# Environment & Climate Regulation

*Contributing editors*
**Carlos de Miguel Perales, Uría Menéndez**
**Per Hemmer, Bech-Bruun**

2019

GETTING THE DEAL THROUGH

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## Environment



## Climate

# Preface

## Environment & Climate Regulation 2019

Fourth edition

**Getting the Deal Through** is delighted to publish the fourth edition of *Environment & Climate Regulation*, which is available in print, as an e-book, and online at www.gettingthedealthrough.com.

**Getting the Deal Through** provides international expert analysis in key areas of law, practice and regulation for corporate counsel, cross-border legal practitioners, and company directors and officers.

Throughout this edition, and following the unique **Getting the Deal Through** format, the same key questions are answered by leading practitioners in each of the jurisdictions featured. Our coverage this year includes new chapters on China, Korea and a new Climate article from the Dominican Republic.

**Getting the Deal Through** titles are published annually in print. Please ensure you are referring to the latest edition or to the online version at www.gettingthedealthrough.com.

Every effort has been made to cover all matters of concern to readers. However, specific legal advice should always be sought from experienced local advisers.

**Getting the Deal Through** gratefully acknowledges the efforts of all the contributors to this volume, who were chosen for their recognised expertise. We also extend special thanks to Carlos de Miguel Perales of Uría Menéndez and Per Hemmer of Bech-Bruun, the contributing editors, for their continued assistance with this volume.

GETTING THE DEAL THROUGH

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# United States

**Toby Chun and Ali Zaidi**
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## Main climate regulations, policies and authorities

### 1 International agreements

**Do any international agreements or regulations on climate matters apply in your country?**

The United States is a participant in a number of multilateral efforts focused on climate matters, most notably the United Nations Framework Convention on Climate Change. However, this global engagement translates to few, if any, binding constraints on the United States and commercial operations therein. Furthermore, the nature of this global engagement is undergoing significant change, as the most recent US presidential election resulted in a shift of views on the merits and mechanics of US global engagement on climate. Within this dynamic, three multilateral efforts focused on climate matters remain notable for those with existing or planned commercial operations within the United States.

First, multilateral efforts focused on phaseout of hydrofluorocarbons (HFCs) under the Montreal Protocol may still be implemented within the United States. HFCs, which are used in HVAC and other cooling applications, are potent contributors to global warming. In 2016, the United States, along with other nations, agreed to adopt the so-called Kigali Amendment to the Montreal Protocol, a decades-old framework that originally brought nations together around the goal of reducing the use of ozone depleting substances. Although the United States has not subsequently ratified the Kigali Amendment, the Environmental Protection Agency (EPA) did start a systematic process of rulemaking to phase out HFCs under its Clean Air Act authorities, by requiring industry adoption of more benign alternatives. As of this writing, that authority is being challenged in the US Supreme Court. The outcome of those consolidated cases will shape, in part, whether the Kigali Amendment continues to motivate new regulatory policy in the United States. Notably, California is also planning to issue its own phaseout regulations for HFCs.

Second, the United States continues to remain part of a multilateral effort organised by the International Civil Aviation Organization (ICAO) to reduce the greenhouse emissions associated with aviation. The United States continues to support ICAO in the development of a market-based mechanism aimed at reducing and offsetting carbon emissions. In June 2018, ICAO took significant steps toward establishing that market-based mechanism: the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). The organisation has set some baseline rules for CORSIA and has started to engage in data collection as a necessary predicate to sound accounting practices. The next stage of implementation for CORSIA is made up of voluntary, country-level reductions, but will not start until 2021 when airlines will need to begin offsetting carbon emissions growth.

Third, although the US government announced its intention to exit the Paris Climate Agreement on 1 June 2017, the terms of the Agreement preclude the United States from formally being able to do so until late 2020. In effect, this change in policy means that the US government is no longer taking affirmative steps to implement its nationally determined contribution (NDC) to the Paris Climate Agreement. However, this decision has galvanised climate-related actions at state and local levels of government. In fact, a group of US states, cities and municipalities have formed a US climate alliance, which, by its own accounting, has kept the United States on track with regard to greenhouse gas emissions reductions relative to the US NDC. This US climate alliance has also been active in engaging foreign governments around opportunities for collaboration.

