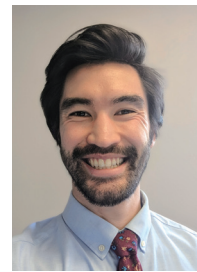


# A New “Pilot at the Helm” – the Biden Administration’s Navigation of the US Energy Sector “Ship”

By Carl Greenfield



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The United States energy sector is like a large container ship, moving billions of dollars of investment across long distances for thousands of various corporate interests. The US president can try to steer this ship in a certain direction. However, the direction of the US energy sector will also depend on underlying business trends, market tailwinds, technology headwinds, and, of course, the US Congress and court system. Just as container ships change course slowly over time, the US energy sector evolves gradually based on a mixture of industry, market, technology, and policy forces.

Under the administration of President Donald Trump, the US ceded leadership on international and domestic climate change discussions. Under his “Energy Dominance” platform, Trump tried to steer the energy sector in a direction that maximized US fossil fuel production and exports. Now, as the administration of new President Joe Biden takes shape, the US energy sector will take another direction as the federal government undergoes a dramatic shift in its approach to energy and environmental policy. Following a broad consensus in the scientific community, Biden’s climate platform seeks to set the US on a path toward economy-wide net-zero greenhouse gas (GHG) emissions by 2050. Biden’s “whole of government” approach tries to incorporate climate considerations across the entire US government.

Biden will try to “steer” the US energy sector toward his mid-century decarbonization goal, with supportive “tailwinds” from a Democratic-controlled Congress. However, the Biden administration will need to navigate the opposing “headwinds” of high costs of new clean technologies, low-priced natural gas, and continued underlying US reliance on gasoline.

## Energy Trends in the US

Over the last 50 years, oil, natural gas, and coal have fueled the US economy. Changes in the US energy mix have been gradual and driven in large part by external market factors – such as the oil shocks in the 1970s that led to greater use of coal and nuclear energy and the sustained high oil prices in the mid-2000s that sparked the so-called “US Shale Revolution”.

Only over the past decade has the US energy

sector started to slowly change direction toward a decarbonized future. This is especially apparent in the power sector, which has experienced sharp declines in coal-fired power generation as natural gas and renewable energy offer lower-cost alternatives. In addition to economic factors, state and local policy, customer preferences, and investor demands are steering the US electricity sector away from carbon-heavy sources like coal.

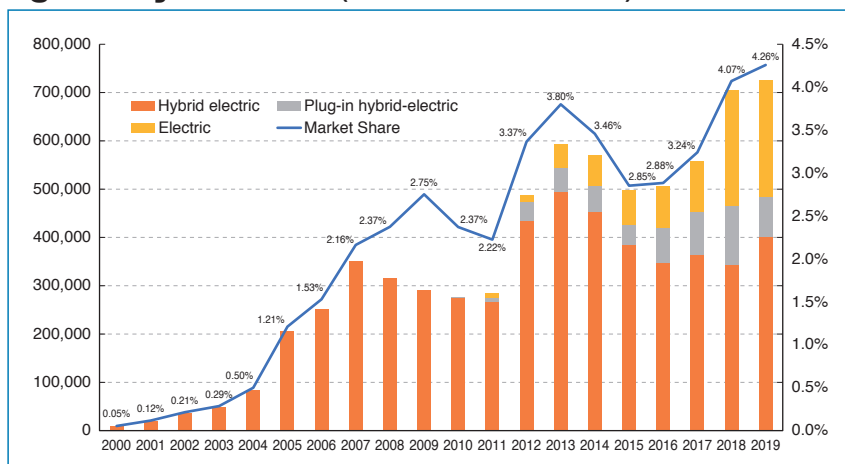
In other sectors, like transportation and the manufacturing industry, oil and natural gas continue to dominate as primary energy sources. These sectors continue to favor low priced natural gas-fueled processes and gasoline-powered technologies. For instance, despite years of federal and state incentives to promote alternative fuels in the transportation sector, sustained low gasoline prices have encouraged greater purchases of larger gas-powered vehicles and hindered the mass adoption of electric vehicles (EV) (*Chart 1*).

## Steering the Ship

Unlike some other countries, the US federal government lacks the centralized authority to set a national energy mix. Federal laws tend to provide individual state governments with jurisdiction over their energy choices. Still, there are several policy “tools” that the US federal government can use to steer the energy sector in a certain

CHART 1

### US electric vehicle sales & market share of light-duty vehicles (Number of vehicles sold)



Source: US Bureau of Transportation Statistics; chart by author

direction. These policy tools primarily aim to guide the energy industry's business decisions by impacting the cost of operating and adopting certain energy technologies.

