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Summary of H.R. 2454: Waxman-Markey Climate Change Legislation

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September 2009 *Prepared by Alexander D. Menotti and Joseph J. Green*

The U.S. House of Representatives recently passed H.R. 2454, a comprehensive energy and climate bill entitled the "American Clean Energy and Security Act of 2009" ("ACES") and popularly known as the "Waxman-Markey bill" after the lead sponsors. The Senate has indicated that it will consider legislation based upon H.R. 2454 in the fall.

H.R. 2454 is hundreds of pages long and includes five titles. Titles I and II address clean energy and energy efficiency, respectively. Title III includes the cap and trade program and related provisions. Title IV addresses issues relating to transitioning to a new clean energy economy, including international competitiveness, worker transition, technology transfer, and adaptation. Finally, the bill as passed included a new Title V granting the Department of Agriculture authority over domestic agricultural and forestry offsets.

Following is a brief overview of the provisions in each of the five titles of ACES.

I. TITLE I: CLEAN ENERGY

A. Renewable Electricity Standard ("RES")

Section 101 of ACES amends the Public Utility Regulatory Policies Act ("PURPA") to require retail electric suppliers that sold more than 4 million megawatt hours of electricity in the previous calendar year to purchase 6 percent of their electricity from renewable energy sources by 2012. The RES increases steadily, culminating in 2020 with a 20 percent standard that continues through 2039. Up to 25 percent of the RES can be met by efficiency improvements, except that the efficiency component can be increased to 40 percent upon a petition from the governor in which the utility is located.

Renewable energy includes energy derived from wind, solar, geothermal, biomass, landfill gas, qualified hydropower (defined as efficiency or capacity improvements made after 1991 at existing hydropower facilities), and hydrokinetic renewable energy (wave, tidal, *etc.*). Additional qualifying sources include landfill gas, wastewater treatment gas, coal-mine methane, and municipal solid waste.

The Federal Energy Regulatory Commission ("FERC") will issue a tradable Federal renewable electricity credit ("REC") for each megawatt hour of power generated from the above sources. Distributed renewable generation facilities, defined as facilities located at or near the customer load that are no greater than 4 megawatts in capacity, would be eligible for a three-fold credit multiplier.

Despite much debate in hearings leading up to passage of ACES, nuclear generation is not eligible for the RES. However, new nuclear generation, existing hydropower, and electricity from facilities equipped with carbon capture and sequestration will not be included in the baseline when a utility calculates its renewable percentage requirement. For example, if a utility were to con-

struct a new one gigawatt nuclear plant, it would not also be required to source an additional 200 megawatts (20 percent) of renewable energy.

Efficiency savings can be obtained through customer facility savings, reductions in transmission losses, and savings from use of fuel cells or combined heat and power installations. The customer facility savings category also explicitly includes recycled energy savings, which is defined as a reduction in electricity consumption from the modification of an industrial or commercial system that recaptures electrical, mechanical, or thermal energy. Facilities that create electricity savings can monetize the savings by acting as third-party efficiency providers and selling efficiency improvements to regulated utilities.

Regulated parties can opt to make an alternative compliance payment equal to $25/megawatt hour instead of submitting RECs or demonstrated efficiency improvements. Thus, the alternative compliance payment mechanism serves as an upper limit on the value of each megawatt hour of renewable generation or efficiency savings.

The RES does not preempt more stringent state renewable energy programs, though state renewable energy credits could also be used to satisfy the federal standard.

B. Federal Renewable Energy Purchases

ACES also includes a provision mirroring the RES that would require the federal government to purchase 6 percent renewable energy in 2012, rising to 20 percent after 2020.

C. Carbon Capture and Sequestration

ACES contains extensive provisions for Carbon Capture and Sequestration ("CCS"). An early demonstration program would be funded by assessments against fossil fuel utilities totaling at least $1 billion per year. Assessments would be levied per kilowatt hour of fossil-based electricity delivered to customers and would differ depending on the relative carbon dioxide emission rates of different fossil fuels, with coal carrying the highest assessments and natural gas the least.