### 2 International regulations and national regulatory policies

**How are the regulatory policies of your country affected by international regulations on climate matters?**

In the case of HFCs and aviation emissions, regulatory policy within the United States continues to be tethered, in part, to international regulatory direction. However, in neither policy arena is the United States bound to promulgate any particular policy. Furthermore, given the US posture on the Paris Climate Agreement, there is no longer an effort to harmonise US federal environmental policy with an overarching objective on global climate action. On the other hand, states, cities and municipalities continue to engage with their international counterparts. For example, efforts are under way to link certain state-level US carbon markets with additional carbon markets overseas.

### 3 Main national regulatory policies

**Outline recent government policy on climate matters.**

The primary set of national regulatory policies on climate matters arise from the Clean Air Act, and subsequent court decisions which have provided the EPA with an ability, if not a requirement, to regulate greenhouse gas emissions in order to protect human and environmental health. The recent presidential election and associated policy shift at the EPA has resulted in significant proposed revisions to the way the national government implements the Clean Air Act in this arena.

For power plants, an earlier direction was set by the EPA's Clean Power Plan, which required each state to achieve a certain level of greenhouse gas emissions reductions from its power sector. The Clean Power Plan was challenged in courts and stayed; during this time, the new presidential Administration commenced a process aiming to repeal and replace the Clean Power Plan. In August 2018, the EPA issued its proposed replacement plan, titled the Affordable Clean Energy plan. Under this proposed rule, states must develop their own plans to reduce greenhouse gas emissions from the power sector. However, in developing these plans, states are to focus exclusively on the reductions possible through heat rate improvements to coal-fired power plants. The new plan does not include requirements around natural gas, renewables or energy efficiency, nor does the plan integrate those generation sources into its approach for power sector emissions reduction. The Affordable Clean Energy plan is currently a proposal; the EPA still has to finalise the plan before it may be implemented by the states.

For cars and trucks, a regulatory programme jointly administered by the EPA and the US Department of Transportation (DOT) governs greenhouse gas emissions, along with fuel economy. Together, the EPA and DOT set standards for several model years at a time. The standards for model years 2022–2025 are currently under review. Although the previous Administration had concluded that those standards should remain as established in 2012, the new Administration has proposed revisions to those standards, which result in less stringent greenhouse gas limitations for the vehicle fleet. Changes to this regulatory programme are complicated by the cooperative role that US states, led by

California, play in setting standards for cars and trucks. The proposal has yet to be finalised and is expected to be challenged through litigation. In addition to these standards for cars and trucks, the EPA and DOT have separate standards for heavy-duty trucks, such as long-haul freight carriers. Those standards have largely remained unchanged except for an action limiting the effect of those standards on so-called glider vehicles.

For oil and natural gas, in September 2018, the EPA proposed changes to its New Source Performance Standards for the oil and natural gas industry, which were largely focused on limiting methane leaks from well sites and operations. These proposed changes reduce the frequency of methane audits for sources, provide more time to curb identified issues, and limit the overall stringency of the programme. Like others, this proposal has yet to be finalised, but marks a departure from the policy approach under the previous Administration.

In addition to regulatory policy under the Clean Air Act, the federal government's policy on climate-related matters has changed in other ways since the presidential election. For example, policies on leasing of federal land for energy development have changed: the new Administration lifted a moratorium on issuance of new leases for coal mining on federal land, and has proposed a significant expansion of federal land availability for both onshore and offshore oil and natural gas development. However, policies promoting leasing of these same federal lands for onshore and offshore wind, solar and geothermal development generally remain steady.

