VERIS · LAW GROUP · | GREENFRONT ENERGY PARTNERS

Webinar

May 11th, 2021

11:00am PT / 2:00pm ET

Not Just Hot Air:

Washington State's New Statute on Low Carbon Fuels (and where it fits in the web of State and Federal rules)

Corporate Renewables Participation: Achieving Environmental Goals without Sacrificing Returns

Speakers & Agenda

Veris Law Group

Stanley Alpert

- *Former Chief of Environmental Litigation at the U.S Attorney's Office*
- *Specializes in Environmental Law, Sustainability, and Land Use*

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- *Former Senior Environmental Policy Advisor at the DOE*
- *Specializes in environmental, natural resource, real estate and regulatory matters*

Greg Hixson

- *Experienced construction law attorney*
- *Specializes in environmental, construction and real estate matters*

GreenFront Energy Partners

Robert Birdsey

- *Head of BB&T Energy Investment Banking 2013-2020*
- *VP in J.P. Morgan's Energy Investment Banking group prior to joining BB&T*

Adam Hahn

- *Led BB&T's Utility Investment Banking coverage 2015-2020*
- *Prior to BB&T, worked in the CFO's group at Dominion Energy*

Agenda

- History of Washington Clean Fuel Program and next steps in implementation
- Overview of the most pertinent features of the proposed legislation
- Profiles in corporate renewable participation
- How corporates can make legislation work for them in renewables

History of Washington LCFS Legislation

Washington's Clean Fuel legislation follows a long road of attempting to connect the entire West Coast with comprehensive fuel emissions regulation

2017

- **December 2017:** HB 2338, bill aimed at reducing GHG emissions associated with transportation fuels, is filed for introduction

Bill is considered in 2018 sessions, never leaves the House

2019

- **January 2019:** HB 1110 is filed for introduction, passes in the House in March with 53-42 vote

Does not pass in Senate in April, returned to the House Rules committee

2020

- **January 2020:** HB 1110 is re-introduced, passes in the House with 52-44 vote
- Introduced to Senate, sent to Environment, Energy, & Technology Committee for further review

Does not pass in Senate, returned to the House Rules committee

2021

- **January 2021:** HB 1091, a new bill to establish LCFS program, is introduced
- February 27, passes House with 52-46 vote
- April 8, passes Senate with amendments in 27-20 vote

April 25 Senate President signs bill, delivered to Governor for signing

Other Washington Climate Legislation

Puget Sound – Clean Fuels Standard

In October 2019, the four counties surrounding the Puget Sound proposed the Puget Sound Clean Fuel Standard, with a goal to reduce CI of transportation fuels by 25% below 2016 levels by 2030

Proposal went through extended public comments period, but action by the Puget Sound Clean Air Agency has been suspended by the Board since April 6, 2020

Zero Carbon Electricity by 2045

In May 2019, Governor Inslee signed a package of deals to combat Climate Change. The headlining legislation aims to rid Washington's electric grid of all fossil fuels by 2045, making the state a leader in Climate Policy action.

The success of Washington's Climate Policy goals depends in part on the success of the state LCFS program, which in 2019 was projected to generate a 4.3 million metric ton GHG emissions reduction; 18 million metric tons of reductions are required to meet the 2035 target

Features of Washington LCFS law

The passage of HB 1091, now on its way to Governor Jay Inslee's desk, is the most important legislation the state has ever implemented to fight climate pollution

Fuel Emissions Reduction

Establishes a Clean Fuels Program (CFP) to limit emissions per unit of transportation fuel energy

- Goal will be to reduce transportation fuel emissions 10% below 2017 levels by 2028 and 20% below 2017 levels by 2035
- Requires regular reporting and analysis of the CFP to establish economic impact

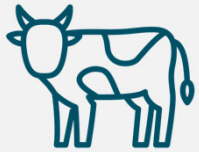
Fuel Credit Market

Establishes bankable, tradeable credits used to satisfy compliance obligations

- Credits will be tied to the production and use of clean and low-carbon fuels such as Renewable Natural Gas generated from landfill gas (LFG) and agiculture waste

RNG Fuel Sources

Landfill Gas



Ag. Waste

Meaningful Corporate Support

Washington climate legislation gained valuable support from an outlier in the oil industry