1. Environmental regulation: Environmental rules can increase or decrease a company's costs in utilizing various energy sources. For example, mercury regulations in the power sector led to the early retirement of dozens of coal-fired power plants that could not afford to implement emissions control technologies.
2. Research and development spending: The US federal government spends billions of dollars every year on R&D activities designed to decrease the costs of new technologies. The purpose of energy-related R&D is to drive down the capital and operating costs of new energy technologies so that utilities and energy companies can adopt these technologies on a business and cost-driven basis.
3. Tax policy: Both the federal and state governments use tax policy to incentivize the use of certain energy technologies. For example, companies can receive a federal income tax credit for building renewable energy projects.

The use of these policy tools differs across political party lines in the US. Specifically, Democrats tend to favor a larger federal government role that supports a combination of regulation and technology promotion – endorsing top-down regulation and increasing R&D funding for clean energy technologies. In contrast, Republicans tend to favor technology innovation solutions and market forces over regulation – generally promoting looser regulations and R&D funding that supports an “all-of-the-above” energy solution perspective.

### Trump's “Energy Dominance” Platform & Evolving Democratic Party Thinking

When Trump assumed office in January 2017, his “Energy Dominance” policy platform marked a sharp turn away from the “Clean Energy Agenda” of the administration of President Barack Obama. Over the course of its four years in office, the Trump administration pursued policies that attempted to “steer the ship” of the US energy sector toward energy “independence” versus decarbonization.

On the one hand, Trump promoted a traditional Republican approach to influencing the energy sector. For example, the US Environmental Protection Agency (EPA) and US Department of Interior (DOI) ushered in an unprecedented rollback of environmental regulations impacting oil and gas production, transportation, and energy efficiency rules. Internationally, the Trump administration

rejected the Paris Climate Agreement – a crowning achievement of the Obama administration – pulling the US out of the accord, and instead focused government attention on the promotion of US natural gas and coal exports.

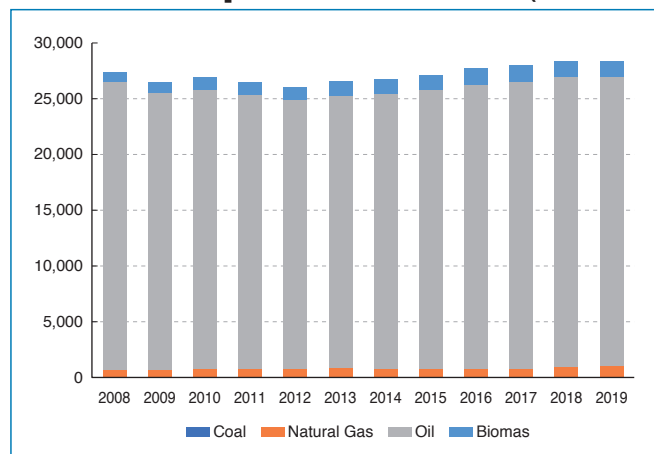
On the other, Trump had his own “personal approach” to energy policy oftentimes directly contradicting the pro-market views of many Republicans. For example, the Trump Department of Energy (DOE) in 2017 urged federal electricity regulators to prop up economically struggling coal-fired power plants in competitive US wholesale electricity markets. This effort, eventually unsuccessful, argued that the early retirement of coal-fired power plants would erode US grid reliability and that out-of-market payments were needed to support these plants. However, US grid operators, researchers, and reliability watchdogs rejected this idea.

Was Trump able to impact the energy sector and fundamentally shift the direction of the ship? From one perspective, Trump's policies did support continued oil and natural gas consumption in the transportation and industrial sectors. However, this trend was driven by low energy prices as a result of the Shale Revolution as much as by federal policy. From another perspective, Trump's “Energy Dominance” agenda failed to “turn the ship” away from underlying decarbonization trends in the US power sector ([Charts 2 & 3](#)).