Trade and tax policy changes have also impacted the deployment of clean energy technologies, such as solar, wind and carbon capture and sequestration. In January 2018, the Administration announced tariffs on imported solar cells and modules. These tariffs will be imposed over a four-year period and begin at 30 per cent, ramping down to 15 per cent in the final year. In February 2018, the US Congress passed several changes to the tax code on energy-related provisions. First, Congress extended the availability of a production tax credit (PTC) under section 45 to biomass, geothermal, landfill gas, trash facilities, qualified hydropower facilities and marine hydrokinetic renewable energy facilities. This PTC, which is largely utilised by wind facilities, has started to ramp down and will sunset in 2020. Second, Congress extended the availability of an investment tax credit (ITC) under section 48 to fuel cell, fibre-optic solar and small wind facilities, and, to a lesser extent, to qualified microturbine, combined heat and power, and geothermal heat pump facilities. This ITC, which is largely utilised by solar facilities, begins to ramp down in the coming years. The last set of facilities eligible for full ITC will commence construction before 2020 and be placed in service by 2023. Third, Congress dramatically overhauled its tax incentive for carbon capture and sequestration technologies under section 45. Specifically, carbon capture projects may now be available for up to $50 per ton of tax credit (where the carbon is sequestered geologically without enhanced oil recovery). Projects that commence before January 2024 are able to claim credits for 12 years.

### 4 Main national legislation

**Identify the main national laws and regulations on climate matters.**

In addition to the Clean Air Act and tax law provisions covered earlier (see question 3), climate matters are also impacted by energy efficiency regulation of appliances by the US Department of Energy; federal funding of research and development across many agencies on topics ranging from basic climate science to applied technology programmes; federal procurement policies that may consider energy and climate externalities; and laws related to extreme weather and disaster response. However, the United States has no overarching national laws on climate change, nor any economy-wide regime to regulate greenhouse gas emissions.

### 5 National regulatory authorities

**Identify the national regulatory authorities responsible for climate regulation and its implementation and administration. Outline their areas of competence.**

The following federal agencies lead among climate, and related, regulation and policy:

- US Department of Agriculture: supports research, development and deployment of renewables and bio-based products, including grants to support advanced biofuels. In addition, the agency is responsible for supporting climate risk management as one of the lead agencies on wildfire risk reduction and response and on drought-related issues;
- US Department of Defense: integrates climate risk into its operational planning and has supported the development of renewables and biofuels, especially as a means to improve the energy security of its domestic and forward operating bases;
- US Department of Energy: regulates the energy efficiency of a diverse range of appliances (eg, transformers, microwaves and refrigerators), permitting and siting for certain transmission and LNG facilities, and aspects of the nuclear industry (although primary responsibility for nuclear regulation is with the independent US Nuclear Regulatory Commission). In addition, the agency is the largest funder of energy-related research and development in the United States;
- US Department of the Interior: manages the US federal lands, as well as infrastructure that crosses federal lands (eg, transmission lines). This includes policies related to leasing of federal lands for coal, natural gas, oil and renewables development, both on- and offshore;
- US Department of Transportation: co-regulator, with the EPA, of mobile sources, like cars and trucks, and is responsible for regulating aspects of pipeline, highway, marine and aviation transportation;
- US Environmental Protection Agency: promulgates rules for mobile and stationary sources of air, water and hazardous waste pollution. It is the agency with principal responsibility for developing and enforcing regulations under the Clean Air Act, which is currently the primary federal tool for regulating greenhouse gas emissions. In addition, the agency administers the Renewable Fuels Standard, which is the primary means of setting biofuels policy in the United States; and
- US Federal Energy Regulatory Commission: the principal regulator for electricity markets in the United States, and also has authority over oil pipelines.

## General national climate matters

### 6 National emissions and limits

**What are the main sources of emissions of greenhouse gases (GHG) (or other regulated emissions) in your country and the quantities of emissions from those sources? Describe any limitation or reduction obligations. Do they apply to private parties in your country?**

Based on the EPA's annual accounting (for the year 2016) the primary types of greenhouse gas emissions in the United States are carbon dioxide (81 per cent), methane (10 per cent), nitrous oxide (6 per cent), and fluorinated gases (3 per cent). The carbon dioxide emissions come from a number of sources. Electricity and transportation sources each account for 34 per cent of these emissions. The remainder come from industry (15 per cent), residential and commercial sources (10 per cent) and other sources not related to fossil fuel combustion (6 per cent). Methane emissions largely come from oil and natural gas systems (31 per cent), enteric fermentation (26 per cent) and landfills (16 per cent).

