



Morgan Lewis

REACHING NET ZERO TOGETHER:

ENERGY TRANSITION CHALLENGES AND OPPORTUNITIES

Transportation and Tomorrow

Presenters



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Axel Spies



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Agenda

- Jet Zero
- Unique Challenges Facing the Shipping Industry
- Developments in the Auto Industry, Including Electric Vehicles (EVs)
- Transportation Developments in Germany



Jet Zero

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Aviation – the EU (1)

- Corporate Sustainability Reporting Directive
- Taxonomy Regulation:
 - How and to what extent their activities are associated with environmentally sustainable economic activities as defined under the EU Taxonomy legislation
 - Substantial contribution criteria
 - Do no significant harm criteria
- EU Taxonomy: sustainable finance
 - EU Taxonomy Compass
 - Enabling or Transitional Activities

https://ec.europa.eu/sustainable-finance-taxonomy/tool/index_en.htm
- Aviation sector focus is on:
 - the sale, lease and operation of aircraft
 - airport infrastructure

Aviation – AWG (2)

- Aviation Working Group
 - Aviation Working Group (AWG) is a not-for-profit legal entity composed of major aviation manufacturers, leasing companies, and financial institutions that contribute to the development of policies, laws, and regulations that facilitate advanced international aviation financing and leasing
 - Seeking single international system for classification of green aircraft financing and leasing to avoid conflicting national or regional standards, based on five principles:
 - Feasible Improvement Standard
 - Incentive Standard
 - Aircraft Class Differentiation Standard
 - ICAO Certification Standard
 - Data-based Self-Reporting Standard
 - <https://awg-carbon-calculator.awg.aero/about>
 - AWG works in conjunction with Boeing and Airbus, among others (note: Airbus is betting on hydrogen)

Aviation – the UK (3)

- Aviation to be included in the UK's carbon budget from 2033-2037 (a version of "the next, next, next CEO's problem"?)
 - *The UK's share of emissions from international shipping and aviation contribute 3% and 7% of the UK total, respectively. There are currently no international agreements for including these emissions in national accounting, but in 2021 the UK Government committed to include the UK's share in the sixth carbon budget (for 2033–37)*
 - Vast majority of UK's aviation-related carbon emissions are from international travel
- UK Government: **Jet Zero consultation**
 - *Our ambition to decarbonise includes every sector of our economy. While aviation contributes only 2-3% of global greenhouse gas emissions today, it is forecast to become the second highest residual emitter in 2050 as other sectors reduce their emissions. Despite aviation being one of the most challenging sectors to decarbonise, we are clear that it will play its part in ensuring the UK reaches net zero.*
 - System efficiencies, Sustainable aviation fuels, zero-emissions flight, markets and removals [price emissions, offset or remove residual emissions], influence consumers
- House of Lords Select Committee on Science and Technology: "**Battery strategy goes flat: Net-zero target at risk**" (July 2021)
 - *Shipping and aviation are yet further behind due to onerous technical requirements. Once solutions are identified for these sectors, they will have to be deployed at great pace to contribute to the UK's 2050 net-zero target.*
 - *In the face of this risk, we were astonished by the stark disconnect between the optimism of Ministers and officials... the UK is far behind its competitors and faces significant challenges with innovation, supply chains and skills.*

Aviation – CORSIA (4)

- Role of tax and carbon offsetting
 - In the context of the laws of physics, governments are reviewing tax and offsetting policies in the context of an international framework
- Global offsetting scheme – the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) – aimed at meeting the International Civil Aviation Organization's (ICAO's) medium-term climate change goal of Carbon Neutral Growth from 2020 (CNG2020)
 - Part 1: monitoring, reporting, and verification of CO2 emissions (known as MRV)
 - Part 2: the offsetting of CO2 emissions
- Greenpeace/The Guardian investigation:
 - *The forest protection carbon offsetting market used by major airlines for claims of carbon-neutral flying faces a significant credibility problem, with experts warning the system is not fit for purpose.*
 - *A well-known airline said Verra's methodologies were rigorous and science-based, also adding that it was investing in low-carbon technologies. Other airlines echoed these comments and said the use of offsets was an intermediary measure.*
- Edward Luce in the FT: *The magic phrase "net zero emissions" is based on the implicit bet that humanity will find a technological breakthrough soon. The best way to incentivise that outcome would be to make carbon more expensive. It goes without saying that urging Saudi Arabia to pump up the volume is a step in the wrong direction.*



Unique Challenges Facing the Shipping Industry

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The State of Shipping

- International shipping community is lagging far behind peers.
- Industry generates around 2.5% to 3% of global greenhouse gas emissions
- Phase 2 of the Energy Efficiency Design Index (EEDI) was introduced in 2020, requiring CO2 emissions to be at least 20% below the EEDI original baseline.
- In 2020, 146 ships with dual fuel (LNG/LPG/other) propulsion were ordered, representing about 17% of new orders.
 - The majority included LNG but several will use LPG, methanol, or batteries.
- Scrubbers, previously considered a potential solution to fight climate change in the shipping industry, now seem to be a short-term and inadequate solution.