Perhaps an even greater consequence of Trump's pro-fossil fuel policies was on the Democratic Party's approach to climate change. The 2018 midterm elections, generally considered a “referendum” on Trump's first two years in office, sparked an evolution in mainstream Democratic climate thinking to incorporate more progressive policy positions. Frustrated with the Trump administration's policies, Democrats in Congress integrated their social and economic

CHART 2

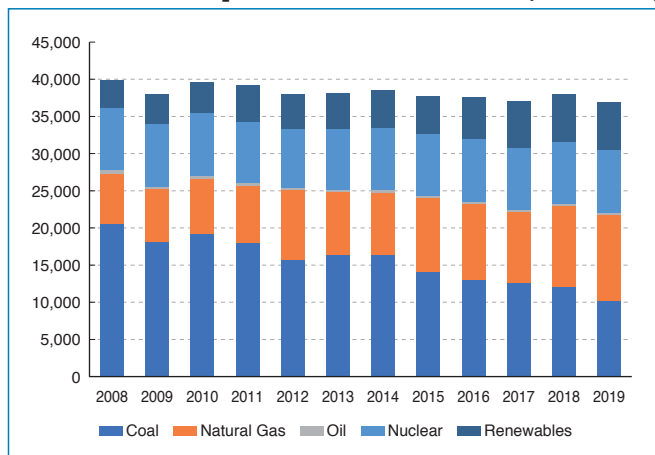
### US transportation sector primary fuel consumption (trillion Btu)



Source: US Energy Information Administration; chart by author

CHART 3

## US electric power sector primary fuel consumption (trillion Btu)



Source: US Energy Information Administration; chart by author

perspectives into their energy policy – to include the Democrats’ “Green New Deal” resolution introduced in February 2019. This proposal initiated an 18 month-long consensus-building mission within the Democratic Party to offer a counter proposal to Trump’s “Energy Dominance” platform.

During the Democratic presidential primaries in early 2020, it was clear that the party was increasingly divided between moderates (focused on “blue collar” and labor issues) and progressives (focused on environmental justice and social issues). On the moderate side, candidates such as Biden argued that the US should reach net-zero GHG emissions by 2050 through a wide variety of energy technologies, to include nuclear energy as well as carbon capture, utilization, and storage (CCUS). On the progressive side, candidates such as Bernie Sanders, advocated for stricter policies, to include 100% renewable energy in the power sector by 2030 and a nationwide fracking ban.

### Biden’s Climate Change Platform

Immediately after Biden secured the Democratic nomination, party members worked to build a consensus between the moderate and progressive camps. In May 2020, Biden and Sanders jointly launched a series of “Unity Task Forces” aimed at unifying the party ahead of the November elections. The Climate Change Task Force, which issued a set of recommendations to the Biden campaign to reach net-zero emissions by 2050, was chaired by progressive Representative Alexandria Ocasio-Cortez (D-New York) and former Secretary of State John Kerry, a prominent “establishment” member of the party who had been a top US negotiator for the Paris Climate

Agreement under Obama.

In Congress, Democrats in both chambers also introduced recommendations to reach net-zero emissions by mid-century. In fact, in the US House of Representatives, the Democratic-controlled majority even passed several bills that incorporated other legislative interests into energy policy discussions, such as clean infrastructure and environmental justice issues.

These discussions within the Democratic Party resulted in the most comprehensive and ambitious climate change platform put forth by any presidential candidate from a major party. In July 2020, Biden released his platform, which incorporated clean energy, green infrastructure, and environmental justice goals. Biden’s energy platform took a “whole of government” approach to reaching net-zero GHG emissions by 2050, incorporating climate considerations across US government programs, projects, and processes (Chart 4).

Today, with the support of a narrow Democratic majority in both houses of Congress, Biden has the potential to enact significant policy and regulatory changes. At the same time, however, he will also face the same market forces and political limitations as Obama and Trump before him in shaping the US energy sector.

CHART 4

## Biden’s climate plan

Overall Goal: Economy-Wide Net-Zero GHG Emissions by 2050			
	Goal(s)	Supporting Policies	Implementing Agencies
Electric Power	Net-zero emissions by 2035	Double offshore wind by 2030	US Environmental Protection Agency US Department of Interior US Department of Energy US Internal Revenue Service US Department of Commerce
		Clean energy R&D funding	
		Tax incentives	
		Energy Efficiency and Clean Electricity Standard	
		Supply chain resilience	
Transportation	100% zero-emission vehicles	Federal government procurement of EVs	US General Services Administration US Environmental Protection Agency US Department of Transportation US Department of Energy US Internal Revenue Service
	500,000 charging outlets by 2030	Fuel economy standards	
	500,000 zero-emission buses	Airline emissions standards	
		Rebates and tax credits	
		Battery storage R&D funding	
Buildings	Net-zero emissions for new commercial buildings by 2030	Energy efficiency investments	US Department of Energy US Department of Housing and Urban Development
		Building codes	
Oil and Gas	Support workers in the “energy transition” from fossil fuels to clean energy	Methane pollution limits for new oil and gas operations	US Environmental Protection Agency US Department of Interior US Council on Environmental Quality US Internal Revenue Service
		Ban on new oil and gas permitting on public lands	
		End fossil fuel subsidies	
International	Establish US as an international leader on climate	Rejoin Paris Agreement	US Department of State US Export-Import Bank US Development Finance Corporation
		Agreements to reduce shipping and aviation emissions	
		Carbon adjustment fee or quota	
		Eliminate export finance of high-carbon projects	

