The G7 Research Group presents the

2021 G7 Cornwall Summit Interim Compliance Report
14 June 2021 to 1 February 2022

Prepared by
Matthew Kieffer and Gabrielle Regimbal
and the G7 Research Group

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www.g7.utoronto.ca
g7@utoronto.ca
@g7_rg

“We have meanwhile set up a process and there are also independent institutions monitoring which objectives of our G7 meetings we actually achieve. When it comes to these goals we have a compliance rate of about 80%, according to the University of Toronto. Germany, with its 87%, comes off pretty well. That means that next year too, under the Japanese G7 presidency, we are going to check where we stand in comparison to what we have discussed with each other now. So a lot of what we have resolved to do here together is something that we are going to have to work very hard at over the next few months. But I think that it has become apparent that we, as the G7, want to assume responsibility far beyond the prosperity in our own countries. That’s why today’s outreach meetings, that is the meetings with our guests, were also of great importance.”

Chancellor Angela Merkel, Schloss Elmau, 8 June 2015

G7 summits are a moment for people to judge whether aspirational intent is met by concrete commitments. The G7 Research Group provides a report card on the implementation of G7 and G20 commitments. It is a good moment for the public to interact with leaders and say, you took a leadership position on these issues — a year later, or three years later, what have you accomplished?

Achim Steiner, Administrator, United Nations Development Programme,
in G7 Canada: The 2018 Charlevoix Summit
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5. Climate Change: Zero Emission Vehicles

“We commit to accelerate the transition away from new sales of diesel and petrol cars to promote the uptake of zero emission vehicles.”

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Carbis Bay G7 Summit Communiqué

**Assessment**

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**Background**

Climate change is an existential threat requiring an immediate, strong and global response. Action on climate change has been slow and troubled. The occasional successful multilateral action, such as the Montréal Protocol, which resulted in a 99 per cent reduction in ozone-reducing chlorofluorocarbons, is counterbalanced by failures like the Kyoto Protocol, which aimed for a 5 per cent reduction in carbon emissions but saw a 58 per cent increase instead.590 Ratified in 2016, the Paris Agreement is the latest in international treaty-making on climate change.591 It aims to limit global temperature increase to 2°C with an ideal target of limiting it to 1.5°C. Essential to this plan is the reduction of carbon dioxide (CO2) emissions, a greenhouse gas that was not under the purview of the Montreal Protocol.592 Reduction of CO2 emissions is a goal that has been discussed on the international level since the United Nations Framework Convention on Climate Change (UNFCCC) which entered into force in 1994.593 To reach the targets of the Paris Agreement, it is imperative that countries actively move towards net-zero emissions and this includes transitioning to green economies.594 Decarbonizing initiatives are major ways countries are transitioning to green economies and this includes measures to decarbonize all sectors of the economy as well as foster greener consumer consumption habits.595

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The G7 has acknowledged the importance of developing clean technology to reduce pollution dating back to the 1979 Tokyo Summit. However, it was not until the 2021 Cornwall Summit that all G7 members agreed to reach net-zero emissions by 2050. With all G7 members now committed, the urgent and necessary transition towards clean technology and clean industry must be brought into greater focus.

At the 1979 Tokyo Summit, the G7 first recognized the importance of developing clean technology, although their focus was on developing alternative sources of energy to make the world economy less susceptible to oil crises and on reducing pollution levels rather than specific low-carbon initiatives.599

At the 1987 Venice Summit, the G7 noted their intent to investigate strict environmental standards as possible incentives for innovation and the development of clean, low-resource technology.600 They also announced their intent to look at the impact of strict environmental standards on promoting international trade in low-pollution products and other environmental protection technologies.

At the 1990 Houston Summit, the G7 acknowledged the importance of international cooperation to develop new technologies and methods to complement energy conservation in the reduction of carbon emissions.601 The G7 supported accelerated scientific and economic research on potential response to climate change in developing and developed countries.

On 25 to 27 April 2003, the G8 Environment Ministers’ Meeting was held in Paris. The G7 Environment Ministers recognized the need to stimulate research and development of clean energy technologies.

At the 2003 Evian Summit, the G8 stated that its members would promote the innovation and market introduction of clean technologies and accelerate the development of fuel cell and hydrogen technologies including working with private industry to make fuel cell vehicles price competitive within two decades.603 This included developing codes and standards for next generation vehicles including low carbon and clean vehicles.

At the 2005 Gleneagles Summit, the G8 committed to taking further action to promote innovation and accelerate the deployment of cleaner technologies with a focus on lower-emitting technologies. In line with this commitment, the G8 announced the Gleneagles Plan of Action which included a provision to encourage the development of cleaner, lower-emitting vehicles. They mentioned promoting the sale of cleaner vehicles and accelerating market development, reviewing existing standards and identifying best practices, encouraging

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602 G8 Environment Ministers’ Meeting, Communique, G7 Information Centre (Toronto) 27 April 2003. Access Date: 15 October 2021. www.g8.utoronto.ca/environment/2003paris/env030427eng.pdf
cooperation on global research for cleaner gasoline and diesel vehicles as well as hybrid, biofuel and hydrogen-cell technologies.

At the 2007 Heiligendamm Summit, the G8 re-emphasized the need for cooperation on the development and commercialization of sustainable, less carbon intensive technology.\(^{605}\) The G8 committed to developing technology roadmaps to strengthen the role of advanced technology in addressing climate change. The G8 also discussed reducing emissions in the transportation sector and identified the development of innovative engines and alternative sources of fuel as key for vehicle emission reduction. This includes increasing the share of alternative fuels and energy carriers including hydrogen, electric and hybrid vehicles and included a commitment to monitor the implementation of the necessary measures and discuss progress at two-year intervals during the Environmentally Friendly Vehicles Conference.