- The state's wide-reaching climate legislative efforts garnered support from BP, in the face of oil interest opposition
- The oil giant elected not to oppose HB 1091, and offered "full-throated support" for cap and carbon pricing legislation in Washington

bp

House Bill 1091, April 25, 2021

Legislation seeks to reduce climate change impacts in Washington state

Washington's first low carbon fuel statute

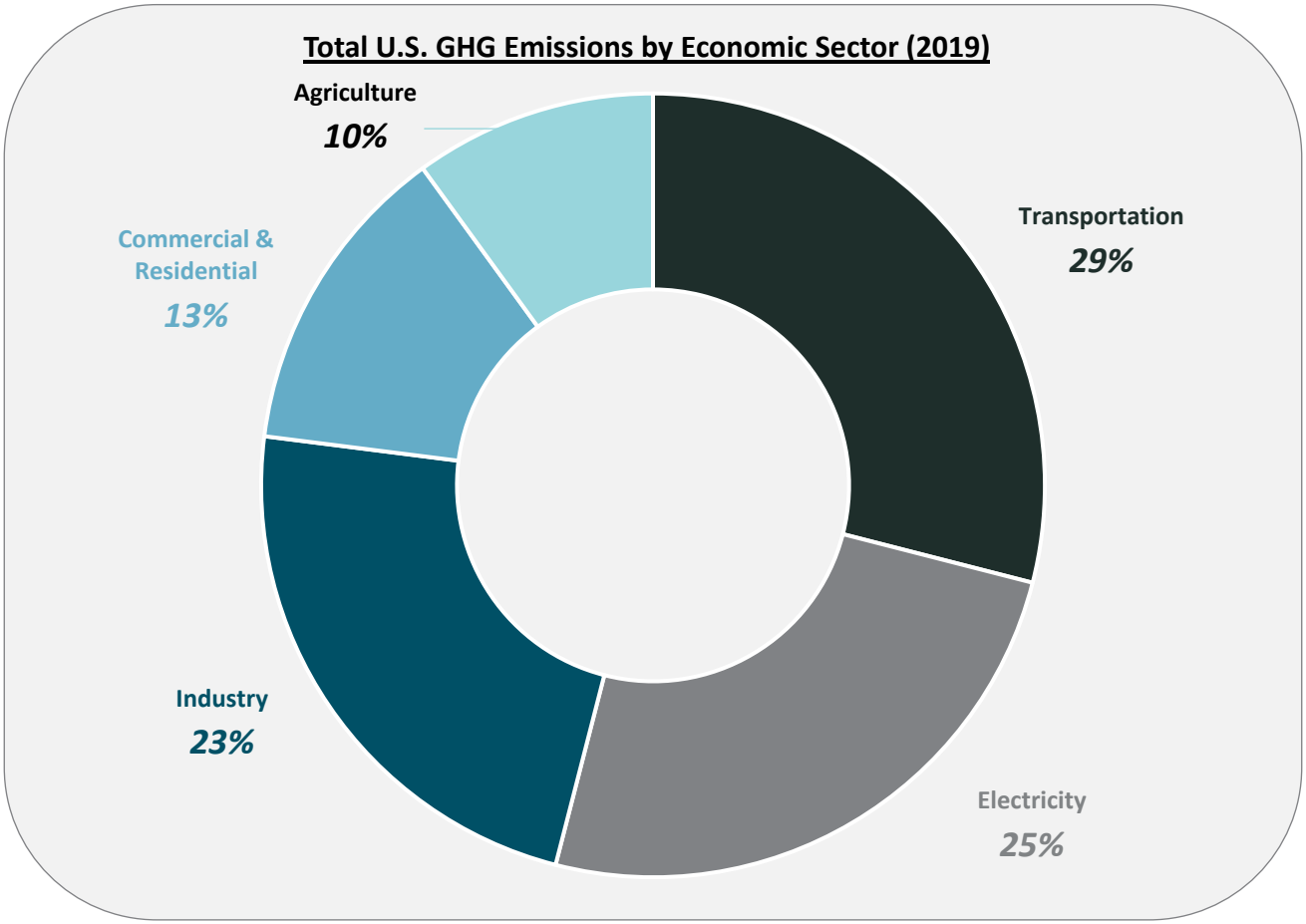
- Legislature concludes climate change hurts the State
- Transportation represents 45% of Washington's GHG emissions – the state's largest source

Impactful language in HB 1091 addresses directly the climate impact intended to be averted

"(2) The legislature further finds that the health and welfare of the people of the state of Washington is threatened by the prospect of crumbling or swamped coastlines, rising water, and more intense forest fires caused by higher temperatures and related droughts, all of which are intensified and made more frequent by the volume of greenhouse gas emissions. As of 2017, the transportation sector contributes 45 percent of Washington's greenhouse gas emissions, and the legislature's interest in the life cycle of the fuels used in the state arises from a concern for the effects of the production and use of these fuels on Washington's environment and public health, including its air quality, snowpack, and coastline."