ACES also calls for a commercial-scale CCS deployment program that would distribute emissions allowances allocated under the cap and trade program for projects that reduce emissions by 50 percent or more at (a) electric generating units ("EGUs") with a capacity of at least 200 MW (more than 50 percent of which comes from coal or petroleum coke), (b) retrofitted EGUs with at least 200 MW of capacity devoted to CCS, or (c) at large industrial facilities that annually emit more than 50,000 tons of carbon dioxide and other greenhouse gases (expressed as carbon dioxide equivalents or "CO_2e"). Funds would not be available for facilities that produce liquid transportation fuel from a solid fossil-based feedstock (*e.g.,* coal to liquids facilities). Industrial facilities would be eligible for not more than 15 percent of the total allowances allocated for CCS under the cap and trade program (totaling 2 percent in 2014 through 2017 and 5 percent in 2018 through 2050).

The bill utilizes financial incentives with performance standards as a backstop to ensure deployment of CCS technology. Coal plants initially permitted between January 1, 2009, and January 1, 2015, begin to lose eligibility to receive allowances if they are not equipped with CCS technology by the earlier of 2020 or five years from the commencement of operations. Facilities ini-

tially permitted between 2015 and 2020 are not eligible for any allowances if CCS is not in place upon commencement of operations. All coal plants initially permitted after 2020 are required to have CCS upon commencement of operations and are not entitled to allowances.

In all cases, plants initially permitted between January 1, 2009, and January 1, 2020, would be required to reduce emissions 50 percent by 2025. These performance standards can be accelerated and would be triggered four years from the commercial demonstration of CCS at facilities with at least four gigawatts of generating capacity. The 2025 deadline may be extended by up to 18 months at individual facilities if the U.S. Environmental Protection Agency ("EPA") determines that earlier compliance is technically infeasible. Plants initially permitted after 2020 would be required to reduce emissions by 65 percent upon commencement of operation. After 2025, and every five years thereafter, EPA is charged with increasing the stringency of the standards to reflect the best achievable control technology, considering costs and other factors.

ACES would also amend the Clean Air Act ("CAA") to create a comprehensive regulatory program for geologic sequestration sites, including both CO_2 storage sites and enhanced oil recovery projects. EPA is directed to promulgate regulations that would minimize the risk of "reversals," in which sequestered CO_2 is released into the atmosphere. These regulations will complement existing regulations promulgated pursuant to the Safe Drinking Water Act related to underground injection wells. The Safe Drinking Water Act would be further amended to include a deadline for sequestration regulations and clarification of financial responsibility provisions.

D. Clean Transportation and Biofuels

Title I includes extensive provisions designed to advance clean vehicles and infrastructure. These provisions include a large scale vehicle electrification program that would authorize Department of Energy ("DOE") funding of electric vehicle purchases, infrastructure improvements, and factory retooling. The clean transportation provisions also would grant the Secretary of Transportation authority to require construction of vehicles capable of operating on ethanol or methanol.

ACES significantly amends the Renewable Fuels Standard ("RFS") program under Section 211(o) of the CAA. First, ACES would expand the kinds of biomass that can be used to make renewable fuel. The prohibition on sourcing biomass from federal lands has been considerably relaxed, and municipal solid waste ("MSW"), previously excluded from the definition of biomass, is now included.

Second, ACES temporarily would preclude EPA from considering the international indirect land use effects of biofuels when computing their lifecycle GHG emissions under the RFS, which was a requirement under the 2007 Energy Independence and Security Act ("EISA"). ACES instead would require a National Academy of Sciences study of the international land use effects of biofuels. If the study concludes that there is a scientific basis for including international land use effects in the lifecycle GHG calculations of biofuels, a final rulemaking from EPA and the Department of Agriculture on the methodology for including such effects would be required to be promulgated within five years and effective within six years of enactment of ACES.

Finally, ACES would exempt all biomass-based diesel produced prior to the enactment of EISA from the requirement to achieve a 50 percent lifecycle GHG reduction as compared to conventional diesel.

E. Loan Guarantees

Title I of ACES includes numerous provisions that expand existing DOE Loan Guarantee programs. These provisions include an increase of the budget authorization for clean vehicle loan guarantees to $50 billion, as well as expanded eligibility for loan guarantees to renewable fuel pipeline projects and the development and construction of advanced electricity transmission technologies.

F. Clean Energy Investment Fund

ACES includes provisions that would establish a Clean Energy Investment Fund in the Treasury to be administered by a new Clean Energy Deployment Administration. The Clean Energy Investment Fund would supplement DOE's Loan Guarantee Program and support clean energy technologies through various financial measures, including direct loans, letters of credit, loan guarantees, and insurance. The Clean Energy Investment Fund is intended to provide particular support for breakthrough technologies that are difficult to finance because of technology risks perceived by commercial lenders.