At the 2008 Hokkaido-Toyako Summit, the G8 recognized the importance of developing and deploying low-carbon technologies to meet the global emissions reduction target of 50 per cent by 2050.\(^{606}\) Towards this end, the G8 committed to increasing investment in technology research and development (R&D) as well as to promoting commercialization through direct government funding and fiscal measures to increase incentives for private sector investment.

At the 2009 L’Aquila Summit, the G8 reaffirmed the commitments made at the 2008 Hokkaido-Toyako Summit to increase investment in technology R&D and committed to intensifying their efforts.\(^{607}\) There was agreement among the G8 to increase funding with a view towards doubling public investment in technology R&D by 2015.\(^{608}\)

At the 2010 Muskoka Summit, the G8 affirmed their commitment to build low carbon and climate resilient economies and called on the International Energy Agency (IEA) to develop an International Platform for low-carbon technologies for the purpose of accelerating their development and deployment.\(^{609}\)

At the 2016 Ise-Shima Summit, the G7 reaffirmed the important role that the development and deployment of innovative technologies plays in carrying out transformational and long-term measures to address climate change.\(^{610}\) At the Environment Ministers’ meeting, they emphasized that policy support is required for the diffusion of low-carbon technology and products in all countries. The G7 Environment Ministers’ encouraged G7 partners and other governments to cooperate with each other, sharing good practices and lessons learnt from implementing market instruments and mechanisms to support the diffusion of low-carbon technologies and products.

At the 2018 Charlevoix Summit, the G7 discussed the role of energy transitions in addressing climate change, including the importance of carbon pricing and the development of market based clean energy


\(^{610}\) Communiqué: G7 Toyama Environment Ministers’ Meeting, G7 Information Centre (Toronto) 16 May 2016. Access Date: 22 October 2021. http://www.g7.utoronto.ca/environment/2016-environment.html
technologies. In this context, all G7 members except the United States reaffirmed their commitment to reach a global carbon-neutral economy during the second half of the century.

Just prior to the 2021 Cornwall Summit, G7 members announced the G7 Industrial Decarbonisation Agenda (IDA). The goal of the G7’s IDA is to “advance the G7’s collective ambitions for net zero by coordinating efforts already underway across myriad engagements, both within G7 members and across multilateral organisations.” Part of the goal of the G7 IDA is to ensure collaboration and collective action in order to mitigate the “first mover” problem by sharing the risk entailed in early adoption of net-zero economic policies across all G7 economies.

At the 2021 Cornwall Summit, the G7 members committed to transitioning the sale of vehicles away from petrol and diesel towards zero emission vehicles (as well as the transportation industry more broadly in a separate commitment). Similar net-zero commitments were also outlined for energy (building on the 2017 Taormina Summit), industrial and innovation sectors. The G7 also agreed to develop the global green finance market to help reach net-zero through mobilising private sector investment.

The commitment that came out of the 2021 Cornwall Summit, to accelerate the transition to zero emission vehicles, presents an opportunity for G7 members to meet their Paris Agreement goals as well as reach net-zero by 2050. To illustrate the polluting impact of transportation in G7 countries, it accounts for about 29 per cent of total greenhouse gas emissions in the United States, making it the country’s largest source of emissions. Similarly, transportation is responsible for 30 per cent of the European Union’s annual CO2 emissions with 72 per cent of that total coming from road transportation. This situation is largely mirrored worldwide (and not just in other G7 members like the United Kingdom) as transportation accounts for roughly a quarter of the world’s greenhouse gas emissions with nearly three quarters of said emissions coming from road vehicles such as cars, motorcycles, trucks and buses. With such a high percentage of global emissions coming from transportation, and specifically road transportation, the proliferation of zero emission vehicles and the transition away from polluting vehicles has enormous potential in helping achieve international climate targets.

**Commitment Features**

On 13 June 2021, at the 2021 Cornwall Summit, G7 leaders adopted the present commitment: “we commit to accelerate the transition away from new sales of diesel and petrol cars to promote the uptake of zero emission vehicles.”

“Commit” is understood to mean “to do or perform, to pledge or bind (a person or an organization) to a certain course or policy.” This indicates a politically binding obligation meaning that it signifies a commitment and is a strong catalyst for compliance.

“Accelerate” is defined as “to bring [something] about at an earlier time” or “to hasten or progress the development of [something].” This indicates that the commitment deals with some process that has already been started, which in this instance, is the transition away from polluting vehicles to zero emission vehicles.

“Transition” is defined as “a change or shift from one state, subject, place, etc. to another.” To transition away from new sales of diesel and petrol cars to zero emission vehicles then means to shift from polluting vehicles to non-polluting vehicles.

In the context of the commitment, “promote” means “to contribute to [the] growth or prosperity of [something], to help bring [it] into being.” What is being promoted is the “uptake” of zero emission vehicles where “uptake” is defined as: “the act of using, participating in, adopting, or taking advantage of an available product, service, opportunity, etc.” In this context then “uptake” refers to the increased usage or adoption of zero emission vehicle technology.