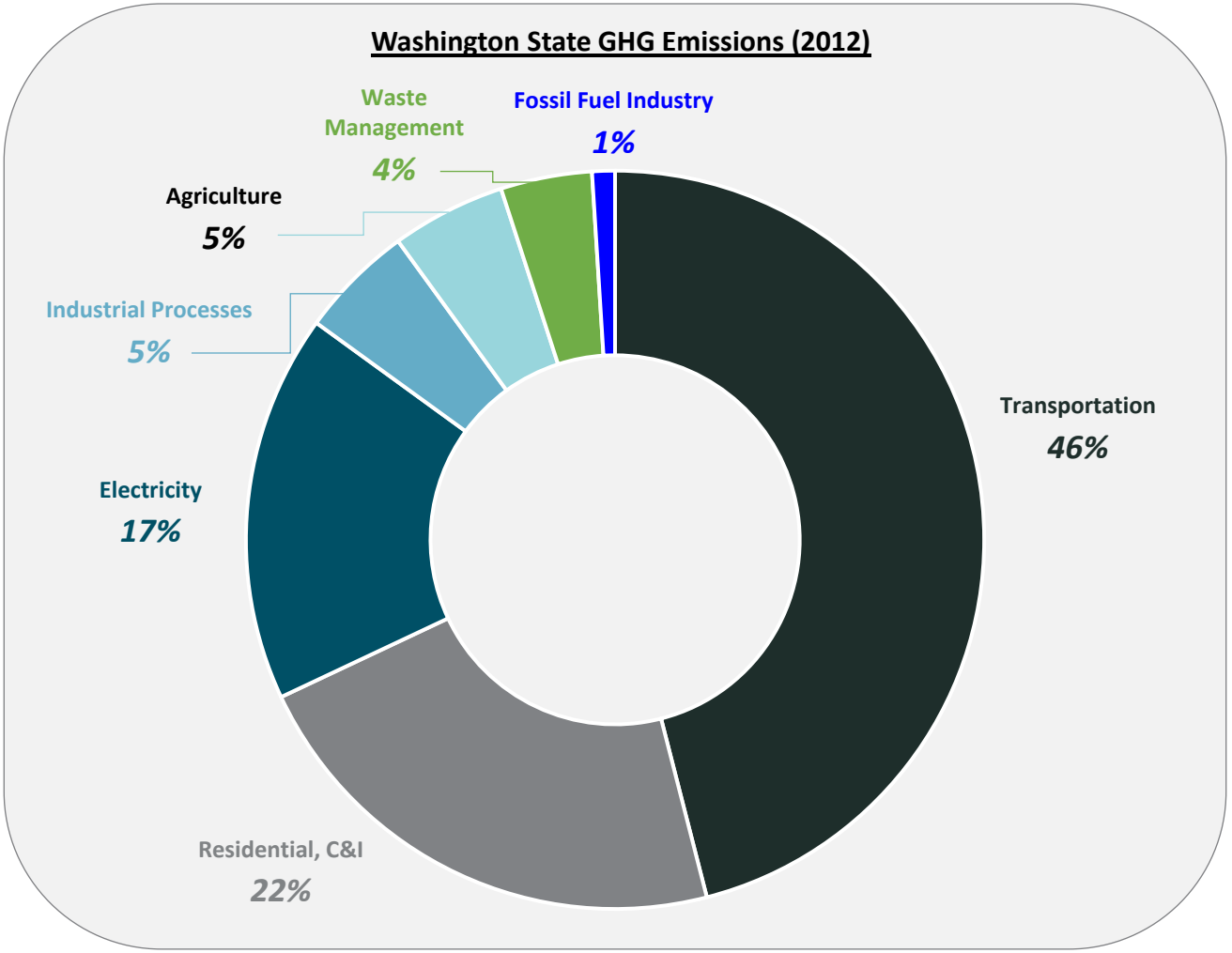
National Big Picture – U.S. EPA Figures

Transportation: The transportation sector generates the largest share of emissions in the U.S. Greenhouse gases from transportation primarily come from burning fossil fuel for cars, trucks, ships, trains, and planes. Over 90% of the fuel used for transportation is petroleum-based, which includes primarily gasoline and diesel.



Washington State Emissions

Washington's sources of greenhouse gases



House Bill 1091 Analysis

Does the law spur new technologies, or do new technologies spur the law? And does the absence of law create a competitive disadvantage?

