive strategies to encourage children “learning to learn [and] foundation and digital skills, [for] a lifelong learning perspective from early childhood.”\textsuperscript{1231} The G20 members also proclaimed the need for comprehensive teaching and teaching methods for every level of education.\textsuperscript{1232}

On 10 May 2019, Germany signed a joint declaration with the G7 members to establish gender equality as a crucial global cause “at a time when two-thirds of the 774 million illiterate adults


worldwide are women.” All G7 members supported increased women and girls’ access to quality education agreeing that “[p]roviding safe and quality education is crucial.”

Germany has made some progress toward working to increase equal access to quality education for girls and women by committing to improve quality education for girls and women at the G20 summit in Buenos Aires and through signing a joint declaration with G7 members supporting increasing women and girls’ access to quality education. However, Germany has not worked with developing country governments to increase equal access to quality education for girls and women.

Thus, Germany received a score of 0.

**Italy: 0**

Italy has partially complied with its commitment to work with partners, including developing country governments to increase access to quality education for girls and women.

On 1 December 2018 at the G20 summit in Buenos Aires, the Italian government committed, with the G20, to improve quality education for girls and women. The G20 stressed the importance of education for girls as well as further improving employment and education policies which will allow for the development of extensive strategies to encourage children “learning to learn [and] foundation and digital skills, [for] a lifelong learning perspective from early childhood.” The G20 members also proclaimed the need for comprehensive teaching and teaching methods for every level of education.

On 10 May 2019, Italian Secretary of State in charge of Parity and Youth Vincenzo Spadafora signed a joint declaration with the G7 members to establish gender equality as a crucial global cause “at a time when two-thirds of the 774 million illiterate adults worldwide are women.” All G7 members supported increased women and girls’ access to quality education agreeing that “[p]roviding safe and quality education is crucial.”

Italy has made some progress toward working to increase equal access to quality education for girls and women by committing to improve quality education for girls and women at the G20 summit in Buenos Aires and by signing a joint declaration with G7 members supporting increasing women and girls’ access to quality education.

Thus, Italy received a score of 0.

**Analyst: Alyssa Atef**

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Thus, Italy has been given a score of 0.

**Japan: +1**

Japan has fully complied with its commitment to work with partners including developing country governments to increase access to quality education for girls and women.

On 1 December 2018 at the G20 summit in Buenos Aires, the Japanese government committed, with the G20, to improve quality education for girls and women. The G20 stressed the importance of education for girls as well as further improving employment and education policies which will allow for the development of extensive strategies to encourage children “learning to learn [and] foundation and digital skills, [for] a lifelong learning perspective from early childhood.” The G20 members also proclaimed the need for comprehensive teaching and teaching methods for every level of education.

On 23 January 2019, Japanese Prime Minister Shinzo Abe gave a speech promoting a fourth industrial revolution titled Society 5.0. Society 5.0 seeks to promote the free flow of data internationally in effort to “fill the gap between the rich and the less privileged.” In his speech, Abe stated that this industrial revolution will provide “services of medicine and education, from elementary to tertiary, [which] will reach small villages in the Sub Saharan region [and] [g]irls who have given up going to school will see, beyond their own village, a wider horizon where the sky is the limit.”

On 8 March 2019, the Government of Japan provided a grant of “$86,612” to Idara Al-Khair Welfare Society for the project of construction of girl schools at Wangi Goth Village in Karachi. The project was agreed on by the Consul-General of Japan Toshikazu Isomura and the President of Idara Al-Khair Welfare Society Muhammad Mazahir.

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On 23 March 2019, Prime Minister Shinzō Abe “told an international women’s conference in Tokyo that Japan will support developing countries in providing ‘high-quality’ education to 4 million women by 2020.” Abe also proposed “accelerated efforts to provide better education opportunities to women at the meeting of the Group of 20 in June.”

On 31 March 2019, the Government of Japan pledged to assist UNICEF in Somalia to provide education for the “8, 500 school-aged children, [with] more than 40 per cent of them girls [who] will have a chance to study in a safe learning environment.”

On 8 April 2019, Japanese State Minister for Foreign Affairs Toshika Abe wrote in an article contributed to Medium (U.S.) that Japan is determined to support “girls’ education, including in the STEM area.” Abe further wrote that “Japan focuses on female faculty members in its assistance programs to ASEAN countries to develop research and education systems, with the belief that the expansion of women’s participation in the fields of science and technology will boost innovation.” Moreover, Japan places importance on supporting lifelong learning for women who could not be enrolled, as well as on raising the awareness of parents and communities about the importance of women’s education.

On 10 May 2019, Japan signed a joint declaration with the G7 members to establish gender equality as a crucial global cause “at a time when two-thirds of the 774 million illiterate adults worldwide are women.” All G7 members supported increased women and girls’ access to quality education agreeing that “[p]roviding safe and quality education is crucial.”

Japan has taken measures to increase equal access to quality education for girls and women by committing to improve quality education for girls and women at the G20 Summit in Buenos Aires, and through promoting the need for girls’ education by signing a joint declaration with other G7 members on gender equality and increasing access to quality education for girls and women. Japan has also worked with developing country governments such as Pakistan and Somalia to increase equal access to quality education for girls and women.

Thus, Japan receives a score of +1.

Analyst: Layal Hallal

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United Kingdom: +1

The United Kingdom has fully complied with its commitment to work with partners, including developing country governments, to increase equal access to quality education for girls and women.

On 25 June 2018, the UK Mission to the United Nations delivered a joint statement on behalf of 134 states. The joint statement asserted that UN members must remain committed to eliminating gender-specific barriers faced by girls towards accessing education and called upon member states to provide a stronger collective effort in ensuring quality education for girls globally.

On 30 August 2018, the UK Government’s Department for International Development (DFID) announced the establishment of new aid programs intended to assist approximately 5,000 Kenyan girls who have not completed their education due to circumstances related to gender-based violence, early marriage, and young motherhood. The various aid programs will help young Kenyan women receive further education, increase the affordability and accessibility of family planning, and provide training programmes for vocational jobs. The aid programs collectively intend to provide young women with opportunities to plan their families, maintain their sexual and reproductive health, prevent maternal death, gain important job-related skills, and create greater employment opportunities for all Kenyans. The programs created by DFID to provide said aid are Leave No Girl Behind, Family Planning in Kenya, Kenya Catalytic Job Fund, Skills for Prosperity, and WISH.

On 25 September 2018, Prime Minister Theresa May reaffirmed the UK’s commitment to improve global access to education for girls and called upon world leaders to unite in this commitment during the 73rd session of the UN General Assembly (UNGA) in New York. During her speech, May announced the creation of nine new projects aimed at helping the world’s most marginalised girls. In particular, she highlighted the UK’s commitment to training teachers, and funding counselling and mentoring programs in Ethiopia aimed at helping girls enrol and remain in school. May also

 announced that the UK will provide funding for projects that will help girls who have had their education impacted by war.\textsuperscript{1265}

On 26 September 2018, International Development Secretary Penny Mordaunt reaffirmed the UK’s commitment to improve global access to education for girls at UNGA.\textsuperscript{1266} The Secretary announced that the UK will provide GBP7.8 million in funding to improve education data and analysis so as to better determine which countries are most in need of education aid and also track collective progress towards reaching the Sustainable Development Goals.\textsuperscript{1267}

On 26 September 2018, Canadian Prime Minister Justin Trudeau, French President Emmanuel Macron, United Kingdom Prime Minister Theresa May, Jordan, Kenya and Niger co-hosted the event “12 Years to Break Barriers and Leave No Girl Behind” during UNGA.\textsuperscript{1268} The event also included multilateral agencies and “civil society” organizations,\textsuperscript{1269} Canada, and other countries and organizations agreed to continue to increase the timeline on girls education by finding solutions to stop impediments that deny girls and women the right to 12 years of safe and quality education, and encouraged, through a joint statement “governments, international organizations, civil society and the private sector to join [then] in [their] commitment to undertake individual and collective action to dismantle barriers to girls’ education.”\textsuperscript{1270} May added, “By denying girls an education we deny them a voice, a choice, we deny them their future,” encouraging UNGA “delegates to join the commitment to ‘ensure that every girl, in every corner of the world, can access the 12 years of education they need to unleash their potential, to embrace the opportunities before them, and to help change the world for the better.””\textsuperscript{1271}

On 27 September 2018, UK Foreign Secretary Jeremy Hunt co-chaired the first meeting of the Platform for Girls’ Education with the Kenyan Minister of Education Amina Mohamed.\textsuperscript{1272} During the meeting, Hunt stated that the proper education of girls is a crucial investment for the future, the education of girls fosters prosperous societies, and that the international community must maintain its commitment to ensure that the most internationally marginalized girls receive 12 years of education.\textsuperscript{1273}