“Zero emission vehicles” are defined as: “vehicle[s] that [have] the potential to produce no tailpipe emissions.” These vehicles can still have internal combustion engines but must be able to operate without them, this includes hybrid vehicles, battery-electric vehicles and hydrogen fuel cell vehicles. For the purpose of this commitment, zero emission vehicles should only refer to cars. While the Carbis Bay Communiqué identified a more expansive range of vehicles which were included under the concept of zero emission vehicles, including “buses, trains, shipping and aviation” vehicles, the scope of the commitment must be restricted to cars insofar as the commitment text mentions “accelerat[ing] the transition away from new sales of diesel and petrol cars” and thus any uptake in zero emission vehicles that results from such action should be considered to relate specifically to zero emission cars.

The G7 speaks more broadly about decarbonising the transportation sector (including other forms of zero emission vehicles) in another commitment.

There are two components to this commitment that determine compliance. First, G7 members should take action to “accelerate the transition away from new sales of diesel and petrol cars” by actively disincentivizing the sale and use of petrol and diesel vehicles. This can be through measures like introducing carbon pricing on both consumers and businesses or banning the sale of petrol or diesel vehicles. Second, G7 members

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should take actions to “promote the uptake of zero emission vehicles” by incentivizing the sale and use of zero emission vehicles. This can be achieved through introducing instruments such as rebates or other tax incentives to consumers, funding and supporting improved charging station infrastructure and by providing funding and support to relevant private companies and initiatives. All of these examples constitute strong and concrete action towards complying with the commitment.

Examples of weaker actions towards fulfilling the commitment components include: verbal reaffirmation of the commitment, making public statements supporting the utilization of zero-emissions vehicles or attendance at meetings or conferences.

To achieve full compliance, or a score of +1, G7 members must take strong and concrete action in both commitment components (accelerating the transition away from new sales of diesel and petrol cars and promoting the uptake of zero emission vehicles). Concrete actions include policy implementation, the creation or modification of laws, the creation or implementation of projects and initiatives, as well as the provision of funding.

Partial compliance, or a score of 0, will be assigned to G7 members that take strong and concrete action in only one of the two commitment components (either accelerating the transition away from new sales of diesel and petrol cars or promoting the uptake of zero emission vehicles). If a G7 member takes only weak actions in both commitment components, such as attending relevant meetings or conferences, they will also be in partial compliance.

Non-compliance, or a score of −1, will be assigned to G7 members that have taken no action in either of the two commitment components. If a G7 member only takes weak actions in one commitment component, this will also be non-compliance.

**Scoring Guidelines**

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<td>−1</td>
<td>The G7 member has NOT taken strong and concrete action to disincentivize the sale of new petrol or diesel vehicles NOR promote the uptake of zero emission vehicles.</td>
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<tr>
<td>0</td>
<td>The G7 member has taken strong and concrete action in one of the two constituent features EITHER disincentivizing the sale of new petrol or diesel vehicles OR promoting the uptake of zero emission vehicles OR some of both.</td>
</tr>
<tr>
<td>+1</td>
<td>The G7 member has taken strong and concrete action in BOTH of the constituent features, acting to accelerate the transition away from the sale of new petrol or diesel vehicles AND promoting the uptake of zero emission vehicles.</td>
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**Canada: +1**

Canada has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 23 June 2021, Member of Parliament Ken Hardie, speaking on behalf of the Minister of Natural Resources Seamus O’Regan Jr., announced a CAD1.1 million investment for 22 electric vehicle fast chargers in Fortis, British Columbia. This investment will improve access to driving and charging zero emissions vehicles in British Columbia and receives funding from Natural Resources Canada’s Zero-Emission Vehicle Infrastructure Program towards the target of having all new passenger vehicles sold in Canada be zero-emission vehicles by 2035.

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On 29 June 2021, the Minister of Transport Omar Alghabra, the Minister of Environment and Climate Change Jonathan Wilkinson and the Minister of Canadian Heritage Steven Guilbeault, announced that the Government of Canada is setting an accelerated mandatory target for all new light-duty cars and passenger trucks sales to be zero-emission by 2035.628 This new accelerated target improves on Canada’s previous goal of 100 percent sales by 2040 and indicates Canada’s commitment to accelerating and promoting the uptake of zero-emission vehicles.

On 29 July 2021, Member of Parliament Ryan Turnbull, speaking on behalf of Minister O’Regan, announced a CAD50,000 investment to Oshawa Power.629 The investment will go towards a zero-emissions vehicles virtual showroom which has the purpose of raising awareness, education and uptake of zero emissions vehicles and their role in a clean energy future. This investment is conducive to Canada’s goal of 100 per cent zero-emissions light duty vehicle sales by 2035.

On 29 July 2021, Member of Parliament Nathaniel Erskine-Smith, speaking on behalf of Minister O’Regan, announced a CAD12.7 million investment in clean energy technology in order to promote zero emissions vehicles.630 The funds directed towards light duty vehicle research and infrastructure include CAD2 million to the Opus One Solution, CAD1.32 million to Geotab Inc. and CAD635,000 to Blackstone Energy Services.

On 30 July 2021, the Government of Canada announced an investment of CAD32 million to install 853 electric vehicle chargers across Canada as part of #EVWeekCanada.631 The investments include CAD200,000 to install 40 electric vehicle (EV) chargers in Hamilton, over CAD800,000 to install 170 EV chargers in British Columbia, CAD830,000 to install 166 EV chargers in British Columbia, Ontario and Alberta, CAD350,000 to install seven EV chargers in Ontario, CAD310,000 in funding to install 44 EV chargers in Calgary and Edmonton, over CAD1.2 million to install 98 EV chargers across British Columbia, CAD50,000 to install one EV charger in Ottawa, CAD9.4 million to install 98 EV fast chargers in Quebec, over CAD2.6 million to install 79 EV chargers across British Columbia, CAD2.3 million to install 36 EV chargers across Ontario and CAD100,000 to install two EV fast chargers in Hamilton. This investment contributes to Canada’s goal for reaching 100 per cent zero-emissions light duty vehicles sales by 2035.