Efforts to Transition

- Shipping has been transitioning to low sulphur fuel and the use of sulphur cleaning devices called scrubbers to permit the use of cheaper heavy fuel oil.
 - High Sulphur Fuel Oil (HSFO) vs. Very Low Sulphur Fuel Oil (VLSFO)
 - Use of scrubbers to remove pollutants from exhaust
 - Some think scrubbers could become undesirable from a political standpoint.
 - Some countries are planning to ban scrubbers.
 - The economics of scrubbers have become inadequate to justify the preliminary investment.
 - Need to invest more in decarbonization and low-to-zero carbon fuels such as hydrogen and ammonia.

Challenges to Transition

- Lengthy lifecycle of vessels
- Retrofitting difficulties and expense
- Experiments with smaller ships powered by diesel electric or fully electric
 - More expensive than traditional shipping
 - Hampered by limited range and capacity
 - Diesel electric vessels produce carbon emissions, albeit at a far lower rate
 - Purely electric propulsion systems bring added complications in storing electricity, as lithium-ion batteries can suffer from “thermal runaway” when a fuel cell becomes damaged, starting a chain reaction among multiple cells
- Use of less polluting fuels like liquefied natural gas (LNG)
 - LNG cuts to sulphur and particle pollution, but still has greenhouse gas emissions
- Hydrogen-fueled ships viewed by some as solution, but hydrogen production using ‘low carbon’ technology in sufficient quantities is still years away

Efforts to Transition


- For almost two decades, International Maritime Organisation's (IMO) Maritime Environment Protection Committee (MEPC) has explored the issue of GHG emissions in the shipping sector
 - Mandatory carbon levies have been proposed, but never adopted
- In 2018, the IMO adopted an initial strategy on reducing GHG emissions from ships by 50% by 2050 from 2008 levels
- On January 2020, the IMO's 0.5% sulphur limit for marine fuels took effect
- Pressure is building to align with a net zero emissions goal by 2050
- Amendments to MEPC's existing regulations will go into effect in November 2022
 - Reduce carbon intensity based on a new "Energy Efficiency Ship Index" (EEXI) and operational carbon intensity reduction requirements based on a new operational carbon intensity indicator (CII)
 - Applies to all ships, not just new builds
- Some members and industry argue more is needed to fund R&D into zero-carbon shipping technologies and fuels – e.g., biofuels, green and blue hydrogen, ammonia, methanol, and nuclear

Carbon Tax Proposals

- The global trade association for ship operators, the International Chamber of Shipping (ICS), has proposed a global levy on carbon emissions from ships.
 - Backed by the trade association for dry cargo shipowners, Intercargo.
 - IMO would collect the funds in an “IMO Climate Fund,” which could then be used to update infrastructure at ports that would be required to transition to alternative fuels.
 - An R&D fund is also part of the proposal, and it would be used to fund the research and development of alternative zero-carbon fuels and propulsion systems.
- The EU’s proposed expansion of its emissions trading scheme (ETS) to maritime transport is also incentivizing consideration of a global maritime carbon levy.

Other Proposals

- The Marshall Islands and the Solomon Islands—two nations facing the threat of being wiped off the map by climate change—proposed a universal mandatory greenhouse gas levy starting at \$100 per ton/CO₂e with regular upward ratchets.
- Several other countries (Denmark, Georgia, Greece, Japan, Liberia, Malta, Nigeria, Palau, Singapore, Switzerland) and nine NGOs have proposed a levy of \$2/mt on fuel oil to create an approximately \$5 billion “IMO Maritime Research Fund” (IMRF) to accelerate the introduction of low-carbon and zero-carbon technologies and fuels.
- The United States has not made its views on a global maritime carbon levy public, but it is committed to a net zero emissions goal.
 - Legislation has been reintroduced and US industry groups and port authorities are also pushing for the inclusion of funds for investment to support the decarbonization of the shipping industry in the pending reconciliation bill.