As previously noted, these greenhouse gas emissions are subject to various standards under the Clean Air Act. In addition, they are subject to certain state and local level regulations. However, the United States has no overarching national laws on climate change, nor any economy-wide regime to regulate greenhouse gas emissions.

### 7 National GHG emission projects

**Describe any major GHG emission reduction projects implemented or to be implemented in your country. Describe any similar projects in other countries involving the participation of government authorities or private parties from your country.**

The US federal government supports several billion dollars annually in research and development projects across various clean energy

technologies. Rather than securing specific emission reduction units, support for these projects is focused on driving down the costs of clean energy technologies through technological innovation. In the past, the US government has advanced sustained research and development programmes on technologies like solar, carbon capture and sequestration and electric vehicle batteries. More recently, the government has funded work on advanced nuclear, offshore wind and geothermal energy, although the portfolio has and continues to fund a broad range of energy technologies.

## Domestic climate sector

### 8 Domestic climate sector

**Describe the main commercial aspects of the climate sector in your country, including any related government policies.**

There is no uniform US climate sector, given the lack of a single, federal regulatory framework on greenhouse gas emissions. Instead, various industries exist to provide options for greenhouse gas emissions reduction, such as the growing integration of renewables into the power sector.

## General GHG emissions regulation

### 9 Regulation of emissions

**Do any obligations for GHG emission limitation, reduction or removal apply to your country and private parties in your country? If so, describe the main obligations.**

The obligations outlined under the Clean Air Act apply to private parties operating within the United States. These include: obligations for refiners to blend certain amounts of renewable biofuels (under the Renewable Fuel Standard); obligations for power plants and other stationary sources to obtain permits under the Clean Air Act (eg, PSD permits, see question 10); and obligations for manufacturers under the aforementioned standards for cars, trucks and heavy-duty vehicles. Similarly, the aforementioned appliance efficiency standards promulgated by the US Department of Energy apply to private sector manufacturers of appliances.

### 10 GHG emission permits or approvals

**Are there any requirements for obtaining GHG emission permits or approvals? If so, describe the main requirements.**

There are limited federal requirements for GHG emission permits at the federal level. Stationary sources may trigger requirements under the EPA's New Source Review (NSR) and Prevention of Significant Deterioration (PSD) programmes. However, a 2014 decision by the US Supreme Court limited the applicability of that requirement to stationary sources that already trigger permitting thresholds under those programmes based on pollutants other than GHG. As a result, only 'anyway sources' (those subject to permitting requirements because of non-GHG emissions) may also be subject to permit requirements associated with their GHG emissions.

### 11 Oversight of GHG emissions

**How are GHG emissions monitored, reported and verified?**

On an annual basis, roughly half of US GHG emissions are captured in the mandatory reports from about 8,000 facilities across the country. This mandatory reporting takes place under the EPA's Greenhouse Gas Reporting Program, which provides the protocols for reporting. In sum, 41 categories of sources are required to report. The triggering thresholds for reporting are reached, generally, where a source is responsible for GHG emissions that exceed 25,000 metric tons $CO_2e$ per year.

### 12 GHG emission allowances (or similar emission instruments Regime

**Is there a GHG emission allowance regime (or similar regime) in your country? How does it operate?**

The United States has no national GHG emission allowance regime, nor any economy-wide regime to regulate GHG. However, two notable state-level efforts exist: the Regional Greenhouse Gas Initiative (RGGI), which covers nine states in the northeast currently and is expected to include two additional states within the next year, and the California cap-and-trade programme. Started in 2009, RGGI is a cap-and-trade programme that covers carbon emissions from fossil-fired power plants within the multi-state region. RGGI is implemented in three-year compliance periods, holds quarterly auctions for allowances and permits banking and trading of allowances. California's program was established by AB 32 in 2006 and was recently reauthorised (through 2030) by AB 398 in 2017. The California programme allows for offsets to compliance obligations up to a certain amount (4 per cent annually through 2025, and 6 per cent annually through 2030). This feature creates a market for investment in verifiable offsets in approved areas such as agriculture. Similar to the RGGI programme, the California programme holds quarterly auctions for allowances and authorises banking and trading of allowances. However, the California programme covers a broader range of sources: in addition to power plants, the California programme reaches major industrial facilities, carbon dioxide suppliers and oil and natural gas facilities.