G. Transmission Planning

ACES would amend the Federal Power Act to create a voluntary transmission planning process that would focus on deployment of renewable and other zero carbon power sources, with consideration given to non-transmission solutions like energy efficiency and distributed generation. ACES would also grant new transmission siting authority to FERC in the western United States.

II. TITLE II: ENERGY EFFICIENCY

Title II of ACES contains numerous provisions regarding building, lighting, appliance, transportation, and industrial efficiency.

Provisions addressing automobile efficiency standards were removed to reflect the recent accord between industry and the Obama Administration that outlines future automobile standards. ACES continues to require that EPA promulgate GHG emissions standards for heavy duty vehicles/engines by 2010, but the 2012 deadline for promulgation of GHG standards for specific categories of non-road vehicles (*e.g.*, marine vessels and locomotives) has been removed. ACES now calls for the promulgation of GHG standards in 2012 for categories of non-road vehicles that the EPA Administrator determines contribute significantly to GHG emissions and provide the greatest potential for cost-effective reductions. GHG emissions from the remaining categories of non-road vehicles would be regulated as the EPA Administrator deems appropriate after consideration of the relative contribution of GHG emissions and the costs of achieving reductions from each class of non-road vehicles.

III. TITLE III: CAP AND TRADE

The cornerstone of ACES is an economy-wide GHG "cap and trade" program. Cap and trade programs function by establishing a national cap on emissions, distributing allowable emissions among sources and other interests, and allowing trading of emissions credits in order to promote the most economically efficient emissions reductions.

Coverage of an emission source under the cap and trade program generally precludes further GHG regulation of that source under the stationary source regulatory provisions of Title I of the CAA. Specifically, ACES provides that GHGs may not be regulated under Title I as either a criteria or hazardous air pollutant and that New Source Review provisions do not apply to GHGs. In addition, Section 111 New Source Performance Standards for GHGs cannot be applied against sources covered under the cap and trade program.

ACES preempts state cap and trade programs for the 2012-2017 period, although states would be permitted to require more stringent GHG controls on a source-specific basis at stationary sources. This latter provision may undermine, to some extent, the general prohibition on source-specific regulation under the CAA, especially in states with rigorous environmental requirements.

A. Emission Reduction Goals

ACES calls for a cap and trade program that would reduce emissions from capped sources 83 percent below 2005 levels by 2050, with nearer term reductions of 3 percent, 17 percent, and 42 percent in 2012, 2020, and 2030, respectively. Notably, these reductions are from capped sources only, which, according to estimates, will account for roughly 85 percent of U.S. GHG emissions. ACES contains identical goals for economy-wide reductions, which would be achieved through additional reductions outside the cap and trade program such as reductions from reduced deforestation, improved efficiency standards, and a separate cap and trade program for hydrofluorocarbons ("HFCs").

B. GHG Registry

ACES includes a requirement that EPA establish a GHG registry that would expand upon the reporting program recently proposed by the agency. The currently proposed EPA program would cover entities emitting over 25,000 metric tons of CO_2e annually. ACES would expand the registry to include facilities emitting over 10,000 metric tons of CO_2e, and any entity that delivers electricity to a facility that is more than 5 percent energy or GHG-intensive (*i.e.,* energy-intensive facilities eligible for allowances, as discussed in Section F.1.a below). Vehicle fleets that exceed the 25,000 metric ton threshold would be included at the Administrator's discretion.

C. Covered Sources

Consistent with previous legislative proposals, the program would regulate electricity generators and stationary sources at the point of emission ("downstream"). Fossil-based liquid fuels and industrial gases would be regulated at the point of production or import. In addition, local natural gas distribution companies would be responsible for submitting allowances for emissions from

customers that are not already covered under the program. The remaining natural gas would be covered at the point of combustion (*i.e.*, electricity generators or stationary sources).

Generally, the program would cover sources above a threshold of 25,000 metric tons of CO_2e. Beginning in 2020 and every eight years thereafter, EPA must review the threshold. EPA has the discretion to lower the threshold to not less than 10,000 tons of CO_2e, which presumably explains why such sources are included in the GHG Registry.

Covered sources would be required to submit an allowance for each metric ton of CO_2e emitted, produced, or imported in the previous calendar year. A percentage of the allowance requirement also can be satisfied by offsets, which are discussed in more detail in Section E.3 below. In addition, sources can submit either international allowances or compensatory allowances in lieu of standard allowances. International allowances are allowances from other national or international programs that are deemed by EPA to be at least as stringent as ACES. Compensatory allowances would be issued for the destruction of fluorinated gases, among other things, so long as prescribed conditions are met.