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On 15 November 2018, DFID and the United States Agency for International Development (USAID) announced a joint collaboration to improve access to education for Somalian girls and women.\textsuperscript{1274} Per the agreement, USAID will contribute USD5 million towards the DFID’s Girls’ Education Challenge-Transition program.\textsuperscript{1275} The funds allocated for Somalian woman will help maintain access to education for over 52,000 girls across 365 schools as well as 19 Internally Displaced Persons camp schools.\textsuperscript{1276} The head of the DFID Somalia stated that these funds will help ensure the sustainability of education services and provide enhanced transition from upper primary to secondary schools.\textsuperscript{1277}

On 26 November 2018, Head of DFID Philip Smith, spoke on behalf of the UK, Netherlands, Canada, and EU at the second African Girls Summit on Ending Child Marriage.\textsuperscript{1278} Smith reaffirmed the development partners’ commitment to support educational opportunities for African girls and acknowledged the need to strengthen policy implementation, engage with local leaders, end child marriage, and improve girl-centred sex education in African countries.\textsuperscript{1279}

On 21 January 2019, the Platform for Girls’ Education, co-chaired by Foreign Secretary Jeremy Hunt Released a report addressing the state of girls’ education across the Commonwealth countries.\textsuperscript{1280} The report focusses on the need for governments across the Commonwealth to improve the funding of early education programs in rural areas.\textsuperscript{1281} In response to the report, Hunt stated the importance of funding education for disadvantaged girls.\textsuperscript{1282} He also acknowledged that the report is an important step in identifying the currently withstanding barriers within the educational system and that the Platform for Girls’ Education presents an opportunity to promote larger-scale action to remedy these inadequacies.\textsuperscript{1283}

On 26 February 2019, the British High Commissioner in Yaounde, Cameroon commissioned a project in conjunction with a non-governmental organization called Girls Excel. The project, Menstrual Hygiene Campaign in Schools, is dedicated to empowering young girls in Cameroon and addressing challenges they face with their menstrual hygiene. According to UNESCO, in Cameroon there is a taboo surrounding menstruation, girls have a lack of access to sanitary products, and it is estimated “that one in 10 girls in Africa misses one to 4 days of school per month, making this one of the highest contributors to girls dropping out of education all together.” As a part of the project, 48 peer educators will be trained to make reusable sanitary napkins, monitor girl-led clubs, and train girls on how to keep track of their menstrual cycles.

On 6 May 2019, the British Ambassador to Liberia David Belgrove, stated the UK Government’s continued commitment to improving the quality of girls’ education in Liberia during a ceremony dedicated to the Renewed Energy Serving Humanity (RESH)-Liberia project. RESH and the UK Government have previously collaborated on projects providing educational measures and supportive programs for girls and young women in Liberia.

On 10 May 2019, the UK signed a joint declaration with the G7 members to establish gender equality as a crucial global cause “at a time when two-thirds of the 774 million illiterate adults worldwide are women.” All G7 members supported increased women and girls’ access to quality education agreeing that “[p]roviding safe and quality education is crucial.”

The UK has worked with partners such as other countries, including developing country governments in Africa, to increase equal access to quality education for girls and women.

Thus, the UK receives a score of +1.

*Analyst: Alyssa Atef*

**United States: 0**

The United States has partially complied with its commitment to work with partners, including developing country governments to increase access to quality education for girls and women.

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On 9 January 2019, President Donald Trump signed the Women’s Economic Empowerment Act (WEEA) which seeks to reduce gender-related barriers to economic growth, including such barriers as inadequate access to health and education and exposure to gender-based violence. The WEEA mandates the support for women-owned businesses, the reduction of economic disparities that arise from gender inequality, the requirement that USAID policies be formulated through a gender analysis, and that USAID monitor women’s economic growth. The United States has supported efforts to work with partners, such as the UK, to increase equal access to quality education for girls and women. However, it has not worked with developing country governments to increase equal access to quality education with girls and women. Thus, the United States receives a score of 0.


Analyst: Alyssa Atef

European Union: +1

The European Union has fully complied with its commitment to work with partners, including developing country governments to increase access to quality education for girls and women.

On 3 September 2018, the EU provided EUR138 million to Africa’s Lake Chad region to fund humanitarian and developmental aid. Commissioner for International Cooperation and Development Neven Mimica stated that “[o]ur new funding will invest in social services, we will also boost some of our existing programmes in North East Nigeria by strengthening girls’ education and reintegration efforts.”

On 5 September 2018, High Representative of the EU for Foreign Affairs and Security Policy Federica Mogherini announced at the “Empowering Women in Afghanistan” conference in Astana, that the European Union will contribute EUR2 million to a program which will educate Afghan women in Kazakhstan. This program seek to empower women to join the workforce, and has been proven to be effective since three quarters of Afghan women who study in Kazakhstan come back to Afghanistan and find jobs.

On 20 September 2018, High Representative Mogherini joined together with world leaders including United Nations Secretary General António Guterres and UNICEF Executive Director Henrietta Fore to promote providing quality education for young people. High Representative Mogherini stated, “[l]et’s make sure that every young woman and man finds their place in society, through education, by 2030.”

On 26 November 2018, Head of the United Kingdom’s Department for International Development Philip Smith, spoke on behalf of the EU, Netherlands, Canada, and UK at the second African Girls Summit on Ending Child Marriage. Smith reaffirmed the development partners’ commitment to support educational opportunities for African girls and acknowledged the need to strengthen policy implementation, engage with local leaders, end child marriage and improve girl-centred sex education in African countries.

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On 6 December 2018, the EU mobilized EUR50 million towards structural reforms in Mali, which will increase funds for improving access to elementary education, specifically for girls.\(^{1308}\)

On 26 March 2019, the EU funded a education in emergencies programme in Aweil, South Sudan, which aims to “improve access to quality learning opportunities for 75,000 boys and girls.”\(^{1309}\)

On 10 May 2019, the EU signed a joint declaration with the G7 members to establish gender equality as a crucial global cause “at a time when two-thirds of the 774 million illiterate adults worldwide are women.”\(^{1310}\) All G7 members supported increased women and girls’ access to quality education agreeing that “[p]roviding safe and quality education is crucial.”\(^{1311}\)

On 26 June 2019, the EU provided EUR20 million towards an education project which will “provide quality education for boys and girls who have faced displacement” in Nigeria, in collaboration with Plan International Nigeria and Save the Children.\(^{1312}\) The Country Director of Plan International Nigeria, Hussaini Abdu stated that this project is “part of our commitment to support 100 million girls in Nigeria to learn,” which will reduce the illiteracy rate in Nigeria.\(^{1313}\)

The European Union has taken measures to work with developing countries such as Nigeria, Kazakhstan and Mali by allocating money for improving access to education for girls and women. The EU has also promoted equal access to quality education for girls and women with partners such as UNICEF and has stated support for educational opportunities for women and girls by seeking to end child marriage with partners such as the Netherlands, Canada and the UK to increase access to quality education for girls and women.

Thus, the European Union receives a score of +1.

*Analyst: Layal Hallal*


5. Environment

“[Canada, France, Germany, Italy, Japan, the United Kingdom and the European Union will promote the fight against climate change through collaborative partnerships and work with all relevant partners, in particular] the private sector [to identify and assess policy gaps, needs and best practices.]”

*G7 Charlevoix Leaders’ Communiqué*

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<th>Full Compliance</th>
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**Background**

Climate change has historically been a significant concern at G7 summits. The G7 first addressed the topic of climate change at the 1979 Tokyo Summit, where it focused on developing efficient and cleaner uses of energy.\(^{1314}\) More recently, the international community has recognized climate change as being a serious threat to international security.\(^{1315}\) This lead to the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) entering into force on 16 February 2005, and UN members agreeing on the most ambitious climate change agreement yet: the Paris Agreement in December 2015.\(^{1316}\)

At the 2016 Ise-Shima Summit, G7 leaders committed to take a leadership role in influencing Paris Agreement Parties to ratify, accept, or approve the Paris Agreement to be entered into force by 2016. At the 2017 Taormina Summit, G7 leaders reaffirmed the commitment made at the Ise-Shima Summit to “swiftly implement the Paris Agreement.”\(^{1317}\)

At the 2018 Charlevoix Summit, G7 leaders recognized that climate change is “no longer a distant threat,” and that the G7 must work to achieve a more “sustainable, resilient, low carbon future” by

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tackling climate change through a global approach.\textsuperscript{1318} Moreover, the leaders particularly emphasized the impact that pollutants and unsustainable practices are having on the oceans and how they are contributing to climate change.\textsuperscript{1319} For example, the communiqué identified that ocean warming, acidification, and sea level rises caused by marine pollution and overexploitation of marine life is causing significant harm to local communities (including small island developing states [SIDS]) in terms of health, employment, and food security.\textsuperscript{1320}

In 2017, the United States withdrew from the Paris Agreement and has maintained disagreements regarding the details of this commitment.\textsuperscript{1321} However, the United States stated that it “strongly supports healthy oceans, seas and resilient coastal communities” in the Charlevoix Blueprint for Healthy Oceans.\textsuperscript{1322}

Thus, the G7 leaders at Charlevoix, excluding the United States, committed to act “in line with previous G7 commitments” and implement sustainable environmental practices.\textsuperscript{1323}

**Commitment Features**

At Charlevoix, the G7 members (excluding the United States) agreed to promote the fight against climate change through collaborative partnerships and work with all relevant partners, in particular the private sector to identify and assess policy gaps, needs and best practices.”