### 13 Registration

**Are there any GHG emission allowance registries in your country? How are they administered?**

RGGI and the California cap-and-trade programme are the only mandatory carbon emissions trading programmes within the United States. They operate using the RGGI $CO_2$ Allowance Tracking System (RGGI COATS) and the California Compliance Instrument Tracking System Service (CITSS), respectively. In addition to these mandatory programmes, voluntary programmes exist within the United States and are supported by a number of registries, most notably the American Carbon Registry (ACR) and the Verified Carbon Standard (VCS).

### 14 Obtaining, possessing and using GHG emission allowances

**What are the requirements for obtaining GHG emission allowances? How are allowances held, cancelled, surrendered and transferred? Can rights in favour of third parties (eg, a pledge) be created on allowances?**

Although there is no national regulation on this matter, the aforementioned two relevant programmes do establish their own requirements. Within RGGI, regulated entities must surrender allowances sufficient to offset their emissions at the end of each compliance period. Unused allowances can be banked between compliance periods. In contrast, the California cap-and-trade programme limits banking and imposes certain restrictions on trading, holding the power to review and invalidate improper transactions.

## Trading of GHG emission allowances (or similar emission instruments)

### 15 Emission allowances trading

**What GHG emission trading systems or schemes are applied in your country?**

Although there is no national regulation on this matter, the two relevant programmes do establish their own requirements. Section 95921 of the California Code of Regulations Title 17 outlines California's requirements regarding 'transaction agreements' that allow registered entities to transfer the control of allowances or Air Resource Board (ARB) offset credits. In the Northeast, the RGGI $CO_2$ Allowance Tracking System (RGGI COATS) facilitates any such transfers.

### 16 Trading agreements

**Are any standard agreements on GHG emissions trading used in your country? If so, describe their main features and provisions.**

The relevant requirements for trading within California and RGGI are set out in Section 95921 of the California Code of Regulations Title 17 and within RGGI COATS. In addition, for secondary market trading of California Carbon Allowances and California Carbon Offsets, the California Emissions Trading Master Agreement published by the

International Emissions Trading Association (IETA) is often used as a starting point for development of trading agreements.

## Sectoral regulation

### 17 Energy sector

**Give details of (non-renewable) energy production and consumption in your country. Describe any regulations on GHG emissions. Describe any obligations on the state and private persons for minimising energy consumption and improving energy efficiency. Describe the main features of any scheme for registration of energy savings and for trade of related accounting units or credits.**

The US Energy Information Administration tracks consumption of US energy. In 2017, in addition to renewables, the US consumed a total of 78.669 quadrillion Btu of fossil energy and 8.427 quadrillion Btu of nuclear energy. Together, the energy sector was responsible for 5.142 million metric tonnes of carbon emissions, with petroleum emissions accounting for 2.338 million metric tonnes, natural gas emissions accounting for 1.474 million metric tonnes and coal emissions accounting for 1.318 million metric tonnes.

National policy with the aim of reducing energy consumption is largely implemented through the fuel economy standards and appliance efficiency standards discussed in response to questions 3 and 5. In addition, market rules implemented by the US Federal Energy Regulatory Commission facilitate market participation in efficiency programmes through monetisation of demand response. At the state level, governments have established energy efficiency standards as well as building efficiency codes, which, together, serve to reduce national energy consumption.

### 18 Other sectors

**Describe, in general terms, any regulation on GHG emissions in connection with other sectors.**

The United States has voluntary programmes designed to support the development of carbon sinks and implementation of carbon management practices in agriculture. However, no mandatory requirements exist that specifically manage the carbon emissions profile of forestry or agriculture. As discussed previously, the federal government has undertaken some rulemaking focused on reducing methane leakage from oil and natural gas operations. However, these rules are undergoing significant revision following the most recent presidential election. For transportation sector sources, the activities being undertaken by the EPA and DOT are described in response to questions 3 and 5; these represent the principal efforts to limit GHG emissions from that sector on a national basis.