*"New Section. **Sec. 1.** (1) The legislature finds that rapid innovations in low carbon transportation technologies, including electric vehicles and clean transportation fuels, are at the threshold of widespread commercial deployment. In order to help prompt the use of clean fuels, other states have successfully implemented programs that reduce the carbon intensity of their transportation fuels. California and Oregon have both implemented low carbon fuel standards that are similar to the program created in this act, and both states have experienced biofuel sector growth and have successfully sited large biofuel projects that had originally been planned for Washington."*

Biofuels Envy, or Keeping Up with the Oregonians and Californians

So, any increased intensity in reductions Ecology wishes to impose after 2028 are dependent upon…

"(b) At least one new or expanded biofuel production facility representing an increase in production capacity or producing, in total, in excess of 60,000,000 gallons of biofuels per year has or have received after July 1, 2021, all necessary siting, operating, and environmental permits post all timely and applicable appeals. As part of the threshold of 60,000,000 gallons of biofuel under this subsection, at least one new facility producing at least 10,000,000 gallons per year must have received all necessary siting, operating, and environmental permits. Timely and applicable appeals must be determined by the attorney general's office."

Clean Fuels Program

The bill introduces a new regulatory scheme called the Clean Fuels Program, with the stated goal of reducing the carbon intensity of each gallon of fuel

> *"(2) 'Carbon intensity' means the quantity of life-cycle greenhouse gas emissions, per unit of fuel energy, expressed in grams of carbon dioxide equivalent per megajoule (gCO_2e / MJ)."*

House Bill 1091 Analysis (continued)

Ecology must design a set of regulations to reduce the carbon intensity of transportation fuels

*"New Section. **Sec. 3.** (1) The department shall adopt rules that establish standards that reduce carbon intensity in transportation fuels used in Washington. The standards established by the rules must be based on the carbon intensity of gasoline and gasoline substitutes and the carbon intensity of diesel and diesel substitutes. The standards:*

(a) Must reduce the overall, aggregate carbon intensity of transportation fuels used in Washington;

(b) May only require carbon intensity reductions at the aggregate level of all transportation fuels and may not require a reduction in carbon intensity to be achieved by any individual type of transportation fuel;

(c) Must assign a compliance obligation to fuels whose carbon intensity exceeds the standards adopted by the department, consistent with the requirements of section 4 of this act; and

(d) Must assign credits that can be used to satisfy or offset compliance obligations to fuels whose carbon intensity is below the standards adopted by the department and that elect to participate in the program, consistent with the requirements of section 4 of this act."

Cap and Trade

Law introduces a ratchet down system. The state caps the levels and people invest and trade credits

- The program must commence by January 1st, 2023
- It must have percentage reductions to get Washington transportation fuels GHGs to 20% below 2017 levels by 2038, and the statute sets forth limits on the percentage reductions each year through 2033 (with further action by Ecology after)

"5 (a) Except as provided in this section, the rules adopted under this section must reduce the greenhouse gas emissions attributable to each unit of the fuels to 20 percent below 2017 levels by 2038 based on the following schedule:

(i) No more than 0.5 percent each year in 2023 and 2024;

(ii) No more than an additional one percent each year beginning in 2025 through 2027;

(iii) No more than an additional 1.5 percent each year beginning in 2028 through 2031; and

(iv) No change in 2032 and 2033."

Penalties

- ***Ecology: Penalties will be under Washington's Clean Air Act (RCW 70.94)***
- ***Penalty money is deposited, along with program fees, into an account created to carry out the Clean Fuels Program***
- ***If a party buys credits that turn out to have been fraudulent, no civil penalty unless the purchaser was a part of the fraud.***

Fuel Tax

The whole program is dependent upon the separate enactment of a 5 cents per gallon fuel tax

"8 (a) In order to coordinate and synchronize the clean fuels program with other transportation-related investments, the department may not assign compliance obligations or allow the generation of credits under this chapter until a separate additive transportation revenue act becomes law, at which time the department of licensing must provide written notice to the chief clerk of the house of representatives, the secretary of the senate, and the office of the code reviser.

(b) For the purposes of this subsection, "additive transportation revenue act" means an act enacted after April 1, 2021, in which the state fuel tax under RCW 82.38.030 is increased by an additional and cumulative tax rate of at least five cents per gallon of fuel.

Standards

Standards shall be based upon life cycle analyses, including comparing fuel efficiency to a reference fuel, other national determinations of carbon intensity for a particular fuel, and the land use and carbon sequestration implications of any fuel

"(1) Standards for greenhouse gas emissions attributable to the transportation fuels throughout their life cycles, including but not limited to emissions from the production, storage, transportation, and combustion of transportation fuels and from changes in land use associated with transportation fuels and any permanent greenhouse gas sequestration activities.