Electricity generators, refiners, importers of fossil-based liquid fuels, and industrial gas producers[1] would be required to submit allowances in 2012. All other sources would enter the cap and trade program in 2014, except that natural gas local distribution companies would be subject to the program beginning in 2016.

D. Allowance Allocations

In 2016, 82.5 percent of allowances will be allocated and 17.5 percent will be sold at auction. By 2030, when most free allocations phase-out, over 70 percent of allowances will be auctioned. Starting in 2010, ACES requires an initial minimum "floor" auction price of $10/allowance, which will increase each year by 5 percent plus the rate of inflation. In addition, through use of a strategic reserve of allowances, the legislation effectively sets a maximum "ceiling" auction price of $28, starting in 2012; after 2015 the "ceiling" price would be 60 percent greater than the rolling 36 month average allowance price.

Below is a discussion of particular recipients of allocations in 2016. We begin with 2016 because it is the first year of full coverage under the cap and thus is more representative of long term trends than earlier years in which EPA can give extra allowances to some sectors because other sectors are not yet competing for allowances. However, it is worth noting that in 2012, one percent of emission allowances would be allocated for emission reductions that occurred prior to 2009. This would be of particular interest to industries that have already substantially reduced emissions.

In 2016, electricity local distribution companies ("LDCs") are allocated 35 percent of emission allowances, with allowances declining to zero by 2030 (small LDCs would receive an additional 0.5 percent of allowances). Actual LDC allowances will be around 30 percent, as the LDC allocation would be reduced by allocations granted to merchant coal generators (3.5 percent) and generators with long term power agreements (1.5 percent). Electricity LDC allowances are designated for the benefit of retail

1 "Industrial gas producers" include producers of fossil-fuel based carbon dioxide, nitrous oxide, perfluorocarbons, sulfur hexafluoride, and any other fluorinated gas that is a greenhouse gas except for nitrogen trifluoride.

ratepayers, which explicitly includes industrial ratepayers. ACES would require LDCs to pass through to industrial ratepayers their rateable share of the value of emission allowances distributed to LDCs.

Natural gas local distribution companies will receive 9 percent of allowances in 2016, the first year in which they are covered under the program. As with electricity LDCs, these allocations include industrial ratepayers, although unlike under the electricity provisions, covered entities under the cap and trade program would not be eligible. In any event, natural gas and electricity costs for entities in energy-intensive industries would be covered under other provisions discussed below.

With the exception of refiners, who will receive 2 percent of allowances until 2026 (with an additional 0.25 percent for small business refiners), specific industries are not allocated emissions allowances unless they qualify as "energy-intensive" industries.

Qualifying "energy-intensive" industries will receive 13.5 percent of emissions allowances in 2016 (down from 15 percent in 2014-2015). For a discussion of eligibility and dispersal of allowances within eligible "energy-intensive" sectors, see section F.1 below.

Other significant recipients of allowances (or proceeds from auctions) in 2016 include: low income consumers (15 percent), efficiency and renewable energy initiatives (6.5 percent), clean vehicle technology initiatives (3 percent), home heating oil and propane consumers, and CCS projects (initially 1.5 percent, increasing to 5 percent in 2020-2050). Additional allowances or allowance proceeds are designated to support adaptation, clean technology deployment, deficit reduction, and consumer rebates.

E. Cost Containment

ACES includes numerous measures intended to mitigate the costs of a cap and trade program. These are discussed below.

1. Banking/Borrowing

Regulated entities will be permitted to "bank" allowances for use in a later compliance year without restriction. ACES also includes a rolling two-year compliance period, allowing "borrowing" of future allowances up to one year in advance without penalty. In addition, the legislation would allow limited borrowing up to five years in advance with interest.

2. Strategic Reserve

ACES provides for a strategic reserve of 2.5 billion allowances that would be auctioned to reduce short-term price volatility. Up to 5 percent of the annual emissions limit could be auctioned from the reserve in early years, with the limit increasing to 10 percent for 2017 and beyond. As noted above, the "floor" price for an allowance auctioned from the strategic reserve is $10 starting in 2010, with 5 percent annual increases. The "ceiling" price for an allowance under the strategic reserve in 2012 would be $28, and, after 2015, would be set at 60 percent greater than the rolling 36 month average allowance price.