On 11 August 2021, the Government of Canada announced a CAD5 million investment into FedDev Ontario in the Automotive Parts Manufacturers’ Association (APMA).632 The investment is in support of Project Arrow; a Canadian-made zero emissions concept vehicle. APMA will utilize its connections in the automotive manufacturing industry to develop Project Arrow by designing and engineering a zero-emissions concept car. This project will aid the transformation of Canada’s automotive sector from traditional fuel vehicle development to zero-emission vehicle development and it will help to create a robust electric vehicle supply chain in Canada, increasing Canada’s domestic electric vehicle development capacity.

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On 10 November 2021, Minister Alghabra participated in the first Transport Day at the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow, Scotland. He made a keynote address in which participants shared their best practices for promoting the transition into zero emissions vehicles. Canada also signed a declaration to accelerate the reduction of carbon pollution from light duty vehicles. Signing the ZEV Declaration indicates Canada’s intention to accelerate the transition to zero emission cars and vans.

On 30 November 2021, Minister of Innovation, Science and Industry François-Philippe Champagne announced an investment of CAD3.2 million in One Silicon Chip Photonics through Sustainable Development Technology Canada. The investment will be used to develop lighter, lower-cost inertial navigation sensors for the next generation of autonomous vehicles and will also involve the designing of an inertial measurement unit that will improve the precise navigation of a moving object, thereby advancing the safety and accuracy of self-driving vehicles. This investment is conducive to making EV more accessible to Canadians through improvements in technology and safety.

On 30 November 2021, Minister of Natural Resources Jonathan Wilkinson announced an investment of over CAD289,000 for 44 electric vehicle charges for Dufferin County. This investment is funded through the Zero-Emission Vehicle Infrastructure Program and is conducive to Canada’s goal of making zero-emissions vehicles more accessible to Canadians.

On 16 December 2021, Minister Wilkinson announced an investment of over CAD730,000 to install 438 electric vehicle chargers in residential buildings in Ontario, New Brunswick, Nova Scotia, British Columbia and Alberta. This investment encourages the promotions of zero emissions vehicles and makes charging such vehicles more accessible for Canadians. The investment is funded through the Zero-Emission Vehicle Infrastructure Program and supports Canada’s commitment to sell only zero emission vehicles by 2035.

On 17 December 2021, Minister of Environment and Climate Change Steven Guilbeault launched consultations to accelerate Canada’s mission of increasing the utilization of zero emissions light duty vehicles. This action is being taken to support Canada’s commitment to mandate that all light-duty vehicles sold will be zero emission by 2035. Consultations by the Canadian government to the public and stakeholders include questions regarding Canada’s approach for achieving their previously mentioned goal, additional interim targets for Canada to achieve, the design of zero emissions vehicles, potential issues that may arise from the adoption of zero emissions vehicles and how to address them and challenges to the electricity grid due to the zero emissions vehicles sales targets. These consultations ultimately demonstrate Canada’s desire to accelerate their commitment to sell zero emissions vehicles only by 2035.

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On 17 December 2021, a stakeholder engagement discussion revealed insight into federal strategy to transition the light duty vehicle sector to zero emissions. Such policy levers include awareness and training of decarbonization options, financial incentives to transition to low and zero emissions vehicles, developing the capacity to develop such zero emissions vehicles, building charging and refueling infrastructure, regulate light duty vehicles by abiding by North American greenhouse gas standards for vehicles and funding for research and development. The discussion also emphasizes a continued alignment with United States greenhouse gas standards for light-duty vehicles and Canada’s goal of 100 per cent zero emission vehicles sales by 2035.

On 20 December 2021, Minister Wilkinson announced an investment of CAD110,000 to St. Lawrence College for the installation of 22 Level-2 EV chargers on its campuses in Cornwall, Brockville and Kingston. The project is funded through Natural Resources Canada’s Zero-Emission Vehicle Infrastructure Program and works towards ensuring that Canada meets its mandatory target that all passenger vehicles sold in Canada are zero emission by 2035.

On 5 January 2022, Minister Wilkinson announced an investment of CAD1.2 million to Nova Scotia’s Clean Foundation for the purpose of installing up to 250 Level-2 EV chargers throughout the province. The project will install EV chargers in public places, multi-unit residential buildings, on streets and at select workplaces based on demand. The project is funded through Natural Resources Canada’s Zero-Emission Vehicle Infrastructure Program and is conducive to Canada’s commitment to increase the uptake and accessibility of electric vehicles.

On 13 January 2022, Parliamentary Secretary to the Minister of Employment, Workforce Development and Disability Inclusion and Member of Parliament Irek Kusmierczyk, speaking on behalf of Minister Wilkinson, announced CAD2 million in funding to Essex Powerlines Corporation for the purpose of supporting the installation of up to 300 EV chargers throughout Windsor-Essex County. The project is funded through Natural Resources Canada’s Zero-Emission Vehicle Infrastructure Program and is conducive to Canada’s commitment to increase the uptake and accessibility of electric vehicles.