This commitment contains two components: 1) promote the fight against climate change through collaborative partnerships, and 2) work with all relevant partners, in particular the private sector to identify and assess policy gaps, needs and best practices.” The first element regards only the promotion of the fight against climate change through collaborative partnerships. However, the second element indicates that G7 members must also work with relevant partners, in particular the private sector, to identify and assess policy gaps, needs and best practices regarding climate change policy. The communiqué implies that the G7 member must also act after identifying and assessing these points. It is possible for a G7 member to take action in one component but not the other.

**Part One: Promote the Fight against Climate Change through Collaborative Partnerships**

For a G7 member to “promote the fight against climate change through collaborative partnerships,” this may include, but is not limited to areas such as: “mobilizing and supporting collaborative government, industry, academia, citizen and youth-led initiatives.”\textsuperscript{1324}

“Promote” is defined as support or renew old efforts or create new efforts in the area; to contribute to growth or prosperity of, to help bring into being.

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\textsuperscript{1319} Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.

\textsuperscript{1320} Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.

\textsuperscript{1321} Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.

\textsuperscript{1322} Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.

\textsuperscript{1323} Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.

\textsuperscript{1324} Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.
“Collaborative partnerships” include: G7 members, different levels of government, “local, Indigenous, remote coastal and small island communities, … the private sector, international organizations and civil society.”1325

Part Two: Work with All Relevant Partners, in Particular the Private Sector to Identify and Assess Policy Gaps, Needs and Best Practices

For a G7 member to “identify and assess policy gaps, needs and best practices,” this may include, but is not limited to areas such as: encouraging development of coastal management strategies; rebuilding natural and physical infrastructure; advancing development and deployment of clean and resilient energy systems, including from renewable sources; advocating for and supporting nature-based solutions, such as the protection and rehabilitation of wetlands, mangrove forests, seagrass beds and coral reefs; working to increase capacity of SIDS, to generate and communicate effective early warnings of extreme weather and other geo-hazard related risks; mobilizing greater support for increasing financial resources available to build coastal resilience, particularly in developing countries; exploring new and innovative financing with national and international public and private sector partners; increasing the availability and sharing of science and data globally; supporting strategies to effectively protect and manage vulnerable areas of our oceans and resources; and moving towards a more resource efficient and sustainable management of plastics.1326

“Work with all relevant partners” include: G7 members, different levels of government, “local, Indigenous, remote coastal and small island communities, … the private sector, international organizations and civil society.”1327 However, there is a distinct focus on G7 members working with the private sector to identify and assess policy gaps, needs and best practices.1328

“Work with” implies the member is working with an agent and an action will take place.

Thus, to receive a score of full compliance, the G7 member must promote the fight against climate change through collaborative partnerships and work with all relevant partners, in particular the private sector to identify and assess policy gaps, needs, and best practices.

To receive a score of partial compliance, the G7 member must promote the fight against climate change through collaborative partnerships or work with all relevant partners, in particular the private sector to identify and assess policy gaps, needs, and best practices.

To receive a score of no compliance, the G7 member did not fulfil any components of the commitment.

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1325 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.
1326 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.
1327 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.
1328 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, G7 Information Centre (La Malbaie) 9 June 2018. http://www.g7.utoronto.ca/summit/2018charlevoix/oceans-blueprint.html.
Canada: +1

Canada has fully complied with its commitment to promote the fight against climate change through collaborative partnerships and by working with relevant partners, including the private sector to address policy gaps, needs and best practices regarding climate change policy.

On 11 October 2018, the Government of Canada and the Government of the Northwest Territories announced CAD30.4 million in funding to fight climate change.1329 Together the ministries of Environment and Climate Change, Infrastructure and Environment and Natural resources agreed on investing CAD23 million in programs that will support energy efficiency retrofits, renewable energy and forest regeneration.1330 This is in addition to the CAD7.4 million contributed by the Northwest Territories government.1331 The deal as part of the Low Carbon Economy Leadership Fund entails upgrading energy efficiency in public housing, maximizing forest growth and enhancing existing commercial energy initiatives.1332

On 8 November 2018, Canada announced intentions to support energy efficiency and climate action in Ontario.1333 In response to the province of Ontario backing out of the federal Low Carbon Economy Fund, Minister of Environment and Climate Change Catherine McKenna promised to

explore other initiatives for improving energy efficiency and reducing emissions within the
province. By refunneling the unused investments from the Carbon Leadership Fund, the
department of Environment will raise more awareness of pollution and counteract the extreme
climate conditions in Ontario including heatwaves and flooding.

On 13 December 2018, Canada welcomed five new members to the Powering Past Coal Alliance and
announced its support for phasing out coal usage domestically and internationally. Canada, along
with the United Kingdom, started the alliance with the aim to help countries phase out coal in a
sustainable way. Senegal, Israel, Scotland, and the cities of Melbourne and Sydney Australia and
gas and electricity company ScottishPower were introduced as latest members which will strive to
increase renewable energy alternatives. The press release also mentions that steps to reduce
reliance on coal have already begun in Canadian provinces such as Ontario with successful results.
These measures were implemented as part of the nation’s mission to have 90 per cent clean energy
by 2030. Further, Canada launched a joint effort with the business community, Just Transition
Task Force to ensure a smooth transition for coal workers. The Government of Canada also
“pledged up to CAD275 million to fund the Energy Transition and Coal Phase-Out Program … [which] will help developing countries in Asia to slow coal production, while scaling up energy
efficiency and low carbon energy alternatives.”

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1334 Government of Canada to support energy efficiency and climate action in Ontario, Environment and Climate

1335 Government of Canada to support energy efficiency and climate action in Ontario, Environment and Climate

1336 The Government of Canada welcomes new Powering Past Coal members and announces support for phasing out
coal at home and abroad, Environment and Climate Change Canada (Katowice) 13 December 2018. Access date: 19

1337 Coal phase-out: the Powering Past Coal Alliance, Environment and Climate Change Canada (Ottawa) 23 April 2018.
international-action/coal-phase-out.html?from=%40.

1338 The Government of Canada welcomes new Powering Past Coal members and announces support for phasing out
coal at home and abroad, Environment and Climate Change Canada (Katowice) 13 December 2018. Access date: 19

1339 The Government of Canada welcomes new Powering Past Coal members and announces support for phasing out
coal at home and abroad, Environment and Climate Change Canada (Katowice) 13 December 2018. Access date: 19

1340 The Government of Canada welcomes new Powering Past Coal members and announces support for phasing out
coal at home and abroad, Environment and Climate Change Canada (Katowice) 13 December 2018. Access date: 19

1341 World Bank, Canada, UK to Assist Countries in Transition from Coal; Accelerate Uptake of Cleaner Energy, The
On 15 December 2018, Minister McKenna made a statement affirming Canada’s support to the Paris Agreement.\textsuperscript{1343} She stated that “at United Nations Climate Change Conference (COP24), Canada and the United Kingdom celebrated the first anniversary of the Powering Past Coal Alliance which now has 80 members. We also pledged $275 million to the World Bank to help more countries around the world power past coal and move toward clean and renewable energy. Canada also played a leading role in laying the groundwork for a global carbon market, to help mobilize the billions of dollars of investments needed to tackle climate change.”\textsuperscript{1344}

On 18 December 2018, Minister McKenna signed an agreement on environmental cooperation between Canada, United States and Mexico.\textsuperscript{1345} The agreement strengthens cooperation between the three countries in matters of climate change and environmental sustainability, and also aims to modernize the existing environmental cooperation by building on their economic ties.\textsuperscript{1346} The proposed collaborated efforts include reducing pollution, conserving biodiversity and natural habitat, supporting clean growth and promoting sustainable development.\textsuperscript{1347} Minister McKenna said, “the Government of Canada is committed to bringing Canadian goods to international markets while maintaining our high standards of environmental protection.”\textsuperscript{1348}

On 6 May 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a warning about the state of nature during their first “Global Assessment Report on Biodiversity and Ecosystem Services” noting that “of the 8 million plant and animal species on Earth, one million are threatened with extinction.”\textsuperscript{1349} On the same day, the G7 Environment Ministers (including Canada) signed the Metz Charter on Biodiversity as a result of IPBES's report.\textsuperscript{1350} The charter focuses on three areas: “Increase efforts to combat biodiversity


erosion, encourage the participation of other actors and stakeholders, and support the development and implementation of a post-2020 global biodiversity framework.”

On 6 May 2019, Minister McKenna made a statement in support of fighting climate change at the G7 environment ministers meeting in France. The meeting allowed G7 ministers to reaffirm their commitment to ensuring a transition to a clean economy. Minister McKenna said “Canada is committed to protecting nature, tackling plastic pollution, advancing ambitious climate action, and helping adapt to a changing climate. The meeting of G7 environment ministers advanced these shared priorities and reinforced that a transition to a cleaner future must be inclusive and promote equality.”