Developments in the Auto Industry, Including Electric Vehicles

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Legal and Regulatory Background

- Title II of the Clean Air Act
 - Motor Vehicle Emission and Fuel Standards
- Corporate Average Fuel Economy
 - First enacted by Congress in 1975, after the 1973-74 Arab Oil Embargo
- The California Waiver – allowing the state to set its own emission standards for new motor vehicles
 - Originally allowed by EPA because California's standards are **at least as protective as federal standards**



Tailpipe Emissions in the Trump Administration

- Fuel economy standards decreased during the Trump administration:
 - For model years 2021 through 2026, fuel economy must increase by 1.5% a year
 - Under the previous rule, fuel economy needed to increase by 5% a year
- The Trump administration also revoked the California Waiver in September 2019 when the EPA released its “One National Program” rule
 - Asserting that the USDOT had the right to set national fuel economy standards



California's Efforts to Push Electric Vehicles

- In August 2020, California reached emissions deal with five automakers
 - Voluntarily increase fuel economy by 3.7% annually
- Governor Gavin Newsom's September 2020 executive order and electric vehicle mandate
 - Calls for a transition away from fossil fuels as part of a statewide effort to address climate change
 - Directs state agencies to take concrete steps to phase out gas and diesel-powered passenger cars and trucks
 - Commits California to a goal of 100% zero-emission new passenger cars and trucks by 2035



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California's Efforts to Push Electric Vehicles

United States Senate

March 19, 2021

President Joe Biden
The White House
1600 Pennsylvania Avenue NW
Washington, DC 20500

Dear President Biden:

Thank you for your early commitment to restoring clean car standards while reviewing the previous administration's illegal attempt to revoke California's authority to set greenhouse gas and zero-emission vehicle standards. We write to urge you to maintain states' authority to set vehicle emissions standards necessary to protect the health and welfare of their people, while also setting strong nationwide standards for greenhouse gas emissions, fuel economy, and zero-emission vehicles.

We look forward to the coming proposals from the Environmental Protection Agency and the National Highway Traffic Safety Administration to reconsider federal actions by the previous administration that removed the ability of states to protect public health and welfare and that reversed air pollution and fuel economy standards for passenger vehicles that would impose net costs, rather than net benefits, on the nation.

The *Clean Air Act* is a model of state and federal cooperation. It provides a minimum level of protection for national public health but defers to states to determine the best ways to keep the air clean. Importantly, the Act balances states' rights with the interests of a national manufacturing base by preserving the right of California, and other states that want to follow California, to set engine emission standards necessary to ensure everyone has clean air to breathe. That authority includes setting requirements for greenhouse gas emission standards and for zero-emission vehicles to address the threats of catastrophic climate change and harm to public health caused by pollution from engines and their related equipment and systems.

Importantly, California and other states need a strong federal partner. We support aggressive national standards for greenhouse gas emissions, clean transportation technology, and sensible fuel economy for passenger vehicles. We urge your administration to restore pollution standards that actually protect public health and welfare, set fuel economy standards at the maximum level feasible, and advance

- In March 2021, California's two senators urge President Biden to follow California's lead on vehicle emissions
 - Set a federal end date for purchase of new gas-powered vehicles
 - Restore California's authority to set vehicle emissions standards
 - Coordinate with California to fight climate change

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President Biden on California Waiver



- Biden's first day order: directed federal agencies to review the rollback
- In April 2021, EPA proposed to reinstate the California Waiver
 - In June, EPA received public comment on the proposal
- EPA expected to reinstate the waiver

New Proposed Federal Fuel Economy Standards

43726 Federal Register / Vol. 86, No. 151 / Tuesday, August 10, 2021 / Proposed Rules

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 86 and 600
(EPA-HQ-OAR-2021-0208; FRL 8469-02-OAR)
RIN 2060-AV13

Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to revise the greenhouse gas (GHG) emissions standards for light-duty vehicles for 2023 and later model years to make the standards more stringent. On January 20, 2021, President Biden issued Executive Order 13980 "Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis" directing EPA to consider whether to propose suspending, revising, or rescinding the standards previously revised under the "The Safe Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2012–2025 Passenger Cars and Light Trucks," promulgated in April 2020. The SAFE rule significantly weakened the standards established in 2012, which in part set GHG standards for model years 2022–25. EPA believes that to light of the significant contribution of light-duty vehicles to transportation sector GHG emissions, standards more stringent than those relaxed in the SAFE rule are appropriate under the Clean Air Act. EPA is proposing to revise the GHG standards to be more stringent than the SAFE rule standards in each model year from 2023 through 2026. EPA is also proposing to include several flexibilities to incentivize the production and sale of vehicles with zero and near-zero emissions technology to reduce compliance costs and to address the lead time of the proposed standards. In addition, EPA is proposing some technical amendments to clarify and streamline our regulations. Compliance with the proposed standards would be feasible at reasonable costs to manufacturers. The proposed revised standards would result in significant benefits for public health and welfare, primarily through substantial reductions in both GHG emissions and fuel consumption and associated fuel costs paid by drivers, and the benefits of the proposed standards would be far in excess of costs.