Source: Biden campaign; chart by author

## The Biden Energy “Team”

Moving into the first year of the Biden administration, the Cabinet will play a crucial role in translating the Biden campaign platform into actionable policy items. Overall, the people he has asked to join his administration reflect the “mainstream” of the Democratic Party and will support him in addressing his four major priorities: recovering from the Covid-19 pandemic, rebuilding the US economy (with a focus on US manufacturing and job creation), enhancing racial equity and social justice in the US, and addressing climate change.

Biden’s energy and environment team includes several influential figures in and outside of the “Washington circle”, covering a variety of interests across the Democratic Party from manufacturing and labor to environmental justice.

In the White House, Biden’s top two energy and environment advisors hail from the Obama administration. Kerry, special presidential envoy for climate and a National Security Council member, heads international climate engagement efforts. Kerry will likely initially focus on reentering the Paris Agreement and later leading energy financing discussions at federal agencies like the US Export-Import Bank, the US International Development Finance Corporation, and US Agency for International Development, among others. On the domestic front, Gina McCarthy serves as the domestic climate policy coordinator in the White House, working to harmonize federal efforts on climate change and ensuring the entire government is working to reduce GHG emissions. McCarthy, who led the EPA in the Obama administration, will work across agencies like the EPA, DOE, and DOI.

In contrast to Washington insiders Kerry and McCarthy, Biden’s picks to lead the DOE and EPA bring extensive state-level policymaking experience. Jennifer Grandholm, as secretary of energy, is well-known for her support of clean energy in both the power and transportation sectors to support US manufacturing and labor. As the former Democratic governor of Michigan, Grandholm is also recognized for leading the state’s automotive industry through the 2008 financial crisis – making her a natural fit to promote Biden’s EV policies. At the EPA, Biden chose Michael Regan to lead the federal agency responsible for regulating emissions from the power, transportation, and industrial sectors. Regan, who served as the top environmental regulator in North Carolina, brings to the EPA years of experience in public engagement with historically underserved and marginalized communities.

## Working with Congress

Biden’s ability to steer the US energy sector and implement his climate agenda will depend in part on his support in the 117th Congress. On the one hand, the Democrats’ slim majority in

Congress will allow Biden to confirm his Cabinet members and initiate efforts in the first few months in office. Additionally, Biden is inheriting a congressional environment that recently approved billions of dollars in funding for clean energy and zero-emission technologies. As one of its last major efforts in 2020, the 116th Congress passed the Consolidated Appropriations Act, 2021, a massive omnibus bill that increased funding for clean energy R&D. Included in the omnibus bill are several clean energy provisions to support renewables, energy storage, nuclear energy, and CCUS/direct air capture (DAC) technologies. In addition to expanding federal tax credits for solar, wind, and CCUS projects, the omnibus package also establishes demonstration programs and test centers to scale low-carbon energy technologies.

On the other hand, despite narrow majorities in Congress, full legislative support for Biden’s goals is not assured. During his first year in office, for example, Obama failed to pass a bill through the Democratic-controlled Congress that would have established emissions reduction requirements in the US energy sector. The Waxman-Markey bill, as it was known, would have created a national cap-and-trade system for GHG emissions and required electric utilities to meet 20% of demand with renewable energy. The bill narrowly passed the House of Representatives (219-212) in June 2009 but was never voted on in the Senate due to two main factors: (1) Republicans gained an extra seat in January 2010 following the death of Democratic Senator Ted Kennedy, ending the Democrat’s filibuster-proof majority in the Senate; and (2) Obama was pursuing another key legislative priority at the same time, the Affordable Care Act, which took the political focus away from Waxman-Markey.

Biden will certainly face similar legislative “headwinds” in Congress for his more ambitious policy proposals. Indeed, his legislative successes will depend on the posture of Republicans in Congress and whether they can attract moderate Democrats to disagree with Biden’s bold policies. Republicans will certainly oppose any efforts to dramatically change federal powers, such as setting a national clean energy standard (CES).