On 10 May 2019, Minister of Crown-Indigenous Relations Carolyn Bennett announced that since the inception of the Northern Responsible Energy Approach for Community Heat and Electricity Program (Northern REACHE), the government has supported 85 environment projects worth CAD 13.9 million. This action is part of Canada’s commitment of CAD 700 million to help rural and remote communities replace diesel as a source for heating and electricity needs. It is expected that this move to renewable energy will support healthier and more sustainable Norther communities across Yukon, Nunavut, Nunavik and Nunatsiavut. Bennett said, “Indigenous communities are on the front line of climate change. They are committed to be part of solutions. It is impressive to see so many communities making meaningful progress transitioning to clean energy. These investments,

together with other federal programs, are helping communities reduce their reliance on imported diesel, resulting in less pollution, lower energy costs and a cleaner energy future for all.”

On 10 May 2019, Member of Parliament for Niagara Centre Vance Badaway, on behalf of the Minister of Natural Resources Amarjeet Sohi, announced the opening of a natural gas station in Fort Erie. The funding is part of the Canadian government’s initiative to develop a coast-to-coast network for electric vehicles, establish natural gas stations along key freight corridors and open hydrogen stations. It is expected that the station at Fort Erie, which serves as a major border crossing between the United States and Canada, will help ensure standards for low carbon vehicles and refuelling infrastructure for both countries.

On 17 May 2019, Parliamentary Secretary to the Minister of Natural Resources Paul Lefebvre announced an investment of CAD325,000 for a mining climate change adaptation project. The investment will be directed towards the Mining Association of Canada to fund research of new practices and training on climate change risks and adaptation measures. The plan is based on a vision to reduce the mining industry’s environmental footprint while still supplying the world’s mineral needs.

Canada has supported the fight climate change through domestic and international collaborative partnerships and has worked alongside partners, including the private sector such as the business community Just Transition Task Force, to identify and assess climate change needs and best methods to deal with them.

Thus, Canada receives a score of +1.

Analyst: Srijan Sahu

France: +1

France has fully complied with its commitment to promote the fight against climate change through collaborative partnerships and by working with all relevant partners, including the private sector to identify and assess policy gaps, needs and best practices regarding climate change policy.

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On 19 June 2018, France and Germany released the Meseberg Declaration asserting their “common ambition” regarding, among other issues, climate policy.1365 In the declaration, they agree “to set up a joint interministerial High Level Working Group on climate change to intensify cooperation… and build up common views on energy transition, … including carbon pricing issues.”1366

On 28 June 2018, France along with 13 other European Union members signed a declaration that would urge Europe to announce that it would advance its climate ambitions as, “early as the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24).”1367 The proposed upgrade of climate ambitions for France entails a pledge that would “go further than the 40 percent reduction in greenhouse gas emissions by 2030.”1368

On 26 September 2018, France entered into a Climate Finance Partnership with Germany, the Hewlett, Grantham and IKEA Foundations, and asset manager BlackRock.1369 This partnership was inspired by President Emmanuel Macron and will work to develop an investment vehicle aimed at improving climate infrastructure in emerging markets such as in Africa, Latin America and Asia through the cooperation of philanthropies, governments and private investors.1370

On 19 September 2018, France and the EU established an “initiative on climate and biodiversity to support adaptation to climate change in the Pacific.”1371 The initiative works to combat climate change by reducing the transaction costs of sustainable projects through the use of collective resources and increase participation between main donors in the region to work together towards common sustainable goals.1372 Further, France, the EU and New Zealand have established an agreement on “the setting up of a pooled funding mechanism, that would be managed by the French Development Agency (FDA), and open to other donors.”1373

On 9 October 2018, Minister for the Ecological and Inclusive Transition François de Rugy and Secretary of the State to the Minister for the Ecological and Inclusive Transition Brune Poirson,

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including other council of EU environment ministers set a “new goal for reducing new cars’ CO2 emissions by adopting a target of 35 percent reduction by 2030 compared to 2021.”\textsuperscript{1374} France has committed to a CO2 emissions reduction target of “40 percent by 2030 for all automobile manufacturers in their sales throughout the European Union.”\textsuperscript{1375} According to Poirson, the agreement allows for the reduction of emissions from Europe’s vehicles and will reduce drivers’ fuel bills.\textsuperscript{1376}

On 11 December 2018, Minister for the Ecological Inclusion and Inclusive Transition Brune Poirson announced an increase in funding for developing countries to help them deal with and fight climate change.\textsuperscript{1377} Further, France announced to “contribute to two UN funds to support the most vulnerable countries.”\textsuperscript{1378} EUR15 million is to be made available for climate adaptation for developing countries and EUR20 million is to be made available for the least developed countries.\textsuperscript{1379}

On 8 February 2019, France introduced a 2050 carbon neutral law that seeks to decrease the country’s greenhouse gas emissions by expanding the role of nuclear energy.\textsuperscript{1380} According to Minister for the Ecological Transition François de Rugy, “the new legislation would lead to an 87.5% cut in emissions compared to the original goal of 75%.”\textsuperscript{1381}

On 6 May 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a warning about the state of nature during their first “Global Assessment Report on Biodiversity and Ecosystem Services” noting that “of the 8 million plant and animal species on Earth, one million are threatened with extinction.”\textsuperscript{1382} On the same day, the G7 Environment Ministers (including France) signed the Metz Charter on Biodiversity as a result of IPBES’s report.\textsuperscript{1383} The charter focuses on three areas: “Increase efforts to combat biodiversity erosion, encourage the participation of other actors and stakeholders, and support the development and implementation of a post-2020 global biodiversity framework.”\textsuperscript{1384}

France has supported the fight against climate change through partnerships with other countries such as Germany and other EU member states and has partnered with the private sector, including the Hewlett, Grantha and Ikea Foundations, asset manager BlackRock and fashion industry leader, Kering, to identify and assess policy gaps, needs and best practices regarding climate change policy.

Thus, France receives a score of +1.

**Germany: +1**

Germany has fully complied with its commitment to promote the fight against climate change through collaborative partnerships and by working with all relevant partners, including the private sector to identify and assess policy gaps, needs and best practices regarding climate change policy.

On 19 June 2018, Germany and France released the Meseberg Declaration asserting their “common ambition” regarding, among other issues, climate policy. In the Declaration, they agree “to set up a joint interministerial High Level Working Group on climate change to intensify cooperation… and build up common views on energy transition, … including carbon pricing issues.”

On 19 June 2018, Chancellor Angela Merkel affirmed that the federal government is committed to tackling climate change through the Paris Agreement. Merkel stated, “We in Germany must admit that we need to improve again,” and for this to be accomplished, the German government has planned to speed up the phasing out of power generation from coal.

On 14 August 2018, the German government allocated EUR130 million to a project erected by Federal Minister for the Environment Svenja Schulze, and Federal Transport Minister Andreas Scheuer, that will improve air quality by “making local public transport more attractive” and reduce nitrogen oxide levels. The towns that will be introducing these projects include Bonn, Essen, Mannheim, Reutlingen and Herrenberg. Bonn and Reutlingen will be introducing options for public transportation such as a “365 euro ticket” and the “climate ticket” to “make local public transport more attractive.”

On 26 September 2018, Germany entered into a Climate Finance Partnership with France, the Hewlett, Grantham and IKEA Foundations, and asset manager BlackRock. This partnership will work to develop an investment vehicle aimed at improving climate infrastructure in emerging countries.

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On 16 November 2018, the German government introduced various projects to improve nitrogen oxide levels, including giving EUR1 billion to the “Cleaner Air” program that was launched in November 2017.\footnote{Diesel – an overview: Clear air without driving bans, German Federal Government (Berlin) 16 November 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/news/clear-air-without-driving-bans-1551710.}

On 28 November 2018, the Federal Government announced that “as of 1 January 2019, there will be new assistance available to local authorities and actors at municipal level to help them implement climate change mitigation measures.”\footnote{The National Climate Initiative turns ten: Adapting to climate change, German Federal Government (Berlin) 28 November 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/news/adapting-to-climate-change-1555856.}

On 3 December 2018, Merkel met with representatives of local authorities in Berlin to discuss an increase of EUR500 million to the “Cleaner Air” program.\footnote{Summit with local authorities to discuss Cleaner Air Programme: Another 500 million euros for clean air, German Federal Government (Berlin) 3 December 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/news/adapting-to-climate-change-1555856.} The focus of this meeting was to approach the rising nitrogen oxide levels without having to put driving bands into effect.\footnote{Summit with local authorities to discuss Cleaner Air Programme: Another 500 million euros for clean air, German Federal Government (Berlin) 3 December 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/news/adapting-to-climate-change-1555856.} Additionally, Merkel addressed the recent amendments to the Federal Immission Control Act and how it will be beneficial for improving air quality in Germany.\footnote{Summit with local authorities to discuss Cleaner Air Programme: Another 500 million euros for clean air, German Federal Government (Berlin) 3 December 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/news/adapting-to-climate-change-1555856.}