DATES:

Comments: Written comments must be received on or before September 27, 2021.

Public Hearing: EPA plans to hold a virtual public hearing on August 23, 2021. An additional session may be held on August 26th if necessary to accommodate the number of testifiers that sign-up to testify. Please refer to the separate Federal Register notice issued by EPA for public hearing details. The hearing notice is available at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-revise-existing-national-ghg-emissions>.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2021-0208, by any of the following methods:

- **Federal eRulemaking Portal:** <https://www.regulations.gov> (our preferred method). Follow the online instructions for submitting comments.
- **Email:** a-and-s-Docket@epa.gov. Include Docket ID No. EPA-HQ-OAR-2021-0208 in the subject line of the message.
- **Mail:** U.S. Environmental Protection Agency, EPA Docket Center, OAR, Docket EPA-HQ-OAR-2021-0208, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- **Hand Delivery or Courier (by scheduled appointment only):** EPA Docket Center, WJC West Building, Room 3134, 1301 Constitution Avenue NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m.–4:30 p.m., Monday–Friday (except Federal Holidays).

Instructions: All submissions received must include the Docket ID No. EPA-HQ-OAR-2021-0208 for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov>, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the "Public Participation" heading of the SUPPLEMENTARY INFORMATION section of this document. Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room are closed to the public, with limited exceptions, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via <https://www.regulations.gov> or email, as there may be a delay in processing mail. Hand deliveries and couriers may be received by scheduled appointment only. For further information on EPA Docket Center services and the current status, please visit us online at <https://www.epa.gov/dockets>.

EPA plans to hold a virtual public hearing for this rulemaking. Please refer to the separate Federal Register notice issued by EPA for public hearing details. The hearing notice is available at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-revise-existing-national-ghg-emissions>.

FOR FURTHER INFORMATION CONTACT: Tad Wynn, Office of Transportation and Air Quality, Assessment and Standards Division (ASD), Environmental Protection Agency, 2000 Traverswood Drive, Ann Arbor, MI 48106; telephone number: (734) 214-4332; email address: www.tad@epa.gov.

SUPPLEMENTARY INFORMATION:

A. Public Participation

Written Comments

EPA will keep the comment period open until September 27, 2021. All information will be available for inspection at the EPA Air Docket No. EPA-HQ-OAR-2021-0208. Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2021-0208, at <https://www.regulations.gov> (our preferred method), or the other methods identified in the ADDRESSES section. Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket. Do not submit to EPA's docket at <https://www.regulations.gov> any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

EPA is temporarily suspending its Docket Center and Reading Room for public visitors, with limited exceptions, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer

- In August 2021, EPA proposed a rule to revise national GHG emissions standards for passenger cars and light trucks
 - 2023-2026 model years
 - 10% increase for model year 2023, followed by approximately 5% annual increases through model year 2026
 - Retains existing GHG credit-based emission averaging, banking, and flexibilities
 - Provides new compliance flexibilities and incentives, including carrying over previously earned compliance credits, advanced tech multiplier credits, and hybrid pickup truck incentives
- Recent EO directed EPA to establish new emissions and fuel efficiency standards for model year 2027 and beyond

Response to Proposed Fuel Economy Standards

- California Air Resources Board and State AG
 - Preference for standards that recover emissions reductions lost as a result of Trump administration rollbacks
- Alliance for Automotive Innovation
 - Supports EPA's proposed GHG standards with appropriate and necessary flexibilities to encourage higher production of electric vehicles
- Environmental groups
 - Generally supportive of EPA's proposed fuel economy standards
 - Some believe the proposal falls short and includes unnecessary incentives that reduce the effective stringency of the standards



President Biden on Electric Vehicles

- In early August, President Biden signed an executive order to increase the production of zero-emission vehicles by 2030
 - Non-binding goal that 50% of all new passenger cars and light trucks be zero-emissions
 - Battery electric, plug-in hybrid, and fuel cell
- The order provides generally that the administration will prioritize clear standards, infrastructure development, and innovation
 - Specifically, to install national network of charging stations and point-of-sale incentives for consumers