Canada has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. Canada has invested in electric vehicle infrastructure across the country, thereby making ownership of these vehicles more accessible. Canada has also invested in electric vehicle technology development and research. Canada has also passed the first ever law to legislate emissions reductions and has taken comprehensive steps to reaching their goal of 100 per cent zero emission vehicle sales by 2035.

Thus, Canada receives a score of +1.

**Analyst: Amrita Brar**

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France: +1

France has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 2 August 2021, the Government of France announced that seven metropoles must set up new low-emission zones (ZFEs) to discourage the use of polluting vehicles. The affected metropoles are Aix-Marseille Provence, Nice-Côte d’Azur, Toulon-Provence-Méditerranée, Toulouse, Montpellier-Méditerranée, Strasbourg and Rouen-Normandy. This action both encourages the uptake of zero-emission vehicles and discourages the use of polluting vehicles.

On 24 August 2021, the Government of France formally enacted its Climate and Resilience Law. In this law, France has committed to the implementation of low-emission mobility zones (ZFEs) in metropolitan areas of more than 150,000 inhabitants by the end of 2024. The law will also end the sale of vehicles emitting more than 95 grams of carbon dioxide per kilometre by 2030. Moreover, the law includes an experiment on near-zero-interest loans for the purchase of electric or hybrid vehicles in ZFEs by 2023, and it bans any advertisement of polluting vehicles after 2028. This law includes measures to both increase the uptake of zero-emission vehicles and dissuade the use of polluting vehicles.

On 12 October 2021, the Government of France published its “France 2030” plan. The plan includes an investment of EUR4 billion in the transport sector to produce nearly 2 million electric and hybrid vehicles by 2030. The funding set aside in the “France 2030” plan demonstrates France’s efforts to increase the uptake of zero emission vehicles.

On 10 November 2021, France signed a call to action on deploying more charging infrastructure for electric vehicles as part of the Conference of Parties 26 United Nations climate summit in Glasgow. This indicates France’s intention to take action to build capacity for electric vehicles within its borders and increase the feasibility of owning an electric vehicle.

On 20 December 2021, the French government announced that it aims to install 100,000 more electric vehicle charging points by 2022 and 7 million public and private charging points by 2030. This will benefit electric vehicle uptake by providing the necessary accompanying infrastructure nationwide.

France has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. France has taken concrete steps to

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discourage the purchase and use of polluting vehicles: it has limited their use in city centres, will limit the sale of high polluting vehicles and has enacted a law to ban the advertisement of such vehicles. France has also invested in electric vehicles and their accompanying infrastructure and has provided financial incentives via low-interest loans for electric vehicle purchases.

Thus, France receives a score of +1.

Analyst: Tatiana Velickovic

Germany: +1

Germany has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 23 June 2021, Germany adopted major new climate legislation that sets higher national emissions reduction targets for 2030 (at least 65 per cent) and 2040 (at least 88 per cent), with the goal of achieving net greenhouse gas neutrality by 2045.\(^\text{649}\) In addition, a new EUR8 billion “immediate climate action programme” for 2022 will finance further measures to achieve the new climate targets. Within the transport sector in the “immediate climate action programme,” emission standards are set for cars and light trucks, which will directly influence the amount of carbon dioxide emitted by new vehicles per kilometer. More precisely, the Federal Government will continue its support for fleet-wide emission limits while also accelerating charging infrastructure expansion. Overall, the new climate legislation seeks to disincentivize the use of emitted vehicles and incentivize the uptake of zero emission vehicles.

On 16 August 2021, Federal Minister of Transport and Digital Infrastructure Andreas Scheuer announced an invitation to tender offers for rights to build fast charging locations.\(^\text{650}\) This will lead to the creation of 1,000 fast charging stations across Germany and the government has made EUR2 billion in funding available for this purpose. Each of the new charging stations will have several charging ports, include a price cap and will complement the current fast charging station infrastructure in Germany. The goal of this initiative is to increase uptake of zero-emission vehicles by improving infrastructure capacity.

On 17 August 2021, the Federal Ministry of Transport and Digital Infrastructure published the “Publicly accessible charging infrastructure for electric vehicles in Germany” funding guideline and made available EUR190 million in this first round of funding for the creation of 18,000 electric vehicle charging stations.\(^\text{651}\) This includes 9,000 normal charging stations and 9,000 fast-charging stations. Applicants can have up to 60 per cent of eligible costs funded through this process. The aim of this funding is to increase the uptake of zero-emission vehicles through improving infrastructure capacity.

On 18 August 2021, the Federal Ministry of Transport and Digital Infrastructure announced a further funding round EUR90 million under the “Publicly accessible charging infrastructure for electric vehicles in


Germany” funding guideline.\textsuperscript{652} This funding round starts on 9 September 2021 and will focus on retrofitting existing electric vehicle charging points to improve charging time.

On 18 August 2021, the Federal cabinet adopted the 28th Subsidy Report.\textsuperscript{653} The 28th Subsidy Report focused on measures to reach the German government’s goals on climate action and environmental protection which will receive funding commensurate with their prioritised importance. In these areas, federal subsidies in the form of financial assistance and tax benefits are set to climb from EUR24.6 billion in 2019 to EUR47.2 billion in 2022. Funding for the purchasing electric vehicles subsidy was set at EUR2.1 billion and for expanding the charging infrastructure funding was set to EUR1.68 billion.\textsuperscript{654} The goal is to encourage increased uptake of zero-emission vehicles through funding infrastructure improvements.