## Renewable energy and carbon capture

### 19 Renewable energy consumption, policy and general regulation

**Give details of the production and consumption of renewable energy in your country. What is the policy on renewable energy? Describe any obligations on the state and private parties for renewable energy production or use. Describe the main provisions of any scheme for registration of renewable energy production and use and for trade of related accounting units or credits.**

The US Energy Information Administration tracks consumption of US renewables. In 2017, the United States consumed a total of 10.994 quadrillion Btu of renewable energy. The leading sources of that energy were hydroelectric power (2.770 quadrillion Btu), wind (2.345 quadrillion Btu), wood biomass (2.145 quadrillion Btu), ethanol (1.192 quadrillion Btu) and solar (0.774 quadrillion Btu).

At the federal level, there is no overarching renewable energy policy; rather, federal policy is implemented through a series of programmes that include research, development and deployment grants and loans; federal tax incentives; and forward-leaning leasing programmes designed to encourage development of renewable energy on federal lands and waters. At the state level, a diverse set of policies exists to encourage consumption of renewable energy, especially within the electricity sector. These policies include state level generation targets. In fact, the majority of US states have programmes in place that require a certain level of renewable generation (or procurement) by the electric utilities operating within the state. These programmes are diverse in their impact, ambition and mechanics. Most recently, California, the largest economy within the US and the sixth largest economy in the world, passed legislation requiring 100 per cent renewable electricity by 2045.

### 20 Wind energy

**Describe, in general terms, any regulation of wind energy.**

Wind energy is regulated by federal, state and local entities. The principal federal requirements are focused on minimising conflicts with wildlife and aviation. Wind energy producers must be in compliance with the Endangered Species Act (ESA) and treaty provisions protecting migratory birds. Where conflicts exist, developers may be required to obtain 'take' permits as well as implement mitigation efforts. In addition, wind energy development must comport with general rules associated with land use, including securing relevant easements or rights-of-way. Where the federal government is a landowner, such processes may require federal permits as well as environmental review under the National Environmental Protection Act (NEPA). In addition to land use concerns, wind energy developers must be compliant with relevant regulations governing airspace, which includes avoiding and mitigating conflicts with aircraft and communications signals governed by the US Federal Aviation Administration and US Federal Communications Commission respectively.

Offshore wind is subject to the same regulatory requirements as onshore wind, as they relate to wildlife and aviation; however, additional, different federal requirements become material given the extensive role played by the US Bureau of Ocean Energy Management as the lead federal agency responsible for leasing offshore lands (beyond state waters) and overseeing environmental review and permitting requirements associated with construction and operations of offshore energy. In addition, offshore wind must comport with some marine-specific requirements, including those associated with protection of marine mammals and maintenance of fisheries and coastal zones.

Wind energy benefits from the aforementioned PTC at the federal level; however, a number of state-specific incentives may also exist, including state renewable portfolio standards that require certain procurement targets based on generation source.

### 21 Solar energy

**Describe, in general terms, any regulation of solar energy.**

Similar to wind energy development, solar energy development must also abide by the set of environmental laws designed to protect wildlife and ensure appropriate land use. Although birds tend to generate fewer permitting issues for solar development, solar development in the United States, especially within the Western states, has required engagement with federal agencies around ESA (eg, with regard to desert tortoises). In addition, where solar development is contemplated on land owned by the federal government, federal permits may be required along with environmental review under NEPA.

Solar energy benefits from the aforementioned ITC at the federal level; however, a number of state-specific incentives may also exist, including net-metering provisions that deliver a subsidy for rooftop solar owners and state renewable portfolio standards that require certain procurement targets based on generation source.

### 22 Hydropower, geothermal, wave and tidal energy

**Describe, in general terms, any regulation of hydropower, geothermal, wave or tidal energy.**

New hydropower is regulated primarily by the US Federal Energy Regulatory Commission. However, this process requires a number of other agencies to consult on applicable environmental laws, most notably the ESA and Clean Water Act. Much of the existing hydropower in the United States is managed by the federal government either by the US Bureau of Reclamation, US Army Corps of Engineers, or the US Department of Energy's power marketing agencies. Modifications to

these facilities necessarily implicate the regulations of the relevant parent agency. In addition, any significant federal decisions on permits, and otherwise, are subject to some degree of NEPA review.