As such, Biden will need to be strategic and deliberate in his legislative agenda during his first year. He will need to balance his climate change efforts with other legislative priorities, such as passing another Covid-19 stimulus package, and focus on areas of bipartisan consensus that align with his climate platform. Examples may include efforts to boost the US battery manufacturing supply chain, support for EVs, and funding for CCUS, hydrogen, and energy storage technologies.

## Potential Executive Actions

As Biden works to solidify his legislative agenda, there are several near-term executive actions that he can take without the support of

Congress. On his first day in office, Biden took steps to rejoin the Paris Agreement, sending a letter to the United Nations announcing the US intent on reentering. After a 30-day waiting period, the US will officially be able to rejoin the agreement. Moving forward, Kerry will lead international climate efforts, acting as the US climate “spokesperson”.

Within his first few months in office, Biden will also incorporate climate considerations into US whole-of-government processes. Biden will direct the federal bureaucracy to examine how climate change can be addressed across US regulatory, program, procurement, and permitting processes. A key agency in this regard will be the White House Council on Environmental Quality (CEQ). Topics of discussion at the CEQ will include incorporating the social cost of carbon into government decision-making.

Moving forward, Biden is likely to issue a set of Executive Orders aimed at initiating his regulatory agenda over the next several years. The purpose of these Executive Orders will be to direct federal agencies to begin the necessary processes to propose new regulations. Initial efforts will likely focus on reversing the environmental rollbacks of the Trump administration, such as fuel economy standards for passenger vehicles, emissions limits for existing power plants, and targeting methane emissions from oil and gas production. These near-term actions will not have an immediate impact, but rather they will serve to initiate many executive policies to support Biden’s climate agenda.

In the power sector, Biden aims to reach net-zero GHG emissions by 2035. Without the explicit approval of Congress, however, it is unlikely that Biden would be able to implement a policy to achieve that goal. Indeed, the president alone does not have the legal authority to set a national CES. Under current law, power generation policy (and specifically a “portfolio approach” to the power sector) is set by the individual states, not the federal government. Several state governments such as California, New York, and Hawaii have already set their own CES policies.

Instead, Biden will likely issue an Executive Order directing federal agencies to examine rules and regulations to reach net-zero power sector emissions by 2035. It is likely that the EPA will be the primary agency behind new power sector regulations – though, again, history shows this may prove to be more difficult to implement in practice. The Obama administration’s 2015 Clean Power Plan, which set carbon dioxide (CO<sub>2</sub>) regulations for power plants, faced several legal challenges regarding the EPA’s authority to change the US energy mix. The Federal Energy Regulatory Commission (FERC) is also likely to play a role in implementing Biden’s power sector policies, though to a lesser extent. Although the president cannot direct FERC to finalize specific orders, the White House does have the power to influence certain issues that FERC may examine as well as influence the composition of FERC’s commissioners. For instance,

under a Biden administration, future FERC commissioners may in fact be open to examining the role of carbon pricing in US wholesale electricity markets.

In the transportation sector, Biden aims to develop new regulations promoting EV sales and reducing vehicle emissions. Biden will likely direct the EPA and National Highway Traffic Safety Administration to develop stricter corporate average fuel economy standards than currently set by the Trump administration. Biden will work with states like California to set vehicle emissions standards that gradually increase over time. Indeed, the Biden EPA will likely develop vehicle regulations similar to – if not stricter than – those set by the Obama EPA in 2013.

### **“Oh Captain, My Captain”: Biden’s Energy & Environment Policy Outlook**

Without a doubt, the Biden administration will usher in a new approach to energy and environmental policy in Washington. Biden’s “whole of government” approach to addressing climate change and inclusion of environmental justice initiatives mark a considerable shift away from the “Energy Dominance” agenda of the past four years under Trump.

Yet Biden has also promised to work as hard for those who did not vote for him as those who did. As Biden attempts to “govern from the middle”, he will need to balance the differing priorities of moderates and progressives within his own party as well as work with Republicans who may not agree with his 2050 decarbonization goals.

Despite his bold policies and narrow majorities in Congress, Biden will not be able to rapidly steer the US energy sector toward decarbonization. The decentralized nature of the US energy sector does not allow for complete control by any one person or branch of government. But maybe, with enough support in Congress and the right market tailwinds, Biden – as “captain” of this complex and vast energy and environment sector enterprise – will be able to put in place the requisite policies that will point the ship in the right direction towards an energy mix that is both responsible and worthy of the new administration’s ambitious goals. **JS**

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