On 2 September 2021, the Federal Ministry for Economic Affairs and Energy issued a funding approval notice that will provide EUR436.8 million to the Automotive Cell Company (ACC) battery project for building a large battery cell factory at Opel’s Kaiserslautern plant.\textsuperscript{655} This new ACC battery cell manufacturing plant in Kaiserslautern will sustainably produce battery cells for around half a million electric vehicles each year. With the production of German-made batteries, the German automotive industry is moving toward sustainable drive systems. The goal of this action is to increase production capacity for electric vehicles within Germany.

On 17 November 2021, the Federal Ministry of Transport and Digital Infrastructure announced the publication of a new funding guideline, “Charging stations for electric vehicles not accessible to the public - companies and municipalities.”\textsuperscript{656} The funding guideline is for projects that promote the development of electric vehicle charging infrastructure at commercial and municipal government employee parking lots, or other areas not accessible to the general public. This will encourage companies and municipalities to green their vehicle fleets, as well as provide employees with the option to charge their own electric vehicles while at their workplace. The goal of this is to increase uptake of electric vehicles. Germany has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. It has disincentivized the use of petrol and diesel vehicles by setting emission standards for cars and small vehicles and has encouraged the uptake of zero-emission vehicles through funding charging infrastructure expansion, battery cell manufacturing and the subsidization of electric vehicles.

Thus, Germany receives a score of +1.

\textit{Analyst: Van Tong}


Italy: +1

Italy has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 22 June 2021, Prime Minister Mario Draghi and President of the European Commission Ursula von der Leyen announced the approval of the National Recovery and Resilience Plan (NRRP) as part of the Next Generation EU economic recovery project, marking the beginning of the “Italia Domani” or “Italy Tomorrow” plan to boost the nation’s digital and environmental transitions. Included in the plan was the allocation of EUR741.3 million for the creation of over 20,000 fast-charging points on highways and urban centers in order to build the infrastructure necessary to accommodate the transition to zero emission vehicles.

On 1 July 2021, the Italian Regulatory Authority for Energy, Networks and Environment launched an experimental initiative aimed at maximizing the availability of power from domestic electric meters in order to offer a greater availability of power during night hours and on holidays for the charging of electric vehicles. This initiative promotes the uptake of zero emission vehicles.

On 1 November 2021, Minister of Ecological Transition Roberto Cingolani stated in a conference with Prime Minister Draghi that Italy’s main goal is to change their means of production of primary energy and to “electrify all sectors that currently produce CO₂ [carbon dioxide].” He states that in order to comply with this, cars will run on batteries using electricity that is environmentally friendly.

On 10 December 2021, the fourth meeting of CITES, the Interministerial Committee for Ecological Transition, took place. At the meeting, Minister Cingolani, Minister Sustainable Infrastructures and Mobility Enrico Giovannini and Minister of Economic Development Giancarlo Giorgetti announced that the phase out of the sale of new car with internal combustion engines must be completed by 2035. This action both disincentivizes the continued purchase of cars with internal combustion engines and incentivizes the uptake of zero emission vehicles and a transition to increased production of zero emission vehicles.

On 20 December 2021, Prime Minister Draghi in a meeting with Germany’s Chancellor Olaf Scholz expressed hopes to advance in the fields of technology, research, and science. More specifically, he refers to the development of batteries for electric cars in order to combat climate change.

Italy has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. Italy has announced some measures to...
build capacity or increase ease of use for electric vehicles such as installing charging stations and undertaking experimental initiatives to make home charging more feasible. Italy has also announced plans to phase out cars with internal combustion engines completely by 2035, indicating an acceleration of the transition away from diesel and gas.

Thus, Italy receives a score of +1.

**Analyst: Amrita Brar**

**Japan:** 0

Japan has partially complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 9 September 2021, the Japanese Ministry of the Environment announced the selection of two companies to participate in “the Sector Coupling Demonstration Project to integrate the Development of Electric Vehicles (EVs) with Replaceable Batteries and the Utilization of Renewable Energy.”

The goal of this project is to decarbonize the transportation sector by improving feasibility of zero-emission vehicles.

On 25 September 2021, Japan exhibited energy-efficient cars at the International New Energy and Intelligent Connected Vehicles Exhibition in China. Related items also showcased included batteries, motors and charging ports. This also provided insight into the type of technology and infrastructure Japan had available for providing commercial electric vehicles. This action demonstrates Japan’s efforts to promote the uptake of zero-emission vehicles.

On 23 November 2021, to match the efforts of the United States and Europe, Japan created a purchase incentive of up to JPY800,000 for those that buy electric vehicles. JPY6.5 billion will also be devoted to creating new vehicle charging stations, as currently, there are only 2.3 charging ports for every 10,000 people, thus encouraging the attempts to sell only low emission vehicles by 2035.

On 20 December 2021, the Japanese government approved the creation of a supplementary budget for 2021 which contains a subsidy to promote the adoption of electric vehicles. Vehicles registered after 26 November 2021 are eligible for this subsidy with a general upper limit of JPY400,000 for light electric vehicles. The subsidy will also be eligible for company’s installing charging infrastructure. The goal of this subsidy is to remove barriers for the uptake of electric vehicles and for capacity building for electric vehicle infrastructure.

Japan has partially complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. Japan’s compliance has been limited to showcasing possible green vehicles and deterring citizens from gas vehicles through carbon pricing. Japan has produced purchase incentives for electric vehicles to encourage uptake but has not acted strongly enough to be considered in full compliance.

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Thus, Japan receives a score of 0.