Geothermal energy is regulated principally by the underground injection programme of the EPA. However, where development of the geothermal resource is contemplated on land owned by the federal government, federal permits may be required along with environmental review under NEPA.

Wave and tidal energy in federal waters is subject to similar regulatory requirements as offshore wind, with the US Bureau of Ocean Energy Management serving as the lead federal agency responsible for leasing offshore lands (beyond state waters) and overseeing environmental review and permitting requirements associated with construction and operations of offshore energy. Furthermore, wave and tidal energy must comport with marine-specific requirements, including those associated with protection of marine mammals and maintenance of fisheries and coastal zones.

### 23 Waste-to-energy

**Describe, in general terms, any regulation of production of energy based on waste.**

The primary regulatory regime for waste-to-energy facilities is administered by the EPA based on its authorities under the Clean Air Act, specifically under the Section 129 requirements for solid waste combustion and more generally under its NSR and PSD programmes. For additional discussion on these programmes, see question 10. Although new waste-to-energy facilities have not been built in recent years, these permitting requirements may still be triggered if existing facilities are meaningfully modified. In addition to air pollution requirements, waste-to-energy facilities must also comply with all environmental laws, notably including the Clean Water Act and the Resource and Conservation and Recovery Act, which governs the management of hazardous waste.

### 24 Biofuels and biomass

**Describe, in general terms, any regulation of biofuel for transport uses and any regulation of biomass for generation of heat and power.**

The Renewable Fuel Standard (RFS) is the primary federal policy governing biofuels in the United States. On an annual basis, the RFS creates an obligation for refiners to blend certain amounts of renewable biofuels into the US liquid fuel supply. These requirements are articulated with specificity regarding the volumes that must be blended by type of biofuel. The statute is constructed to growingly shift its focus toward advanced and cellulosic biofuels and away from traditional ethanol. Since its adoption in 2007, the RFS has created substantial demand for biofuels in the United States; in fact, because of the RFS, roughly 10 per cent of US liquid fuel supply for transportation is now biofuels-based, rather than petroleum.

Although additional regulatory action may be required, in 2017 the EPA announced a new policy to treat biogenic carbon dioxide emissions from the combustion of biomass at stationary sources as carbon neutral. This announcement has significant implications for energy sources powered by biomass.

### 25 Carbon capture and storage

**Describe, in general terms, any policy on and regulation of carbon capture and storage.**

The most likely future driver of carbon capture utilisation and storage (CCUS) within the United States is the newly overhauled tax incentive under section 45 of the tax code. Specifically, carbon capture projects may now be available for up to $50 per ton of tax credit (where the carbon is sequestered geologically without enhanced oil recovery). Projects that commence before January 2024 are able to claim credits for 12 years.

New projects must adhere to requirements under all environmental laws, including the Clean Air Act and Clean Water Act. Notably, CCUS may also implicate the EPA's underground injection requirements, especially where carbon dioxide is being injected or stored as part of a CCUS project.

## Climate matters in transactions

### 26 Climate matters in M&A transactions

**What are the main climate matters and regulations to consider in M&A transactions and other transactions?**

Although the United States lacks a comprehensive, national climate policy and has recently taken steps back from multilateral efforts around climate change, a number of climate and climate-related policies and trends still exist for consideration within M&A transactions. In large part, new policymaking is continuing at robust pace at the state level. States involved in the US climate alliance, for example, have been adopting new policies on renewables and storage technology, promoting low-carbon fuels and vehicles, and limiting the environmental footprint of fossil fuels. New legislation is also reaching beyond traditional areas for climate regulation to focus on supply chains, instead of just sources, and on carbon removal, rather than just clean technologies. In addition, the US investment community, especially institutional investors, are leading an increased focus on climate risk identification and disclosure. In part, this push is focused on the physical risks posed by a changing climate, such as from flood, drought, or wildfire. The issues surrounding adaptation or resilience to climate impacts is a nascent but growing area of focus for regulators as well, including by state insurance and infrastructure officials. Taken together, these new policies and trends come together as significant considerations for those involved in M&A transactions in the United States.

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