(a) The rules adopted by the department under this subsection (1) may:

(i) Include provisions to address the efficiency of a fuel as used in a powertrain as compared to a reference fuel;

(ii) Consider carbon intensity calculations for transportation fuels developed by national laboratories or used by similar programs in other states; and

(iii) Consider changes in land use and any permanent greenhouse gas sequestration activities associated with the production of any type of transportation fuel.

Electricity and Hydrogen

Electricity and hydrogen as transportation fuels have not been forgotten

"(ii) Measure greenhouse gas emissions associated with electricity and hydrogen based on a mix of generation resources specific to each electric utility participating in the clean fuels program. The department may apply an asset-controlling supplier emission factor certified or approved by a similar program to reduce the greenhouse gas emissions associated with transportation fuels in another state;

(iii) Include mechanisms for certifying electricity that has a carbon intensity of zero. This electricity must include, at minimum, electricity:

(A) For which a renewable energy credit or other environmental attribute has been retired or used; and

(B) Produced using a zero emission resource including, but not limited to, solar, wind, geothermal, or the industrial combustion of biomass consistent with RCW 70A.45.020(3)"

Whew. Exemptions.

Airplanes, marine vessels, locomotives, military, logging, construction vehicles used off highway, utilities

*"New Section. **Sec. 5.** (1) The rules adopted under sections 3 and 4 of this act must include exemptions for, at minimum, the following transportation fuels:*

(a) Fuels used in volumes below thresholds adopted by the department;

(b) Fuels used for the propulsion of all aircraft, vessels, and railroad locomotives; and

(c) Fuels used for the operation of military tactical vehicles and tactical support equipment.

(2)(a) The rules adopted under sections 3 and 4 of this act must exempt the following transportation fuels from greenhouse gas emission intensity reduction requirements until January 1, 2028:

(i) Special fuel used off-road in vehicles used primarily to transport logs;

(ii) Dyed special fuel used in vehicles that are not designed primarily to transport persons or property, that are not designed to be primarily operated on highways, and that are used primarily for construction work including, but not limited to, mining and timber harvest operations; and

(iii) Dyed special fuel used for agricultural purposes exempt from chapter 82.38 RCW."

Even Better.

Exempt sectors can choose to join and earn marketable credits

"(5) Mechanisms for persons associated with the supply chains of transportation fuels that are used for purposes that are exempt from the clean fuels program compliance obligations including, but not limited to, fuels used by aircraft, vessels, railroad locomotives, and other exempt fuels specified in section 5 of this act, to elect to participate in the clean fuels program by earning credits for the production, import, distribution, use, or retail of exempt fuels with associated life-cycle greenhouse gas emissions lower than the per27 unit standard established in section 3 of this act;"

Economic Opportunity

Those who are creative can profit from it

*"New Section. **Sec. 6.** (1) The rules adopted under sections 3 and 4 of this act may allow the generation of credits from activities that support the reduction of greenhouse gas emissions associated with transportation in Washington, including but not limited to:*

(a) Carbon capture and sequestration projects, including but not limited to:

(i) Innovative crude oil production projects that include carbon capture and sequestration;

(ii) Project-based refinery greenhouse gas mitigation including, but not limited to, process improvements, renewable hydrogen use, and carbon capture and sequestration; or

(iii) Direct air capture projects;

(b) Investments and activities that support deployment of machinery and equipment used to produce gaseous and liquid fuels from nonfossil feedstocks, and derivatives thereof;

(c) The fueling of battery or fuel cell electric vehicles by a commercial, nonprofit, or public entity that is not an electric utility, which may include, but is not limited to, the fueling of vehicles using electricity certified by the department to have a carbon intensity of zero; and

(d) The use of smart vehicle charging technology that results in the fueling of an electric vehicle during times when the carbon intensity of grid electricity is comparatively low."