Industry Commitment to Electric Vehicles

- Recent industry developments
 - Ford announces \$11 billion plan for two new US-based electric vehicle battery manufacturing sites
 - Volkswagen announces its plan to build six electric vehicle battery factories in Europe by 2030
 - GM announces plans to exclusively offer electric vehicles by 2035
 - Honda announces plans for its own electric vehicle platform, offer only battery-electric and fuel-cell vehicles by 2040
- New EV-only market entrants
 - Rivian
 - Lucid Motors



EV Deployment Issues:

Issue 1: Addressing the “Range” Concern

- The range concern primarily relates to the need for widespread development and operation of network charging assets.
 - At the end of 2018, only a little more than 64,000 public charging stations were installed in the US. Only two years later, by the end of 2020, that number had increased by nearly 50% – with approximately 96,000 public charging stations installed and operating in the US.
 - Infrastructure Plan
 - Substantial monetary investment (\$174 billion)
 - Used to develop a network of 500,000 charging stations
 - The version that passed the Senate in August would create a national EV charging network through \$7.5 billion to create charging stations across US.

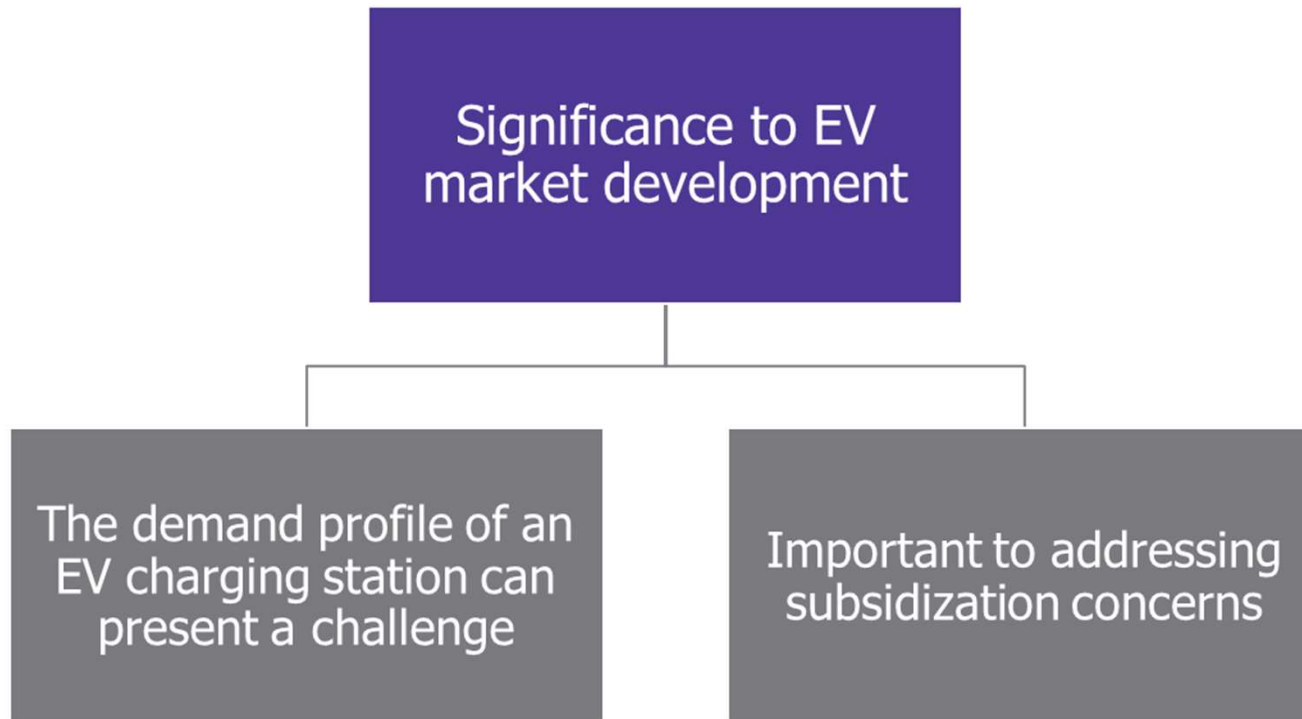
EV Deployment Issues:

Issue 1: Addressing the “Range” Concern

- The range concern also raises a number of sub-issues including, as a threshold matter:
 - Who can own the network charging assets?
 - Whether and how network charging owners/operators are regulated?
 - Impact of utility rate design on network charging consumption?

EV Deployment Issues:

Issue 2: Utility Rate Impacts



EV Deployment Issues: Issue 2: Utility Rate Impacts – What Does the Utility Charge?