Unlike under a safety-valve mechanism, which would provide unlimited allowances for purchase above certain price thresholds, the strategic reserve allowance provides environmental certainty by borrowing allowances from future years and requiring their ultimate replacement.

3. Offsets

The legislation allows offsets totaling up to two billion tons of emission reductions per year, split evenly between domestic and international sources. International offsets could only be obtained from developing countries that have entered into a bilateral or multilateral agreement with the United States. The total allowable offsets represent a significant portion of the initial cap of 4.627 billion tons. However, in order to address the uncertainty of reductions from international offsets, the draft requires five offset credits for every four tons of emission allowances that would otherwise be due, except that international offset credits may be used on a 1:1 ratio until 2018.

Facilities may elect to submit offsets for a set percentage of their compliance obligation. This percentage is calculated by dividing two billion (the maximum total tons of offsets allowed in any given year) by the sum of two billion plus the total annual compliance limit. This calculation results in a first year offset limit of 30.2 percent of a covered entity's compliance obligation. As the total number of offsets allowed in the system remains static at two billion tons and the cap declines each year, a facility's maximum allowable offset use will increase each year of the program. The maximum allowable offset figure (two billion tons) assumes that each covered entity will use the maximum percentage of offsets allowed in a given compliance year. As this is unlikely, total offsets used for compliance should be considerably lower than two billion/year.

In addition, a facility is limited to obtaining half of its allowable offset percentage from domestic offsets and half from international offsets. The bill includes provisions for expanding the allowable percentage of international offsets up to 75 percent if domestic offsets are not available. Further, a facility can use "term offsets" interchangeably with domestic offsets. "Term offsets" are temporary offset credits that expire after a maximum of five years, after which they must be replaced by emission allowances, domestic offset credits, or unexpired term offsets.

Reflecting a compromise with farm state members, ACES divides jurisdiction over offsets between EPA and the Department of Agriculture (previous versions of the bill vested all offset authority with EPA). The Department of Agriculture would be responsible for administering domestic agricultural and forestry offsets, while EPA would be responsible for all other forms of offsets, including international offsets.

ACES does not enumerate specific types of acceptable offset projects, but rather directs EPA and the Department of Agriculture to determine eligible project types through rulemaking. ACES would require EPA and the Department of Agriculture to establish regulations that ensure that offsets are verifiable, additional and permanent (unless they are necessarily temporary "term offsets"). In order for a project to be additional, it must exceed the emissions performance that would occur under a business-as-usual scenario (if the activity would occur anyway, it is not eligible for an offset). An activity generally must commence after January 1, 2009, and not be otherwise required by law in order to be eligible for an offset.

F. Emissions Leakage Prevention

ACES includes several provisions designed to address international emissions "leakage." Emissions leakage occurs when production shifts from countries with GHG control requirements to countries with less stringent or no controls, resulting in a loss of

jobs but no decrease in global emissions. Indeed, as U.S. production is among the most efficient in the world, a shift in production may result in a net increase in global emissions if production shifts to less efficient producers. Accordingly, ACES includes several provisions designed to prevent or mitigate emissions leakage.

The main provision, based upon freestanding legislation introduced by Representatives Inslee (D-WA01) and Doyle (D-PA14), would grant allowances directly to affected industries. The second provision calls for imports to be accompanied by allowances at the border and is similar to a proposal included in the Lieberman-Warner bill in 2008. This latter provision would be implemented after 2020. Both provisions are found under Title IV, Section 401 ("Ensuring Real Reductions in Industrial Emissions") of the ACES bill, and would be codified under CAA Sections 761-767.

1. Emission Allowance Rebate Program[2]

ACES addresses international competition and emissions leakage chiefly by adopting a rebate program for energy-intensive industries that is funded by the granting of emissions allowances to facilities in eligible industry sectors. In 2012 and 2013, when energy-intensive industries are outside the cap and trade program but nonetheless will accrue additional energy costs, eligible facilities would receive "up to" 2 percent of total allowances under the annual cap. In addition, as noted above, facilities that reduced emissions prior to 2009 may be eligible to share in the 1 percent of 2012 allowances allocated for early reductions. In 2014 and 2015, when energy-intensive industries first fall under the cap and trade program, eligible industry sectors would receive allowances equal to "up to" 15 percent of the annual cap.[3] In 2016 through 2025, energy-intensive industries would receive 13.5 percent of the allowances under the declining cap. Beginning in 2026, allocations would decline a further 10 percent a year (90 percent of 13.5 percent in 2026, 80 percent of 13.5 percent in 2027, *etc.*), with allocations reaching 0 percent in 2035 unless the President determines that a different percentage is required to address continuing emissions leakage. If the President makes such a determination, the rebate program could continue through 2050, with allocations at a percentage that the President deems appropriate (but no more than the baseline 15 percent).