Table 1. Potential value to renewable fuel production in 2028 from CFP credits ($ per gallon)

Fuel (assumed CI in parentheses)	Assumed 2028 CFP credit value ($/tCO$_2$e):		
	$150	$100	$50
Corn ethanol (65 gCO$_2$e/MJ)	$0.30	$0.20	$0.10
Ethanol from woody residues (20 gCO$_2$e/MJ)	$0.85	$0.57	$0.28
Soy biodiesel (50 gCO$_2$e/MJ)	$0.78	$0.52	$0.26
Yellow grease biodiesel (14 gCO$_2$e/MJ)	$1.47	$0.98	$0.49
Soy oil based renewable jet fuel (54 gCO$_2$e/MJ)	$0.59	$0.39	$0.20
Renewable jet fuel from woody residues (20 gCO$_2$e/MJ)	$1.26	$0.84	$0.42

Cerulogy

More to Say, Too Little Time

- ***Program is to be harmonized with other states, including Oregon and California's Low carbon fuel programs***
- ***Credit trading mechanisms***
- ***Reporting requirements***
- ***Incentives to utilities for production of zero or low carbon electricity***
- ***Federal initiatives, including White House Executive Order***
- ***More Washington State Law. On April 24, 2021, the legislature passed the Climate Commitment Act, establishing a GHG cap-and-invest program for utilities, industry, and other facilities with over 25,000 metric tons of emissions. A statewide emissions cap will decrease over time to seek Washington's goal of net-zero by 2050***
- ***Will LCFS be challenged? See Rocky Mountain Farmers Union v. Corey, 730 F.3d 1070 (9th Cir. 2013) (CA LCFS upheld) and North Dakota v. Heydinger, 825 F.3d 912 (8th Cir. 2016) (MN interstate electricity purchase scheme that sought to reduce GHGs invalidated).***

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Corporate Renewables Participation:

Achieving Environmental Goals without Sacrificing Returns

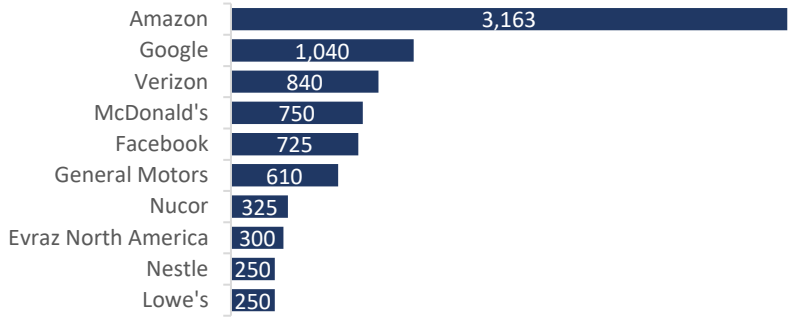
ESG & PPA Market Overview

Corporates are responding to stakeholders' demands for greater sustainability commitments

BlackRock Larry Fink's 2021 Letter to CEO's

"In 2020, the world not only confronted the pandemic, it also sharpened its focus on the existential threat of climate change. As more and more companies, investors, and governments focus on the global goal of net zero emissions by 2050, an economic transformation is accelerating…We know that climate risk is investment risk."

2020 Top corporate clean energy buyers (MW announced)



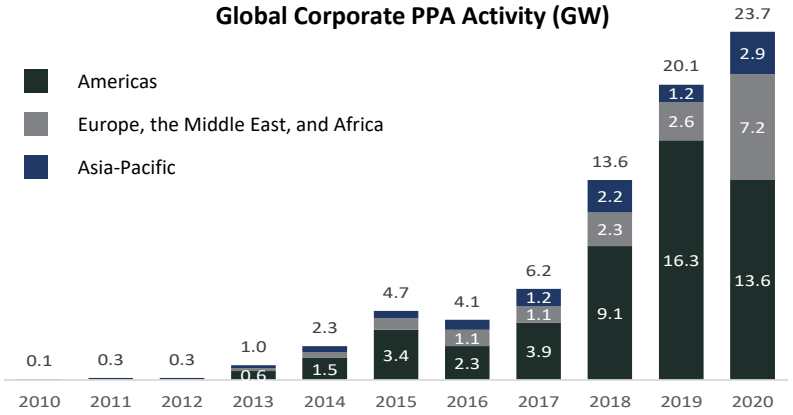
Diverse Solutions for Scope I Emissions

- Giants like Ikea are reshaping their supply chains with electric vehicles and sustainable manufacturing to go carbon negative
- Companies like Stripe are investing in carbon sequestration technologies in pursuit of negative emissions profiles

Corporate VPPA – Market commentary

- While Corporates purchased a record of 23.7 GW of clean energy in 2020 globally, the U.S. Corporate PPA volume dropped 16% yoy from 2019 (11.9 GW vs 14.1 GW)
- *Two competing drivers* in the U.S. Corporate PPA marketplace appear to be at odds
  - The growth of Corporate interest in pursuing aggressive ESG initiatives continues to accelerate,…
  - …but the current opportunity set of available U.S. projects offers Corporate Buyers a lower economic margin of safety
- GreenFront advised Nucor Steel, the nation's largest steelmaker, in its inaugural VPPA