On 1 December 2018, the G20 members, including Germany agreed that climate change is a global issue, reaffirming, except for the United States, full cooperation and execution of the Paris Agreement.\footnote{G20 summit in Buenos Aires: Key results, German Federal Government (Berlin) 3 December 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/news/key-results-1557392.}

On 3-14 December 2018, the United Nations held the annual Climate Change Conference in Katowice, Poland, where “the international community … agreed on concrete steps to implement the 2015 Paris Agreement.\footnote{24th International Climate Change Conference in the Polish city of Katowice: Concrete steps agreed, German Federal Government (Berlin) 16 December 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/chancellor/concrete-steps-agreed-1563250.} Steps included, combat rising carbon dioxide levels by implementing “harmonized standards” and “transparency regulations,” USD100 billion is to be sent to the “global South” by industrialized states for “the fight against climate change, and it is required that participating members provide an update on their funding every other year in order to allow countries in need of assistance the opportunity to plan their funding.”\footnote{24th International Climate Change Conference in the Polish city of Katowice: Concrete steps agreed, German Federal Government (Berlin) 16 December 2018. Access Date: 18 December 2018. https://www.bundesregierung.de/breg-en/chancellor/concrete-steps-agreed-1563250.} The Federal Development
Ministry and the Federal Environment Ministry of Germany have announced that the German government will further contribute by committing an additional EUR68 million to the to support emerging economies and developing countries tackle climate change.1402

On 10-15 December 2018, at 24th Conference of the Parties to the United Nations Climate Change Conference in Katowice, the German Development Ministry and the German Environment Ministry pledged to provide EUR68 million to support the global partnership, particularly for the purpose of helping emerging economies and developing countries adapt to climate change.1403 EUR48 million is to come from the budget of the German Development Ministry and EUR20 million is to come from the Federal Environment Ministry.1404 Federal Environment Minister Svenja Schulze further pledged that the Federal Environment Ministry would provide an additional EUR70 million for the Adaptation Fund stating that, “our support for the fund is a sign of our solidarity. The people who suffer most under climate change are those who have done the least to cause it.”1405

On 7 March 2019, the German government opened a call for project ideas from different sectors for the European Climate Initiative (a financing instrument of the German government to foster cross-border climate dialogue, information sharing and an exchange of experience within the European Union).1406 This was done in effort to encourage European countries and European stakeholders to work together on implementing the Paris Agreement on climate change and “to foster a knowledge transfer and the sharing of good practices in the field of climate action.”1407

On 9 April 2019, Minister of Foreign Affairs Heiko Maas called for more international cooperation in the fight against climate change.1408 He stated that “climate policy has long ceased to be only [an] environmental policy [until] the #fridays for future [made it] a social policy issue.”1409

On 6 May 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a warning about the state of nature during their first “Global Assessment Report on Biodiversity and Ecosystem Services” noting that “of the 8 million plant and animal species on Earth, one million are threatened with extinction.”1410 On the same day, the G7 Environment Ministers (including Germany) signed the Metz Charter on Biodiversity as a result of IPBES’s report.1411 The charter focuses on three areas: “Increase efforts to combat biodiversity

erosion, encourage the participation of other actors and stakeholders, and support the development and implementation of a post-2020 global biodiversity framework.”

On 14 May 2019, Chancellor Merkel presented a speech at the 10th Petersberg Climate Dialogue in Berlin. She stated “climate protection and resilience cost money, and poorer countries do not have enough. The industrialized countries therefore pledged to provide USD100 billion annually for these states from 2020. Speaking for Germany, I can only reiterate that we stand by this goal, we stand by the sum of USD100 billion, and we will double our public spending on climate financing by 2020.”

On 16 May 2019, the German Government issued informational material that Chancellor Merkel stated that Germany and the Dutch Netherlands are to undergo government consultations in October 2019 regarding climate change. Specifically, these consultations will be looking at climate targets for 2030 and how they can be achieved as well as how to attain climate neutrality by 2050.

Germany has promoted the fight against climate change through collaborative partnerships with domestic and international partners, and including with the private sector (the Hewlett, Grantham and Ikea Foundations and asset manager BlackRock) to identify and assess policy gaps, needs and best practices regarding climate change policy.

Thus, Germany has been given a score of +1.

*Analyst: Aaron Kivell*

### Italy: 0

Italy has partially complied with its commitment to promote the fight against climate change through collaborative partnerships and by work with relevant partners, including the private sector to address policy gaps, needs and best practices regarding climate change policy.

On 10 July 2018, the Italian Environmental Institute for Environmental Research and Protection partnered with the Food and Agriculture Organization (FAO) along with three Italian research institutes: The National Research Council, the Council for Agricultural Research and Economics and the National Agency for New Technologies, Energy and Sustainable Economic Development to enhance “sustainable food production and nutrition in developing countries.” FAO Deputy Director General and Natural Resources Coordinator Maria Helena Semedo said, “The world is facing unprecedented global challenges that affect the long-term sustainability of food and agriculture systems, impacting global food security and the livelihoods of millions of family farmers.

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worldwide.”

On 25 September 2018, the Minister for the Environment, Land and Sea Sergio Costa and the United Arab Emirates Minister of Climate Change and Environment Thani bin Ahmed Al Zevoudi signed a memorandum “on the sidelines of the United Nations General Assembly” for the improvement of cooperation between the two countries in the field of sustainable development and climate action.

On 24 October 2018, Italy held a workshop to increase “public awareness, engagement and cooperation to safeguard the planet.” Delegates from the Government of Italy, the Ministry for the Environment, Land and Sea and UN Climate Change spent three days in La Spezia “taking stock, sharing experiences and brainstorming on how best to inspire Action for Climate Empowerment (ACE).” At the ACE workshop, they covered topics of “education, training, public awareness, public participation, public access to information and international cooperation on climate action.”

On 2 December 2018, Italy and Zambia signed a memorandum of understanding (MoU), entering into a cooperative alliance to combat climate change. Minister of the Environment, Land and Sea Sergio Costa and Zambian Minister of National Development Planning Alexander Chiteme signed the MoU in Rome, Italy. The MoU seeks to enhance cooperation between Italy and Zambia in reducing climate change vulnerability by “enhancing risk assessment and implementation of various adaptation and mitigation measures.” The agreement promotes the participation of the private sector and implementation of public-private partnerships in tackling climate change. Italy has secured a fund of EUR2 million to help bring the MoU into effect through the preparation of project documents to be submitted to funding agencies to help Zambia fulfill its commitments made under the MoU, entering cooperation/towards a sustainable food system and achieve Zero Hunger by 2030.
the United Nations Framework Convention on Climate Change. Such agencies include, “the European Commission, United Nations agencies, the World Bank Group, and other multilateral agencies.”

On 28 January 2019, the Government of Italy alongside the UN Development Programme (UNDP) and the FAO launched The Centre, “a response to a declaration endorsed by the G7 meeting of the Environment Ministers in 2017 to help African countries access resources that support policies, initiatives, and best practices on climate change.” The government of Italy created a trust fund for The Centre, which supports African countries in “accessing international funds for initiatives and enhancing the involvement of resources from the private sectors in programmes.”

On 6 May 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a warning about the state of nature during their first “Global Assessment Report on Biodiversity and Ecosystem Services” noting that “of the 8 million plant and animal species on Earth, one million are threatened with extinction.” On the same day, the G7 Environment Ministers (including Italy) signed the Metz Charter on Biodiversity as a result of IPBES’s report. The charter focuses on three areas: “Increase efforts to combat biodiversity erosion, encouraged the participation of other actors and stakeholders, and support the development and implementation of a post-2020 global biodiversity framework.”

Italy has promoted the fight climate change through collaborative partnerships with national research institutes and international collaborative partnerships (such as with the United Arab Emirates and African countries). Italy has also worked with the UNDP and FAO to help African countries access funds for climate change initiatives. However, it has not worked with all relevant partners, in particular the private sector to identify and assess policy gaps, needs and best practices regarding climate change policy.

Thus, Italy receives a score of 0.

Analyst: Kaylee Smith

Japan: +1

Japan has fully complied with its commitment to promote the fight against climate change through collaborative partnerships and by working with relevant partners, including the private sector to address policy gaps, needs, and best practices regarding climate change policy.

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On 15 June 2018, Prime Minister Shinzo Abe held the fifth meeting of the Sustainable Development Goals (SDGs) Promotion Headquarters at the Prime Minister’s Office. Among other initiatives, Prime Minister Shinzo Abe noted that a long-term strategy to deal with climate change would be formulated by Spring 2019 along with the promotion of green business.

On 12 July 2018, the Ministry of Foreign Affairs held the International Conference on Climate Change and Fragility in the Asia-Pacific Region in Tokyo. More than 130 attendees including corporate executives, professionals, experts and government officials participated in the conference and engaged in discussion on the challenges posed by climate change and sustainable development.

On 17 July 2018, Japan and the European Union signed the Japan-EU Economic Partnership Agreement. This agreement included a chapter on trade and sustainable development including environmental protection and seeks to fulfil the Paris Agreement.