2. Eligibility

The eligibility criteria first require that a sector be in an "industrial sector," which is defined as any sector that is in the manufacturing sector (*i.e.,* has a NAICS code beginning with 31, 32, or 33), or that beneficiates or otherwise processes (including agglomeration)[4] metal ores (including iron and copper ores, soda ash and phosphate). Second, an industrial sector (defined by six-digit NAICS code) must have an "energy or GHG intensity" of at least 5 percent and a "trade intensity" of at least 15 percent. Alternatively, sectors with energy or GHG intensity of at least 20 percent are deemed eligible and need not demonstrate trade intensity.

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2 To be codified at Sections 764-765 of the CAA.

3 The bill refers to "up to" 15 percent. The extent of EPA's discretion to utilize less than the full 15 percent designated is unclear.

4 Ore extraction is not covered.

Energy intensity is calculated by dividing the cost of purchased electricity and fuel by the value of shipments of the sector as a whole, using 2004-2006 data. GHG intensity, a more expansive metric, is calculated by adding direct combustion emissions, process emissions, and indirect emissions from electricity purchases and multiplying the sum by 20 (the projected allowance cost in 2020). That value is then divided by the value of shipments of the sector. For example, a sector with an aggregate of one million tons of direct emissions, process emissions, and emissions attributable to electricity or fuel purchases and a total value of shipments of $400 million would have a GHG intensity of 5 percent ($1 million x $20/$400 million) and meet the required GHG intensity threshold.[5]

Trade intensity is calculated by dividing the value of the total imports and exports of a sector by the value of shipments plus the value of imports.

Notably, if a sector is determined to be an eligible sector under the program, all entities within the sector are eligible to receive some share of the allocations, regardless of whether the entity is a "covered entity" under the cap and trade program. "Covered entities" are facilities in an industrial sector (such as iron and steel production) that emit more than 25,000 tons of carbon dioxide equivalents (CO_2e) per year. However, entities that are not "covered entities" (*i.e.,* facilities that have less than 25,000 tons of CO_2e per year) will receive rebates for only their increased electricity and fuel costs.

a. Presumptively Eligible Industry Sectors

EPA is to publish an initial list of eligible industrial sectors no later than June 30, 2011, to be updated by February 1, 2013, and every four years thereafter. There are two ways that an entity can establish eligibility for the rebate program. First, a facility can qualify as a member of a "presumptively eligible industrial sector." Presumptively eligible sectors are those that, based upon average data from 2004-2006,[6] meet the energy/GHG and trade intensity thresholds discussed above. Significantly, the eligibility criteria are structured such that sectors that meet the presumptive eligibility criteria and are listed by EPA will remain listed for the duration of the program and, therefore, eligible for allowances.[7] This is consistent with the "once in, always in" policy of the cap and trade program.

In identifying presumptively eligible industries, EPA is directed to aggregate emissions from certain metal production processes that fall under different NAICS codes, including NAICS codes that are not within the NAICS "industrial sectors" (NAICS codes 31, 32, and 33). Specifically, EPA is directed to include data from upstream beneficiation or other processing of metal ores, soda ash, or phosphate with data from downstream processing steps. As "other processing" is not defined in the bill, it is unclear whether emissions further upstream of beneficiation can be included, although agglomeration is explicitly included. However, emissions from the actual mining or extraction of iron and copper ores are not included. This data is then disaggregated at the al-

5 Inclusion of product "value" in the denominator of the "energy intensity" and "GHG intensity" calculations may pose an eligibility problem for industries that depend on raw material inputs that had high market value during the 2004-2006 timeframe. In such cases, a significant percentage of product value is likely attributable to high input costs, which simply are being passed through to the purchaser.