- Time-of-use rates apply prices that vary by time period – prices that are higher in peak periods and lower in off-peak periods. A simple version of this involves two pricing seasons. However, a time-of-day rate is more complex but could have two pricing periods within a day.
- Real-time pricing features prices that vary hourly or even sub-hourly throughout the year for some or all of a customer's load. Customers are notified of the rates in advance, in some instances the day prior to the rates or on an hour-ahead basis. In the context of EVs, this approach gives EV charging station owners the maximum flexibility in operating their stations in a way to mitigate the highest prices. Of course, it also requires ongoing monitoring of applicable rates.
- Some state regulators or legislatures are exploring the imposition of rates that are specific to EVs. For example, a utility might consider proposing a commercial tariff that provides for rates applicable only to EV charging station owners in an effort to address the fast and energy-intensive nature of a charging station. In that vein, proposed legislation in New York would require utilities to propose commercial tariffs for fast charging in an effort to help fleet operators go electric.

EV Deployment Issues: Issue 2: Utility Rate Impacts – What Can the Utility Recover?

- In essence, what can the utility include in rate base?
 - Fleet conversion costs?
 - Public network charging infrastructure?
- Issues concerning cross-subsidization by non-EV owners and uses
- What about the impact of EVs on ratepayers as a whole?

EV Deployment Issues: Issue 3: Contractual Issues Abound

- The various facets of widespread EV deployment and use cases raise numerous contractual issues to be addressed that are not otherwise present in non-EV matters. Examples include:
 - EV leasing provisions
 - Network charging installation and/or leasing
 - Provision of energy management services for EV fleet operations
 - Unlocking V2G revenue stream opportunities



Transportation Developments in Germany

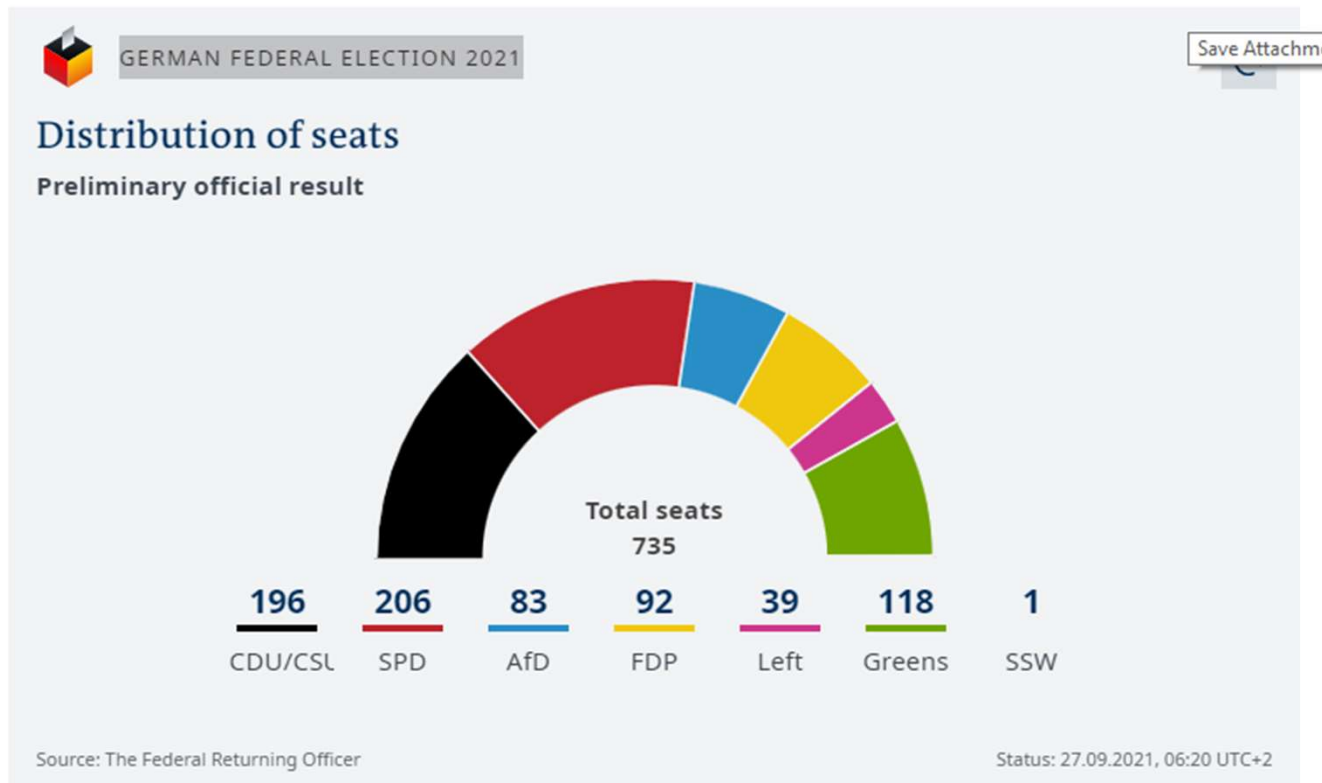
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German Federal Elections and Consequences

Why are the German Federal Elections of Sept. 26 so important?