On 19 July 2018, the Ministry of the Environment of Japan (MOE) released its report on the 16th Workshop on Greenhouse Gas Inventories in Asia. The MOE and the National Institute for Environmental Studies together with the Ministry of Environment, Forest, and Climate Change of India, held the workshop from 10 July to 13 July in New Delhi to support non-Annex I countries in Asia to improve the accuracy of their greenhouse gas inventories and “facilitate the enhancement of cooperative relationships in Asia.”

On 3 August 2018, Prime Minister Abe held the first meeting on a Long-Term Strategy under the Paris Agreement as Growth Strategy at the Prime Minister’s Office. In the opening address, Abe noted that measures against global warming were no longer a source of extra cost for companies, but rather a source of beneficial competition between companies, a “virtuous cycle” between environment and growth. He also said, “We will promote technological innovations led by businesses by proactively encouraging this virtuous cycle. Up until now, measures against global

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warming have consisted of obligatory measures in response to the Government’s initiatives. We now need a massive paradigm shift in response to the changes of this era. Japan needs to have a mindset to materialize strong growth of our country by making full use of the strengths of Japanese companies and generating innovation, rather than simply extending existing businesses.”

On 23 August 2018, State Minister Kazuyuki Nakane participated in a symposium concerning 100 per cent renewable energy initiatives at Chiba University. Panel discussions with the participation of business representatives, university personnel and local government discussed the realization of 100 per cent renewable energy in local businesses.

On 12 September 2018, the Government of Japan endorsed the goals of the Under2 Coalition, a global community of sub-national governments publicly committed to address climate change. The government welcomed the recent activities of the Under2 Coalition and hoped that non-state actors including municipalities would take climate action more actively while recommitting to cooperation with non-state actors in implementing the Paris Agreement and promoting climate diplomacy.

On 1 October 2018, Japan Climate Initiative (JCI) called Foreign Minister Taro Kono to discuss climate change and growth. Kono stated his hope that the government and non-state actors would interact with each other in a constructive manner to strengthen Japan’s response to climate change while the JCI members encouraged further action from the government on climate change.

On 5 October 2018, the MOE, Japan International Cooperation Agency, United Nations Environment Programme, UN-HABITAT and the City of Yokohama hosted the Tokyo International Conference on African Development (TICAD) Ministerial Meeting Side Event on African Clean Cities Platform, attended by approximately 150 persons from African governments. The participants discussed the “African Clean Cities Platform” and shared views on reaching desired outcomes regarding waste management and other environmental issues. Bilateral talks between State Minister of the Environment Kiuchi Minoru and Republic of Mozambique Minister for Foreign Affairs and Cooperation José Condugua António Pacheco discussed cooperation in waste management and preparations for TICAD7 to be held in Yokohama in 2019.

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On 18-19 October 2018, Prime Minister Abe attended the 12 Asia-Europe Meeting Summit Meeting in Brussels, Belgium, and discussed topics including climate change, plastic litter in the oceans, and sustainable growth.\textsuperscript{1456} All participants, including Japan, reaffirmed their strong commitment to the Paris Agreement and their commitment to the full implementation of the 2030 agenda for sustainable development.\textsuperscript{1457}

On 29 October 2018, the Japan Aerospace Exploration Agency (JAXA) (which is administered by the Ministry of Education, Culture, Sports, Science and Technology and The Ministry of Internal Affairs and Communications) launched two satellites, one of its own and one developed by the United Arab Emirates (UAE).\textsuperscript{1458} JAXA’s craft is designed to measure greenhouse gasses responsible for climate change, while the UAE’s satellite is designed to assist with monitoring the environment among other roles.\textsuperscript{1459}

On 30 October 2018, the MOE published “Disaster Waste Management Guideline for Asia and the Pacific” for use by Asian and Pacific national and local government authorities based on Japanese experience in disaster relief.\textsuperscript{1460}

On 1 December 2018, at the closing ceremonies of the G20 summit in Buenos Aires, Argentina, Prime Minister Abe spoke about, among other topics, Japan’s role in combating climate change.\textsuperscript{1461} Abe said that at the G20 Osaka Summit planned for June 2019, he would set a goal to “materialize a free, open, and inclusive and sustainable future society and promote efforts to this end, through our development efforts centred on the Sustainable Development Goals and contributions to addressing global issues” and that “it is necessary for us to actively incorporate private investments in these fields and create a virtuous cycle for the environment and growth, rather than seeing it as two choices between environmental conservation and economic growth.”\textsuperscript{1462}

On 2 December 2018, at the G20 summit in Buenos Aires, all 20 group members including Japan signed a joint statement saying 19 of the 20, all but the United States, reaffirmed their commitment to the Paris Agreement.\textsuperscript{1463}

On 19 December 2018, Foreign Minister Taro Kono received a courtesy call from Japan Climate Leader’s Partnership.\textsuperscript{1464} Both parties discussed recommendations issued by the partnership and


\textsuperscript{1464} G-20 agrees on trade, migration, US goes own way on climate, The Mainichi (Tokyo) 2 December 2018. Access Date: 10 January 2019. https://mainichi.jp/english/articles/20181202/p2g/00m/0bu/009000c.
Kono’s hope that it would take a leading role in improving the international competitiveness of Japanese business through promotion of climate change measures. Partnership members stated that they will continue to actively address climate change measures.

On 21 December 2018, Prime Minister Abe led the sixth meeting of the SDGs Promotion Headquarters at the Prime Minister’s Office. He commented on the SDGs Action Plan 2019, suggesting the future promotion of SDGs to small and medium sized enterprises, the creation of a sound material-cycle society through the introduction of countermeasures for plastic waste in oceans, and a recommitment to world leadership in combating climate change through both the promotion of SDGs to the international community and Japan’s presidency of the G20 in 2019.

On 21 February 2019, the MOE hosted an international symposium on carbon capture utilization and storage (CCUS) in Tokyo. Minister for the Environment Yoshiaki Harada delivered a speech “emphasising the urgency of rapidly deploying CCUS to reduce carbon dioxide emissions, and [stated] his expectation that private and public sector entities work together to achieve this goal which is necessary to meet climate targets.”

On 4 March 2019, Japan and the United Nations Environment Programme (UNEP) announced a joint effort aimed at boosting knowledge and developing countermeasures against marine plastic litter in Southeast Asia and India. The Japanese government has provided JPY123 million in support of this initiative.

On 6 March 2019, Abe received the Joint Statement by Science20 (S20) in Tokyo. Prime Minister Abe said, “As you mentioned in the joint statement, innovation is vital toward resolving global issues..."
such as plastic waste in the oceans and climate change... As the chair of G20, I will also work together with President Macron of France, who is the chair of G7.\footnote{Joint Statement by Science20, Prime Minister of Japan and His Cabinet (Tokyo) 6 May 2019. Access Date: 29 May 2019. http://japan.kantei.go.jp/98_abe/actions/201903/_00008.html.}

On 15 March 2019, Prime Minister Abe gave closing remarks at the Business 20 (B20) Summit in Tokyo.\footnote{Closing Session of the B20 Summit, Prime Minister of Japan and His Cabinet (Tokyo) 15 March 2019. Access Date: 28 May 2019. http://japan.kantei.go.jp/98_abe/actions/201903/_00027.html.} Prime Minister Abe commented, “It is also crucial to create a virtuous cycle between environmental protection and growth by expanding investments in this field. We must combine forces to accelerate innovations such as technologies making full use of CO2 as a resource material. By doing so, we will make significant progress towards the resolution of climate change.”\footnote{MOEJ releases "Practical guide for Scenario Analysis in line with Task Force on Climate-related Financial Disclosures (TCFD) recommendations", Ministry of the Environment (Tokyo) 19 March 2019. Access Date: 27 May 2019. http://www.env.go.jp/en/headline/2396.html.}


On 11-12 May 2019, Japan hosted the G20 Niigata Agriculture Ministers’ Meeting at Toki Messe in Niigata and issued the G20 Agriculture Ministers’ Declaration 2019.\footnote{49th Session of the IPCC, IISD (Winnipeg) 13 May 2019. Access Date: 29 May 2019. https://www.ipcc.ch/event/49th-session-of-the-ipcc/.} The declaration stated, “As Ministers of Agriculture, we reaffirm our support for the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs) as the global framework for sustainable development

to advance progress towards more sustainable agro-food sectors … We will also work to maximize the role of agriculture in mitigating and adapting to climate change.”

On 13-15 May 2019, the Ministry of Agriculture, Forestry and Fisheries hosted a public symposium titled “Agriculture is the Solution! for Climate Change” in Otsu City. This event included speakers from the private sector and international organizations.

On 21 May 2019, State Minister for Foreign Affairs Toshiko Abe received a courtesy call by Executive Director of the Green Climate Fund (GCF) Yannick Glemarec. Minister Abe noted the increasingly important role the GCF would play in fulfilling the Paris Agreement and asked to strengthen partnerships with Japanese companies.