6 If such data are unavailable, EPA is directed to utilize data from alternative sources specified in the legislation.

7 The listings for presumptively eligible industry sectors are to be based on 2004-2006 data (*see* §764(b)(2)(E) ("Data Sources")). In contrast, in making additional listing determinations pursuant to the petition process (discussed below), EPA is directed to use "the most recent data available . . . rather than the data from the years specified in paragraph 2(E)" [2004-2006] for trade intensity, but not GHG or energy intensity.

lowance allocation stage. For example, ore processors and metal manufacturers would be separately eligible for allocations. EPA also is directed to aggregate the data from steel manufacturing (NAICS code 331111) with the manufacturing of steel pipe and tube made from purchased steel (NAICS code 331210).[8, 9]

b. Subsector Eligibility Petition Process

The second way that an entity can establish eligibility is through a petition requesting that EPA determine a subsector's eligibility for the program. Under this option, an entity or group of entities must represent a subsector of a six digit section of an "industrial sector" NAICS code (codes 31-33) and that subsector must meet the energy/GHG and trade intensity criteria discussed above. EPA is required to consider data in addition to that which is utilized under the presumptive eligibility approach. Specifically, EPA is to consider entity and subsector specific data, rather than sector-wide data, and is to use updated trade intensity data from the most recent available year. GHG and energy intensity data will continue to be derived from the average of 2004-2006 data. This approach would prevent an industry not meeting the energy/GHG intensity thresholds based on 2004-2006 data from attempting to become eligible for the program by reducing energy efficiency in future years.

The petition provision requires that EPA only designate subsectors based upon the product manufactured and not the industrial process employed. Thus, if one process making the same product is more efficient relative to another process, EPA cannot determine that each process is in a different subsector. However, EPA can determine that entities that manufacture the same product are in different subsectors if one process manufactures the product from virgin material while the other utilizes recycled material. The bill already explicitly provides for this approach in the presumptive eligibility section in the case of Integrated and EAF steel mills, but this provision allows EPA to make the same distinction for other products (*e.g.*, virgin vs. recycled aluminum, copper, or other metals).

The House Conference Report states that the subsector petition process was intended to apply to subsectors that met the minimum GHG/Energy intensity and trade intensity thresholds, yet were within a six-digit NAICS code sector that did not qualify as a whole. However, as drafted, the petition provision is not limited to such situations and would allow any subsector – including a subsector of a six-digit NAICS code that meets the eligibility criteria as a whole – to be designated as an additional eligible sector. This would be significant for determining allowance allocations (which are based on sector average GHG emissions and electricity efficiency factors).

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8 Steel pipe and tube facilities are aggregated with NAICS code 331111 for both eligibility and allowance allocation purposes. In contrast, as discussed below, ore beneficiation and processing facilities are aggregated with steel (and other metal) production for purposes of sector eligibility, but are to be considered a separate subsector for allowance allocation.

9 The steel sector, unlike any other industrial sector, has explicit provisions for the allocation of allowances among facilities utilizing different production technologies. ACES directs EPA to consider electric arc furnace ("EAF") and Integrated steel production separately when it comes to allocation of allowances. Facilities in those separate sectors will be eligible for allowances as determined by their performance relative to others in the subsector. Thus, EAF and Integrated steel facilities will receive their proportional share of allowances as compared to the relative energy efficiency of other EAF or Integrated facilities.

3. Allowance Allocations

Allowances will be distributed among the eligible industrial sectors according to each sector's share of total direct and indirect carbon emissions.[10] Within each eligible sector, allowances will be allocated based upon each facility's indirect carbon factor (which is a function of production output and electricity consumption) and direct carbon factor (which is a function of production output and average GHG emissions intensity for the sector).[11] Entities not covered under the cap and trade program will receive a lesser number of allowances based upon their indirect carbon factor only. As structured, each of these factors rewards the most efficient entities within a sector. Thus, above average performers within each sector will receive proportionately more allowances than below average facilities.

The direct carbon factor is calculated by multiplying the average production output of the *covered entity* for the previous two years by the average direct GHG emissions per unit of output for *all covered entities in the sector*. Similarly, the indirect carbon factor is calculated by multiplying the facility's average two-year production output by both an electricity emissions intensity factor and an electricity efficiency factor. The emissions intensity factor is provided to entities by the utility and is calculated by determining the carbon costs passed on to the entity by the utility on an hourly basis. The electricity efficiency factor is the average amount of electricity used per unit of output for *all entities* in the relevant sector.