- End of chancellorship of Angela Merkel after 16 years.
- The Greens will likely be part of the coalition of three parties.
- Climate change was the number one topic during the campaign.
- Germany is the biggest economy in the EU and a hub for car manufacturing and innovation.
- Germany: G7 chair as of January 1st.
- Smaller EU member states likely follow the lead if Germany raises taxes or changes dues to reach the ambitious climate goals.

German Federal Elections and Consequences



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German Federal Elections and Consequences

Election Platforms Greens versus FDP

- “From 2030 [...], only zero-emission cars should be allowed to be newly registered;
- By 2030, however, existing internal combustion vehicles must already be replaced by e-cars at least 15 million vehicles by 2030.
- We want to convert the purchase subsidy for zero-emission cars into a bonus-malus system and open it up to light electric vehicles. Climate-friendly cars must become cheaper, climate-damaging cars more expensive.
- Conversion of existing combustion engines to zero-emission cars.”

- Nationwide expansion of fast-charging stations and interoperable payment structures for e-mobility.
- Non-discriminatory access to charging stations for a fee, as well as transparent pricing and billing systems for the benefit of customers.
- No subsidies such as the purchase premium for e-cars.
- Regulations for hybrid vehicles must be revised so that their real CO2 emissions are taken into account.
- Extend emissions trading to the entire transport sector.
- Many of the bans, subsidies, and support measures adopted to reduce CO2 emissions in the transport sector do not lead to a reduction, but only to costs and distortion of the market.

German Federal Elections and Consequences

Selected issues to watch during the Coalition negotiations:

- **Nuclear Power:** France just extended the use of its nuclear plants for 10 more years ↔ Germany wants to phase out all nuclear plants by next year.
- **Charging points for electric cars:** Germany must catch up. A car manufacturer wants to build its modern combustion engines in China. Trend?
- **Reliable forecast of how much electricity Germany will need in 2030 and how it will be generated.** ↔ Expect more resistance against wind turbines and requirements to install solar panels.
- **Tax increases after Corona?**

Biography



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Levi McAllister advises clients on regulatory compliance and transactional matters in the electric power, natural gas, and petroleum sectors of the energy industry. Levi addresses regulatory provisions administered by the Federal Energy Regulatory Commission (FERC), the Commodity Futures Trading Commission (CFTC), and state public utility commissions. He also counsels clients seeking to reduce their carbon footprints on federal and state regulatory issues arising in the development, acquisition, divestiture, and merger of energy infrastructure assets, focusing on electric vehicle infrastructure, energy storage resources, distributed energy resources, and utility-scale generating assets.

Levi is a member of the firm's multidisciplinary automotive and energy industry teams.

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Biography



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Georgia Quenby is a finance lawyer who advises clients globally on domestic, cross-border, and international financing transactions, restructurings, projects, and special situations. Georgia is a member of the European Air Law Association and has experience in the aviation sector, including advising secured lenders providing working capital financing to airlines and aviation maintenance businesses, advising airlines renegotiating the terms of their aircraft leases and arrangements with credit card providers, and advising airlines and their creditors in insolvency.

She is a co-leader of the firm's banking industry team and a member of the LIBOR Working Group and Georgia is a member of the firm's multidisciplinary ESG and Sustainability working group.

Biography



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Rick R. Rothman focuses on environmental and energy counseling and litigation. Rick's practice encompasses a broad range of environmental and energy laws, including the laws and regulations concerning air quality (both stationary and mobile sources), water quality, power plant siting, hazardous substances, impacted properties, energy efficiency, climate change, and Proposition 65. He is recognized for his environmental work by *Chambers USA*, where clients describe Rick as an "expert in air quality matters" and "very smart and knowledgeable, and easy to work with."

Rick is a member of the firm's multidisciplinary automotive and energy industry teams, as well as a member of the firm's ESG and Sustainability and Climate Change working groups.