**United Kingdom: +1**

The United Kingdom has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 17 June 2021, Transport Secretary Grant Shapps announced GBP20 million in funding to 62 electric vehicle innovation projects. These projects seek to improve the experience of owning an electric vehicle and reduce barriers to ownership. The goal of this funding is to encourage increased uptake of electric vehicles by encouraging the development of innovative electric vehicle technology.

On 19 July 2021, Highways England established a new initiative to expand the charging station infrastructure and increase services on UK roads for electric vehicles. This plan will also include training for Traffic Officers to ensure the proper handling of electrical vehicles. The government contributed over GBP1 billion in funds for this project. The goal of this funding is to prepare infrastructure and workers for increased uptake in electric vehicles.

On 18 August 2021, the UK pledged GBP91.7 million in funds for improving the performance of electric vehicles and producing green auto technology such as car batteries. This is in response to the UK’s plan to create a sustainable chain of electric vehicle manufacturing. This investment is consistent with the country’s commitment to increase the number of electric vehicles commercially used.

On 4 October 2021, the Environmental Agency, partnered with BAM Nuttall, used electrical vehicles as part of the Flood Alleviation Scheme when visiting sites. This aided the normalization of electric vehicles for daily use.

On 2 November 2021, the UK partnered with the United States and the European Union in financing new technologies in South Africa. USD8.5 billion will be given to the nation in the form of grants, loans and investments. This money will be used to promote innovative technologies in the form of electrical vehicles. The partnership is put in place to help prevent 1-1.5 gigatons of carbon emissions that can be caused if use of gasoline vehicles persists for the next 20 years. This initiative is intended to increase the production of electric vehicles in manufacturing and transition away from coal industries.

On 2 November 2021, Prime Minister Boris Johnson launched a plan to bring clean energy technology by 2030 to fruition. The plan included a Road Transport mission to normalize zero emission vehicles and make them more accessible and affordable, which also includes making such technologies more accessible to

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the developing world. Domestically, the United Kingdom will also scale up the number of green industries and manufacturers within the nation. This agenda was followed by funding worth GBP3 billion to be used for investing within green industries and supporting the production and implementation of low emission infrastructure such as electric vehicles.

On 3 November 2021, Levelling Up Secretary Michael Gove announced GBP187,000 in funding to support the development of electric vehicle charging along the Scottish border to benefit residents, the public sector and businesses. The goal of this funding is to improve electric vehicle infrastructure, allowing for greater uptake and community benefits.

On 10 November 2021, the Department of Transport introduced new design concepts for electric vehicle charging points and established a plan for all road vehicles to achieve zero emissions by 2040. This plan would effectively phase out gas-powered cars by 2030.

On 18 November 2021, the United Kingdom reaffirmed their goal to shift to low carbon energy at the 2021 United Nations Climate Change Conference. This included finding low energy versions of vehicles and opting out of diesel. The United Kingdom also deployed the British Standards Institution to provide an independent audit to measure compliance to this effort. This is conducive to the goal of promoting the uptake of zero-emission vehicles.

The United Kingdom has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. The United Kingdom has provided funding for projects designed to build infrastructural capacity and make owning zero-emission vehicles easier. It has also taken efforts to normalize the use of electric vehicles in society. The UK has also committed to phasing out gas-powered vehicles by 2030 and ensuring that heavy-goods vehicles produce zero-emissions by 2040.

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

*Analyst: Jyotsna Kumar*

**United States: 0**

The United States has partially complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 1 July 2021, Congress introduced a bill entitled “Electric Vehicle Mobility Area Planning Act” which would establish a grant program to map optimal locations for electric vehicle charging stations and the derived demand for electricity. The bill sets aside USD2 million per year between 2022 and 2027 for the grant, which will help fund new electric vehicle infrastructure. This action is conducive to improved uptake of zero-emission vehicles in that it builds infrastructural capacity for zero-emission vehicles.

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On 28 July 2021, the U.S. Department of Energy announced USD60 million in funding for zero-emission vehicle research and development projects.\textsuperscript{677} The funded projects are both university and industry-led and include research on accelerating innovation in EV batteries and electric drive systems and studies on charging infrastructure demands. This action is conducive to the United States’ commitment to promote the uptake of zero-emission vehicles in funding feasibility and innovation studies for electric vehicles.

On 5 August 2021, President Joe Biden announced that he will sign an executive order that sets a new target to make half of all new vehicles sold in 2030 zero emission, which includes battery electric, plug-in hybrid electric or fuel cell electric vehicles.\textsuperscript{678}

On 7 October 2021, the U.S. Department of the Interior released a Climate Adaptation and Resilience Plan in which it outlined how it will transition to a resilient clean energy economy.\textsuperscript{679} It is a supplement to the Build Back Better plan and the Bipartisan Infrastructure Deal. It includes developing risk management strategies in the event of supply chain disruption in the production of electric vehicles (EVs).\textsuperscript{680} The plan also states the intent to deploy an electric vehicle fleet within the Department of Interior; this is an action towards increasing awareness for EVs and supporting the industry by purchasing them for the government’s fleet.

On 2 November 2021, the UK partnered with the United States and the European Union in financing new technologies in South Africa.\textsuperscript{681} USD8.5 billion will be given to the nation in the form of grants, loans and investments. This money will be used to promote innovative technologies in the form of electrical vehicles. The partnership is put in place to help prevent 1-1.5 gigatons of carbon emissions that can be caused if use of gasoline vehicles persists for the next 20 years. This initiative is intended to increase the production of electric vehicles in manufacturing and transition away from coal industries.