NUCOR | EDF renewables | *250 MW* | *ERCOT* | *Nov. 2020* | GREENFRONT ENERGY PARTNERS



Source: BloombergNEF, REBA, Company data, S&P Market Intelligence, GTM/WoodMac

Ways Corporations Can Participate in Renewables

As Corporate demand for Renewables increases so do options for corporations to participate

Virtual Power Purchase Agreements

- Nucor announced in March 2021 a vPPA with Orsted for 100 MW of wind energy from Orsted
- 10-year term
- Wind farm is under construction, expected to come online by YE 2021
- Located in ERCOT West

On-Site Solar

- In February 2021, IKEA opened the first of 8 planned solar car parks in partnership with Distributed Solar Development (DSD)
- The park has decreased the energy requirements at its Baltimore location by 84%
- Important step for IKEA's goal of 100% renewable energy by 2025

Renewable Natural Gas Agreements

- L'Oreal is a Landfill Methane Outreach Program (LMOP) Energy Partner
- Signed agreement in 2018 to purchase RNG from a Kentucky landfill
- By 2020 L'Oreal had 35 sites using 100% renewable energy
- 2025 goal to use 100% renewable energy, with all sites carbon neutral

Direct Investment

2019: Facebook announced first direct investment in renewables through tax equity financing for Longroad Energy Partner's 379 MW solar project in TX. Shell will join Facebook as an off taker

2020: Microsoft's $1bn Climate Innovation Fund created partnership with Energy Impact Partners to invest in climate solutions

2021: BP expanded its RNG program and joined Aria Energy in a dairy farm methane to natural gas project. This is part of BP's pursuit to become net-zero carbon by 2050

Fleet Electrification

- **Credit Generation:** LCFS credit rights go to fuel producers, so a corporation that owns and operates the chargers for an electrified fleet generates LCFS credits and therefore a large revenue opportunity
- Corporations in the Corporate Electric Vehicle Alliance (CEVA):

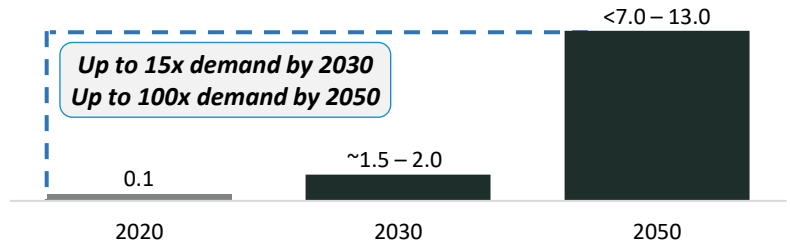
Carbon Credit Market Overview

In their adapting response to stakeholders' demands for greater sustainability commitments, Corporates are beginning to move beyond virtual PPA's for Scope II emissions, with increasing focus on Carbon Credits

Voluntary Carbon Credits – The Basics

1. A carbon credit is a certificate representing one metric tonne of CO_2 that is either prevented from being emitted or is removed from the atmosphere
2. These credits enable companies to support decarbonization by offsetting their own carbon footprint, and they also help finance projects for the removal of carbon from the atmosphere
3. For a project to generate carbon credits, it needs to demonstrate that the emission reductions/removals are real, measurable, permanent, additional, independently verified
4. Independent standards exist to certify carbon credits — American Carbon Registry; Gold Standard VERRA; Climate Action Reserve

Carbon Credit Demand (Gigatons) and LTM Pricing



Announced Corporate Carbon Credit Purchasers

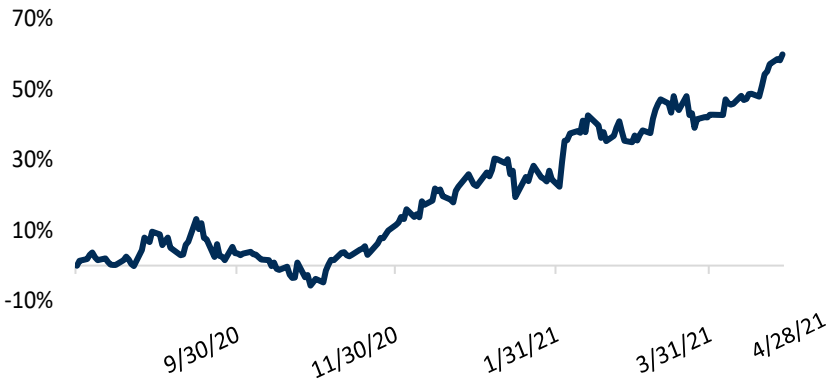
jetBlue, Disney, amazon, JPMorgan Chase & Co., Delta, Google, salesforce, Lyft