On 10-12 June 2019, MOFA held the third meeting of the 2019 G20 Climate Sustainability Working Group in Yokohama City. G20 members and International Organizations’ representatives participated in the meeting and engaged in active discussion on various subjects related to climate change including topics such as “Effective Climate Change Measures in Urban Area and Challenges” and “Utilizing Scientific Knowledge in Addressing Climate Change.”

On 11 June 2019, the Cabinet of Japan released “Outlines of Japan’s Long-Term Strategy under the Paris Agreement.” The outline included a proclamation of Japan’s intent to become a “decarbonized society” as early as possible in the latter half of the century, reduce greenhouse gas emissions by 80 per cent by 2050, and the promotion of green innovation, green finance, and the business-led promotion of international cooperation and application.

On 15-16 June 2019, Minister of the Environment Yoshiaki Harada and Minister of Economy, Trade and Industry Hiroshige Seko co-chaired the G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth. Ministers and Representatives of G20 members exchanged views on key themes including “Accelerating the Virtuous Cycle of Environmental Protection and Economic Growth by Innovation,” “Marine Plastic Litter” and “Adaptation and

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Resilient Infrastructure including Ecosystem-based approaches.”\textsuperscript{1495} At the end of this ministerial meeting, “the G20 leaders adopted the official communiqué and other annexed documents.”\textsuperscript{1496}

On 16 June 2019, the MOE held the launching ceremony of the Asia-Pacific Climate Change Adaptation Information Platform at Karuizawa, Nagano Prefecture.\textsuperscript{1497} At the ceremony, the MOE stated its support for “promotion of adaptation among global, sub-regional, national and sub-national governments in Asia and the Pacific region in cooperation with the related countries and organizations as its partners.”\textsuperscript{1498}

The Government of Japan has worked with both foreign governments and aspects of the private sector through participation in international climate conferences and the promotion of green initiatives. The Government of Japan's continued discussions with non-state actors, local governments, and other governments concerning climate change strategies along with continued involvement with UN and G20 climate conferences sees Japan’s commitment fulfilled in promoting the fight against climate change through collaborative partnerships and working with the private sector and relevant partners to identify and assess policy gaps, needs, and best practices.

Thus, Japan receives a score of +1.

\textit{Analyst: Joseph Fonseca}

**United Kingdom: +1**

The United Kingdom has fully complied with its commitment to promote the fight against climate change through collaborative partnerships and by working with relevant partners, including the private sector to address policy gaps, needs and best practices regarding climate change policy.

On 23 November 2018, the Environment Agency announced that GBP2.2 million collected by enforcement agencies would be contributed to charities and initiatives that benefit the environment.\textsuperscript{1499} Enforcement undertakings with unlawful business practices led to a decision to redistribute the funds from fine payments.\textsuperscript{1500} Companies and individuals that had committed environmental regulation offences amounted to GBP2,223,121.54.\textsuperscript{1501} According to Environment Agency Director of Legal Services Peter Kellet, the action is proof that the government considers...
environmental incidents seriously and the funds contributed to charities will help them carry out vital projects to improve the environment across the country.\textsuperscript{1502}

On 26 November, the Environment Agency Chair Emma Howard Boyd called for businesses to pay more attention to recent climate change trends.\textsuperscript{1503} She encouraged businesses to make extreme weather conditions a priority in business planning and to assign emergency funds in case of floods or heatwaves.\textsuperscript{1504} In her report, she stressed on climate problems becoming more recurrent and included suggestions on infrastructure requirements to deal with leakage and flooding.\textsuperscript{1505}

On 13 December 2018, the UK welcomed five new members to the Powering Past Coal Alliance and announced its support for phasing out coal usage domestically and internationally.\textsuperscript{1506} The UK along with Canada, started the alliance with the aim to help countries phase out coal in a sustainable way.\textsuperscript{1507} Senegal, Israel and Scotland, the cities of Melbourne and Sydney Australia and gas and electricity company ScottishPower were introduced as latest members which will strive to increase renewable energy alternatives.\textsuperscript{1508} The UK also “pledged GBP20 million to the World Bank’s Energy Sector Management Assistance Program [which helps] low- and middle-income countries implement environmentally sustainable energy solutions.”\textsuperscript{1509}

On 13 December 2018, Energy and Clean Growth Minister Claire Perry, announced the goal to become the world’s first “net-zero carbon cluster” and promised GBP170 million in clean energy funding during the United Nations Climate Change Conference.\textsuperscript{1510} The plan involves implementing


carbon capture and storage technologies to eliminate carbon emissions by 2030. The GBP170 million investment is targeted towards steel, ceramics, cement and chemical industries to encourage innovation of low-carbon solutions and transition to a cleaner economy.

On 18 December 2018, the UK introduced a new policy that requires manufacturers and businesses to pay full net costs for recycling and disposal of packaging waste. The new act, unveiled by Environment Secretary Michael Gove overhauls the previous waste system and aims to hold accountable, those responsible for producing damaging waste. This is a major bump from existing regulations that allow for manufacturers to pay only ten percent of recycling cost. It is intended to stress the importance of recycling materials and lessen the nation-wide reliance on plastics. In addition, the government announced a GBP8 million funding for research into making new and different forms of recyclable plastics.

On 18 December 2018, the UK confirmed an investment of GBP100 million for renewable energy projects in Africa during the UN Climate Change Conference in Poland. The investment, divided over the next five years will provide small-scale energy developers of solar, wind, hydro and geothermal energy the ability to unlock natural resources of their respective nations. The funding is part of the UK's commitment to invest GBP5.8 billion in international climate finance by 2020 and is expected to provide hundreds of thousands of people with electricity for the first time.

On 19 December 2018, Environment Secretary Michael Gove submitted a proposal for new environmental protection legislation. The proposed laws are part of a larger environment bill set to be introduced in 2019. The various clauses which range from improving air quality and protecting landscapes, wildlife and habitat, to reducing waste and managing scarce natural resources will set the precedent for future UK environmental regulation following the exit from the European

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On 21 March 2019, Chair of the Environment Agency and UK Commissioner to the Global Commission on Adaptation Emma Howard Boyd addressed the European Bank for Reconstruction and Development in support of climate resilience. Boyd voiced two concerns during her speech: first that emissions are not reducing fast enough and second businesses are not sufficiently prepared for weather impacts resulting from climate change. She called on businesses and investors to be more considerate of the environmental impact of their actions and emphasized the initiatives taken by the Global Commission on Adaptation. Furthermore, she added that the UK wants to deliver a systemic shift in investment, with USD 6 trillion per year to be invested till 2030 to make investment decisions respond to climate risk. Boyd also mentioned that the UK has committed to publish its first Green Finance Strategy, setting out the steps they are taking to attract investment in a clean and resilient economy.

On 17 April 2019, the Environment Agency announced a new set of supplier arrangements and partnerships to increase efficiency of their GBP 2.6 billion investment in Flood and Coastal Risk Management. The investment aims to better protect 300 thousand homes from coastal erosion and flooding. The new arrangements or Next Generation Supplier Arrangements, which is effective April 2019, have been developed with the help of leading infrastructure providers from public and private sectors. Toby Willison, the Executive Director of Operations at the Environment Agency said, “The new arrangements are also a major step forwards for delivering low carbon solutions for projects which will help the EA work towards the Government’s commitment to reduce carbon emissions by 80% by 2050.”

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On 24 April 2019, Commissioner Boyd delivered a speech at Middlesex University emphasizing the need for environment protection.154 On her speech, she voiced support for various waste organizations and highlighted the achievements of the Environment Agency in reducing waste and negligent use of resources.155 While encouraging citizens and private businesses to consider their environmental impact, Minister Boyd informed of the government’s 25-year Environment Plan to eliminate plastic waste by 2042.156

On 6 May 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a warning about the state of nature during their first “Global Assessment Report on Biodiversity and Ecosystem Services” noting that “of the 8 million plant and animal species on Earth, one million are threatened with extinction.”157 On the same day, the G7 environment ministers (including the UK) signed the Metz Charter on Biodiversity as a result of IPBES’s report.158 The charter focuses on three areas: “Increase efforts to combat biodiversity erosion, encourage the participation of other actors and stakeholders, and support the development and implementation of a post-2020 global biodiversity framework.”159

On 9 May 2019, Commissioner Boyd announced the launch of a long-term strategy to tackle flooding and coastal change.160 The new strategy accounts for a 4°C rise in global temperature and will develop new standards of flood resilience for communities.161 It also includes a GBP1 billion per year investment towards coastal defences and will make all infrastructure resilient to flooding by 2050.162 The final proposal will be released in winter 2019 after several rounds of consultation with various interest groups.163 In support of the strategy, Commissioner Boyd said, “We can’t win a war against water by building away climate change with infinitely high flood defences. We need to...
develop consistent standards for flood and coastal resilience in England that help communities better understand their risk and give them more control about how to adapt and respond.”

The United Kingdom has supported efforts to fight climate change through collaborative partnerships such as with partner countries and has worked with relevant private sector partners such as the business community to identify and assess the climate change needs and best methods to deal with them.

Thus, the United Kingdom receives a score of +1.