G. Backstop Measures[12]

In addition to the rebate program, the legislation requires the President to implement a border-adjusted tax provision program known as the International Reserve Allowance Program. The version of the International Reserve Allowance Program passed by the House accelerates commencement of the program from 2025 (under a previous version of the bill) to 2020 and removes Presidential discretion to enact the program. As the legislation currently stands, if the United States is not a party to a multilateral climate agreement that addresses emissions leakage by January 1, 2018, the President is required to establish the International Reserve Allowance Program unless both houses of Congress pass a joint resolution approving of the President's decision not to enact the program.

The program would begin no sooner than January 1, 2020, and would require importers of covered goods to purchase and submit "international reserve allowances" along with those products at the time of import. A "covered good" is defined as either a good entered under a heading or subheading of the Harmonized Tariff Schedule that corresponds to the NAICS code for an eligible industrial sector, or a good produced by a trade intensive industrial sector that incorporates goods "like" those produced by an eligible industrial sector.

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10 Therefore, the more sectors that are eligible, fewer allowances will be available for each qualifying facility. That is, the size of the pie will not change, but the number of facilities sharing the pie may.

11 In essence, the direct carbon factor seeks to reimburse facilities for their costs associated with obligations incurred under the cap and trade program, while the indirect carbon factor seeks to reimburse facilities for their increased energy costs.

12 To be codified at Sections 766-767 of the CAA.

The eligibility criteria under the International Reserve Allowance program is substantially broader than that which is applied to the Emission Allowance Rebate Program. First, a good need only be produced by a trade-intensive, rather than a trade-intensive and energy-intensive (or very high energy-intensive), industrial sector. Second, it incorporates goods that are "like" goods produced by an eligible industrial sector. Thus, products that compete with products manufactured by companies eligible for rebates may be subject to the International Reserve Allowance Program.

For each sector eligible under the rebate program, the President would determine, beginning June 30, 2018, and every four years thereafter, whether more than 85 percent of global output for that sector is produced in a country that has met one or more of the following criteria: (1) the country is a party to an international agreement to which the United States is a party that includes a nationally enforceable emissions reduction commitment that is at least as stringent as U.S. commitments; (2) the country is a party to a multilateral sectoral agreement for the relevant sector and the United States is also a party; and (3) the GHG intensity of the relevant sector in the country is less than or equal to the GHG intensity of the same sector in the United States.

If the President determines that more than 85 percent of worldwide production in a sector covered under the rebate program is subject to one or more of the above conditions, the International Reserve Allowance Program will not be triggered for that sector. However, the rebate program would remain in place, subject to the above mentioned phasedown in allocations that would begin in 2026 and end in 2034.

If the President finds that 85 percent or less of worldwide production is produced or manufactured in a country that meets one of the above criteria, he is required to modify the percentage by which rebates are reduced after 2025 and apply or continue to apply the International Reserve Allowance Program.

H. Additional GHG Standards

ACES also provides EPA authority to regulate uncapped sources under the Clean Air Act. EPA is instructed to set performance standards for uncapped sources under Section 111 of the CAA. EPA would be required to list categories of stationary sources that individually have emissions above 10,000 CO_2e and that, in the aggregate, are responsible for at least 20 percent of uncapped emissions. EPA would also be required to list each individual source category that is responsible for at least 10 percent of uncapped methane emissions. Sources of enteric fermentation (*i.e.*, cattle emissions) would not be subject to this provision.

In addition, ACES includes a separate cap and trade program for the phase-down of HFCs and authorizes EPA to use existing CAA authority to reduce emissions of black carbon, or soot.

IV. CARBON MARKETS

While some cap and trade programs only allow covered entities to trade, ACES does not restrict the parties that can hold and trade allowances and other tradable credits such as offsets. However, ACES includes numerous restrictions on trading of allowances, offsets, RECs, and related derivatives. The bill would amend the Federal Power Act to require FERC to regulate the cash market for allowances, offsets, and RECs. Allowance derivatives would be regulated by the Commodities Futures Trading Commission

("CTFC") or another agency designated by the President. The bill provides for default rules to apply in derivatives regulations, including a 10 percent position limit on market participants and a ban on over the counter trading of derivatives.

The bill also would amend the Commodity Exchange Act to provide for greater regulation of trading in derivatives of energy commodities.

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ACES represents an ambitious effort to combine an economy-wide cap and trade program with comprehensive energy legislation. However, there is much work to be done in the Senate this fall if proponents of the legislation hope to see it passed.

If you have any questions or would like further information regarding climate change legislation, please do not hesitate to contact the Environmental team at Kelley Drye & Warren LLP.

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