Corporates' Internal Carbon Pricing

A critical mass has been reached of companies who are already using an internal price on carbon, or plan to do so within 2 years

853	Companies currently using an internal price on carbon
1,159	Companies intending to implement an internal price on carbon within 2 years
$27 T	Combined market cap of above companies
$25	Median price used (per metric tonne CO_2)

KRBN Carbon ETF Total Return



Source: McKinsey & Company, S&P Market Intelligence, CDP, REBA, PFR

LCFS Markets & Corporate Impact

California

Adopted into law in 2009, the CA LCFS program requires in-state refineries and fuel suppliers to reduce the "carbon intensity" (CI) of transportation fuels each year on a set reduction schedule. Current CA LCFS credit prices are ~$200/metric ton CO_2e, which is close to the state-mandated price ceiling. As this price increases, the value of low CI fuels increases as well

Oregon

Oregon's Clean Fuels Program passed into law in 2009 with a directive to reduce average CI of transportation fuels by 10% over 10 years, using 2016 as the baseline period. In 2020 the CFP was expanded through an Executive Order to reduce CI of transportation fuels 20% by 2030 and 25% by 2035

Washington

HB 1091, passed by state legislation on April 25th, establishes a fuel standard to limit transportation emissions to 10% below 2017 levels by 2028 and 20% by 2035. However, the Clean Fuels Program cannot officially begin until a separate transportation package is passed

New York

AB 862, introduced by state lawmakers, would establish a LCFS program with the goal of reducing on-road transportation emissions by 20% by 2032. The bill is pending a vote

Impact on Transportation Fuel Prices

- It is estimated that as California's LCFS approaches $200, the total increase to a gallon of diesel will be approximately 22 cents per gallon
- Using different methodology, the Oregon Department of Environmental Quality calculates that its LCFS program added 3.7 cents to per gallon of standard gasoline and 4.2 cents per gallon to a gallon of diesel in 2020
- Washington's Clean Fuel Program exempts certain transportation fuels, including aircraft, marine vessels, rail, and tactical military vehicle fuels, though operators in these industries are eligible to participate in LCFS markets and projects

Example LCFS Projects & Economics

While LCFS legislation will drive up fuel prices, as has happened in CA and OR, corporates can mitigate their expense through various channels exposing them to clean fuel markets

Project Investment

Properly-structured renewables fuels investments can offer an attractive risk-adjusted exposure to LCFS markets

Fleet Electrification

Fleet electrification and charging infrastructure is possibly the cheapest and easiest way to gain LCFS exposure

RNG Purchase

Purchasing low-carbon fuels for corporate fleets capitalizes on the RNG industry's decreasing fuel costs, subsidized by LCFS

LCFS Market

LCFS program creates market where polluters purchase credits from clean energy producers to offset carbon impact

EV Fleet Opportunity

Electrification allows corporates to combat rising fuel prices due to LCFS and generate their own credits

EV Fleet Revenue

One Class 6 truck, 20k miles/yr
36 m. tons CO_2 displaced
$190/credit = $7,000/yr
One Class 8 truck, 60k miles/yr
173 m. tons CO_2 displaced
$190/credit = $33,900/yr

Project Profile: Dairy RNG

- Southwest dairy operation with installed anaerobic digestors
- Servicing 50,000+ cattle, presenting a significant RNG opportunity

Dairy waste anaerobic digestor

Economics

- **CI Score:** -250
- **Base LCFS:** $150 per credit
- **$/MMBtu:** ~$60 - $70
- **MMBtu/Cow:** ~3

$9 - $11 million opportunity annually

Renewables Through a Risk Management Lens

The guiding rule in corporate renewables should be "do no harm" (to your company)

- ***Power Purchase Agreements***
  - ***Counterparty, Counterparty, Counterparty***
  - ***Change in law / market reform***
  - ***Structural price changes***
  - ***Operational considerations***
- ***Solar/Wind tax equity***
  - ***Negative accounting geography, HLBV, ITC recapture, structure risk, tax appetite, debt structure***
- ***On-Site Renewables***
  - ***Safety, property access, decommissioning, contract renewal, tariff changes, utility roadblocks***
- ***RNG, carbon capture, green hydrogen, fleet electrification***
  - ***Multiple attribute rights streams & complex multi-member partnerships***

Engaging the right legal and financial advisory partners is key to achieving optimal outcomes

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