On 15 November 2021, the Bipartisan Infrastructure Bill came into law.\textsuperscript{682} It provides USD7.5 billion to build a national network of charging stations for electric vehicles.\textsuperscript{683} This investment will support the President’s stated goal of building a nationwide network of 500,000 electric vehicle chargers to accelerate the adoption of electric vehicles.

On 18 November 2021, Secretary of Commerce Gina Raimondo and Australia’s Minister for Trade, Tourism and Investment Dan Tehan met in Singapore during the Bloomberg New Economy Forum and reaffirmed

their commitment to collaboration on supply chains, especially for supplying rare earth materials necessary for electric vehicles and the broader transition to a green economy.684

On 18 November 2021, President Biden met with Prime Minister Justin Trudeau of Canada and President Andrés Manuel López Obrador of Mexico for the North American Leaders’ Summit.685 They reaffirmed their commitment to accelerate the transition to sustainable transportation, including more rapid deployment of electric vehicles.

On 19 November 2021, the House of Representatives passed the Build Back Better Act,686 which includes up to USD12,500 tax credit for American-made, union-made electric vehicles.687 This credit will help incentivize the purchase of electric vehicles.

On 8 December 2021, President Biden signed an executive order for the federal government to lower its operational emissions.688 One goal of this executive order is to have 100 per cent zero-emission vehicle acquisitions by 2035 and 100 per cent zero-emission light-duty vehicles by 2027 in government use. This order is an action towards increasing awareness for EVs and supporting the industry by purchasing them for the government’s fleet.

On 13 December 2021, President Biden and Vice President Harris released an Electric Vehicle Charging Action Plan to outline steps federal agencies are taking to support developing and deploying EV chargers nationwide as a follow-up to the Bipartisan Infrastructure Law.689 In order to facilitate the country-wide shift to EVs, they plan to establish a Joint Office of Energy and Transportation, gather stakeholder input, request information from domestic EV car and charger manufacturers and prepare to issue city and state-specific EV infrastructure standards.

The United States has partially complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. The US has taken significant concrete steps towards incentivizing the sale of electric vehicles, as well as accelerating the production of electric vehicles and the accompanying infrastructure. They have achieved this through planning to provide tax credits towards electric vehicle purchases, investing in electric vehicle manufacturing and infrastructure and setting an example by adopting electric vehicles within the federal government fleet. However, the United States has not taken strong action to disincentivize the sale of new petrol or diesel vehicles.

Thus, the United States receives a score of 0.

**European Union: +1**

The European Union has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles.

On 16 June 2021, the Council and the European Parliament reached a political agreement on revised road charging rules (Eurovignette directive) to address greenhouse gas emissions and other environmental impacts, congestion and road infrastructure financing. The Council and the European Parliament revised the rules defining charges EU member states can impose on vehicles, including vans and passenger cars that use trans-European transport (TEN-T) network roads. Under the new regulations, countries will be required to charge different rates for vans and minibuses based on their environmental performance as of 2026, with considerable charging reductions for zero- and low-emission vehicles. This seeks to discourage the use of emitting vehicles through higher charges, while incentivizing the use of zero- and low-emission vehicles through reduced charges.

On 14 July 2021, the EU Commission presented the Fit for 55 package, which is a set of new legislative proposals and amendments to existing EU legislation that will help the EU cut its net greenhouse gas emissions from cars and vans, by at least 55 per cent and 50 per cent respectively, by 2030 compared to 1990 levels of emissions. Furthermore, the commission plans a complete reduction of emissions from cars and vans for 2035. This effectively bans the sale of vehicles and vans with internal combustion engines by 2035. According to the proposal, emissions standards for cars and vans will be tightened to encourage technology innovation in the automotive sector while supporting member states to reach their increased national targets under the effort sharing regulation. A key area of action in the Fit for 55 package is to increase the number of charging stations for electric vehicles. The Fit for 55 package then indicates the EU’s ambition to disincentivize the use of petrol and diesel vehicles and increase the uptake of zero-emission vehicles.

On 14 September 2021, the European Union, through the European Investment Bank, signed a EUR60 million framework loan agreement with Sofia Municipality to support sustainable transport in Bulgaria's capital city. Part of the funding will be used to improve electric charging station infrastructure in the city. This is consistent with the European Union’s goal of incentivizing the uptake of zero-emission vehicles.

On 2 November 2021, the UK partnered with the United States and the European Union in financing new technologies in South Africa. USD8.5 billion will be given to the nation in the form of grants, loans and investments. This money will be used to promote innovative technologies in the form of electrical vehicles. The partnership is put in place to help prevent 1-1.5 gigatons of carbon emissions that can be caused if use of...
gasoline vehicles persists for the next 20 years. This initiative is intended to increase the production of electric vehicles in manufacturing and transition away from coal industries.

On 21 December 2021, the European Union, through the European Investment Bank, signed a EUR27 million financing agreement with Fagor Ederlan. The investment plan financed by this agreement focuses on the development of vehicle parts with lower carbon footprints as well as new components and systems for electric vehicles.

The European Union has fully complied with its commitment to accelerate the transition away from the sale of new petrol or diesel vehicles and promote the uptake of zero emission vehicles. It has revised road charging rules and introduced market prohibition of combustion engine vehicles in order to disincentivize the continued use of diesel and petrol vehicles. It has also provided some funding for the development of electric vehicle charging infrastructure and introduced plans to incentivize the use of electric vehicles through its adoption of the Fit for 55 package.

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

*Analyst: Van Tong*

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