Biography



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Carl Valenstein focuses his practice on domestic and international corporate and securities matters, mergers and acquisitions, project development, and transactional finance. He counsels extensively in the life science, telecom/electronics, and maritime industries, and has worked broadly in Latin America, the Caribbean, Europe, Africa, Asia, and the Middle East. He previously served as co-chair of the International Section of the Boston Bar Association and co-chairs the firm's environmental, social, and governance (ESG) and sustainable business and Cuba initiatives. Carl is the leader of the Boston office corporate and business transactions practice.

Carl is a member of the firm's multidisciplinary EWG and Sustainability working group.

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Biography



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Dr. Axel Spies has advised clients for many years on various international issues, including licensing, competition, corporate issues, and new technologies such as cloud computing and international telecommunications licensing. He counsels on international data protection (EU General Data Protection Regulation), international data transfers and compliance, healthcare, technology licensing, e-discovery, and equity purchases. A member of the Sedona Conference on Electronic Discovery, Dr. Spies is frequently quoted in the media for his telecommunications and privacy knowledge.

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Biography



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David K. Brown focuses his practice on environmental litigation, regulatory compliance counseling, and enforcement defense involving air quality, water quality, hazardous substances, and climate change. He advises corporate and municipal clients in the assessment of complex regulatory requirements, threatened enforcement actions, permitting and appeals, due diligence reviews, and reporting and warning requirements arising under federal and state environmental laws.

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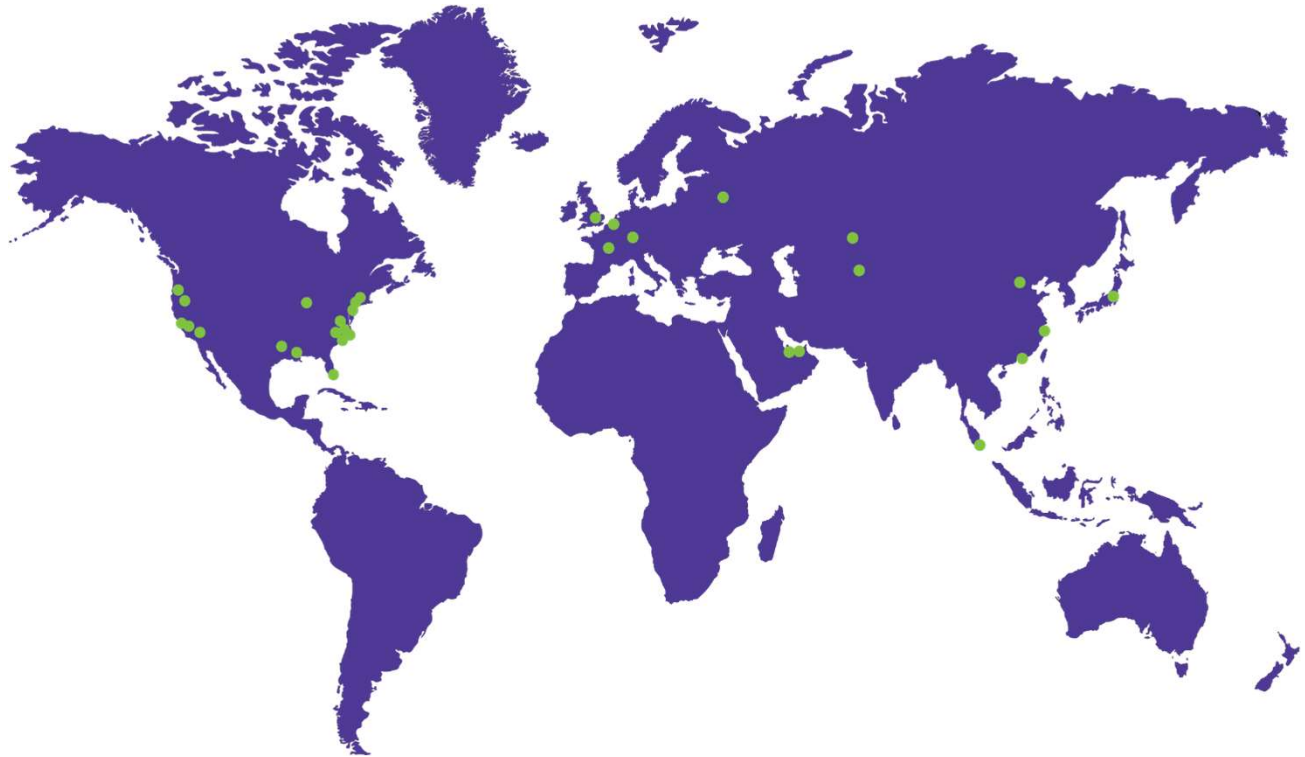
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