*Analyst: Srijan Sahu*

**United States: Not applicable**
The United States was not included in this commitment.

**European Union: +1**
The European Union has fully complied with its commitment to promote the fight against climate change through collaborative partnerships and by working with relevant partners, including the private sector to address policy gaps, needs and best practices regarding climate change policy.

On 20 June 2018, the EU reaffirmed its commitment to protect the world’s oceans and seas by agreeing to the United Nation’s Oceans Roadmap 2.0. In working with UN Environment, the European Commission prioritizes issues of marine pollution and litter. The newly enhanced cooperation will look to land based sources to combat pollution, collaborate with maritime authorities, create ideas to support marine ecosystems and achieve sustainable development goals.

On 25 June 2018, 14 EU ministers met in Luxembourg for an EU Environmental Council meeting to discuss global climate leadership. The ministers “issued a common statement on the EU’s long-term strategy and climate ambition” and emphasized that “the EU must … create ‘positive momentum’ among all Parties to the Paris Agreement on climate change to raise global ambition.”

The ministers also noted that the long-term strategy should “provide direction European climate action and predictability for local governments, households, the private sector and financial

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institutions, enabling them to channel resources towards low-emission and climate-resilient
development.”

On 17 July 2018, the EU and Japan signed the Japan-EU Economic Partnership Agreement. This agreement included a chapter on trade and sustainable development including environmental protection and seeks to fulfil the Paris Agreement.

On 19 September 2018, the EU and France established an “initiative on climate and biodiversity to support adaptation to climate change in the Pacific.” The initiative works to combat climate change by reducing the transaction costs of sustainable projects through the use of collective resources and increase participation between main donors in the region to work together towards common sustainable goals. Further, France, the EU and New Zealand have established an agreement on “the setting up of a pooled funding mechanism, that would be managed by the French Development Agency (FDA), and open to other donors.”

On 27 September 2018, the European Commission approved funding worth EUR3.5 billion for Belgian plans to support three offshore windfarms. The Mermaid (235 MW), Seastar (252 MW) and Northwestern2 (219 MW) windfarm projects, located in territorial waters of Belgium, are expected to increase the share of electricity produced from renewable sources in the nation, reduce pollution and aid in meeting Belgium’s 2020 energy targets. The funding was approved under the EU state aid regulations.

On 19 October 2018, the European Commission loaned EUR60 million to the Portuguese company Windplus to finance its installation of a floating wind farm. The wind farm, a first of its kind is to be located 20km off the coast of Northern Portugal and will include three wind turbines that

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On 26 October 2018, the European Commission announced that it would join forces with international partners to launch aquariums to fight plastic pollution by having the aquariums serve as a venue for permanent activities to raise awareness about plastic pollution.\footnote{LIFE Programme: Member States to benefit form quarter of billion euros of investments in environment, nature and climate action, European Commission (Brussels) 25 October 2018. Access date: 20 December 2018. \url{http://europa.eu/rapid/press-release_IP-18-6162_en.htm}.} As a result of the association, the aquariums will undergo changes to their procurement policies such as discarding of single use plastic items.\footnote{LIFE Programme: Member States to benefit form quarter of billion euros of investments in environment, nature and climate action, European Commission (Brussels) 25 October 2018. Access date: 20 December 2018. \url{http://europa.eu/rapid/press-release_IP-18-6162_en.htm}.} The EU Commissioner for Environment, Maritime Affairs and Fisheries Karmenu Vella, said, “Aquariums are a window to our ocean. With their collections and their educational programmes, they show us what we need to protect, and they inspire the ocean lovers of...
tomorrow. Millions of people visit aquariums around the world every year. This will mobilize them to rethink the way we use plastic.”\textsuperscript{1572} The action aligns with the G7 members’ campaign against plastic.\textsuperscript{1573}

On 3-14 December 2018, the United Nations held the annual Climate Change Conference in Katowice, Poland, where "the international community … agreed on concrete steps to implement the 2015 Paris Agreement.\textsuperscript{1574} From the conference, it was announced that “the EU… and a number of threatened island states, have announced that they will be taking additional steps to raise their climate targets.”\textsuperscript{1575}

On 11 December 2018, the EU pledged EUR10 million to the United Nation’s Adaptation Fund.\textsuperscript{1576} This contribution along with previous year’s EUR20.4 billion investment makes the EU the largest provider of public climate finance to developing countries.\textsuperscript{1577} The Adaptation Fund, which was set up in accordance to the Kyoto Protocol, finances programmes that helps vulnerable communities affected by natural catastrophes and developing countries adapt to climate change.\textsuperscript{1578}

On 11 December 2018, the EU signed a joint declaration with the International Solar Alliance (ISA) to cooperate on solar energy.\textsuperscript{1579} The deal was signed during the United Nations Climate Change Conference (COP24) in the presence of Director General of the ISA, Renewable Energy Minister of India and European industry leaders.\textsuperscript{1580} ISA is a joint initiative implemented by France and India to provide a platform for cooperation among solar rich countries to achieve their common energy goals.\textsuperscript{1581} Commissioner Arias Cañete stated, “joining efforts with the International Solar Alliance will reinforce the EU’s position as a global leader in the clean energy transition. It will help us fulfil our


reduction of greenhouse gas emissions objectives and implement the Paris Agreement.” The cooperation entails the sharing of knowledge, infrastructure, financing, research and innovation.

On 17 December 2018, the EU strengthened bilateral cooperation with New Zealand on emissions trading systems. The announcement followed successful COP24 talks and builds on their individual experiences of emissions trading systems. New Zealand’s system does not currently account for agricultural methane and nitrous oxide. The EU and New Zealand will meet regularly to discuss key policy and technical issues of their trading systems with a view towards a potential collaboration between the two systems.

On 25 February 2019, the European Commission approved support for four floating offshore French wind farms. The Commission found the French project to be in line with the guidelines on State Aid for Environmental Protection and Energy: the windfarms promote the development of innovative wind energy and the potential growth of a renewable energy technology. The four farms “Groix Belle Ile,” “Gold du Lion,” “Eolmed” and “Provence Grand Large” are to be composed of three to four turbines and will each have a total capacity of 24 megawatts. It is expected that the investment aid will help France meet its climate targets.

On 20 March 2019, the European Commission released EUR750 million for funding of clean energy infrastructure. Projects that meet the requirements of affecting two or more European Union countries while increasing competitiveness, contributing to sustainable development and environment protection are eligible for the funding. The Commission will evaluate the projects

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based on their maturity, innovation and energy security. The funding is a part of the Connecting Europe Facility, a support programme for trans-European infrastructure.

On 15 April 2019, the European Parliament agreed to adopt new carbon dioxide emission standards for cars and vans. The new standards applicable from 2020 will require emissions from new cars to be 37.5 per cent lower and emissions from new vans to be 31 per cent lower compared to current legislation. The new rules will contribute to decarbonizing and modernizing Europe’s mobility sector. The Commissioner for Climate Action and Energy Miguel Arias Cañete said, “the adoption of the legislation setting new CO2 emission standards for cars and vans is an important achievement. We are putting the transport sector on the right pathway towards clean mobility, helping EU industry to modernize and strengthen its competitive position in the global stage.”

The new standards will also signal the market to invest in clean vehicles such as battery electric or fuel cell vehicles.

On 16 April 2019, the European Commission approved a EUR54 million investment in a waste-to-energy cogeneration plant in Poland. The highly efficient plant located in Olsztyn will recycle heat from power generation for public district heating for the overall benefit of the environment. In addition, the plant will reduce municipal waste disposal in landfills by incinerating up to hundred thousand tonnes of waste. The project will be organized in the form of a public-private partnership.

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partnership between Miejskie Przedsiębiorstwo Energetyki Cieplnej, a municipally owned company and a yet to be announced private sector partner.1604

On 23 April 2019, the European Commission approved EUR385 million in support for production of electricity from renewable sources in Lithuania.1605 Lithuania will introduce the new aid scheme on 1 May to support renewable energy sources of wind, solar or hydropower.1606 Commissioner Margrethe Vestager who is in charge of competition policy said, “The scheme will contribute to Lithuania’s transition to low carbon and environmentally sustainable energy supply, in line with the EU environmental objectives and our state aid rules.”1607

On 6 May 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a warning about the state of nature during their first “Global Assessment Report on Biodiversity and Ecosystem Services” noting that “of the 8 million plant and animal species on Earth, one million are threatened with extinction.”1608 On the same day, the G7 Environment Ministers (including the European Commissioner for the Environment) signed the Metz Charter on Biodiversity as a result of IPBES’s report.1609 The charter focuses on three areas: “Increase efforts to combat biodiversity erosion, encourage the participation of other actors and stakeholders, and support the development and implementation of a post-2020 global biodiversity framework.”1610

The European Union has supported efforts to fight climate change through collaborative partnerships with EU member states and other countries and has worked alongside the private sector, such as the Portuguese company Windplus, to identify and assess the climate change needs and best methods to deal with them.

Thus, the European Union receives a score of +1.

 Analyst: Srijan Sahu

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