The Biden Energy Plan

Over the last couple weeks and months I have formed the view that the shift towards renewables will not happen overnight as investors are currently pricing it and that oil & gas will remain a key commodity going forward. However, investors still shun the oil & gas industry with banks remaining reluctant to provide funding. Oil equipment manufacturer Hunting plc, for instance, was unable to advance their US ADR level II listing this year, as banks were not interested in marketing the shares to investors amid "political pressure" it seems. If Biden were to select Brainard as new Federal Reserve Chair, this pressure could exacerbate, as Brainard has been attending climate summits and is seen as a friend of ex-BOE Mark Carney, who wants to stop fossil fuel funding altogether.

Introduction

The $1.75trn Build Back Better Biden Infrastructure plan contains a $550bn energy bill. Of those $550bn around half is allocated in the form of fixed grants and investments, while the other half is mostly used as variable tax credit and variable grants based on how carbon neutral the energy generation is. The oil & gas industry will see increasing costs, much more than the coal industry even. These costs include rising royalties on federal lands (equals to $5 a barrel at $80 a barrel) as well as more expensive leases and fees for idled wells, pipelines and severances. Federal lands and waters make up 22% of the country's oil production and 12% of the country's natural gas production according to the S&P Global[1], and hence remains an important source of growing oil & gas output in the United States.

[1] https://www.spglobal.com/platts/en/market-insights/latest-news/oil/012721-biden-issues-broad-moratorium-on-oil-and-gas-leases-on-federal-lands-and-waters

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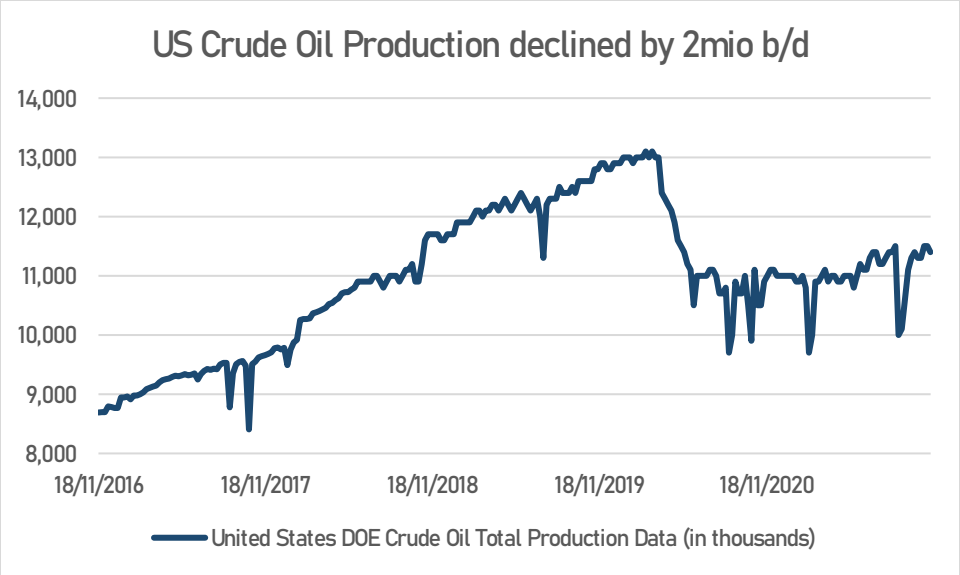

Source: US Department of Energy

Are there enough EV charging points?

The plan is squarely focused on shifting from combustible vehicles to electric vehicles and does so by making drilling for oil more expensive, while making buying & driving EVs cheaper. Most of the EV and renewable subsidies will run out after 2030. Given the low approval ratings of Biden in recent weeks that put him at a meager 36% - 53% (approval/disapproval)[2], I struggle to see Americans moving towards EVs any time soon. The main obstacle likely remains EV charging points, as the $7.5bn funding for 500k charging points by 2030 is mostly focused on slow charging points and you wonder whether this will be enough to fuel America's 276mio registered cars? The EIA estimates that during 2020 fuel consumption was around 123.73bn gallons[3]. Considering that on average Americans fill up their cars with around 12 gallons of fuel, this would indicate that on average for 276mio cars, each car needs refueling three times a month. Now, if we apply this logic on EVs and let's assume to have 600k EV charging points by 2030, each charging point will charge four vehicles a day for 365 days a year, this would equate to 876mio charges. Given that we charge our EV 36 times a year, the 600k EV charging points would only charge 24.3mio cars a year.

[2] https://poll.qu.edu/poll-release?releaseid=3827
[3] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

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Do we have enough natural resources?

Generally, I would be cautious in believing that we run out of resources for batteries, as there were similar discussions for oil multiple times in the history, which were all debunked to be wrong amid advances in technology, offshore drilling and shale oil. However, based on current estimates there are around 7.1mio tons of cobalt reserves in the whole world with 70% coming out of the Democratic Republic of Congo[4]. Amid 140k annual production in 2020, these reserves would last for 50 years, considering stable production. Nickel's reserves amount to only 94mio tons with around 22% being located in Indonesia, which at current production rate of 2.5mio tons annually, would be exhausted within 38 years[5].

Conclusion

Certainly, carbon emissions need to be reduced, even though we cannot be 100% certain that this is the only driver for climate change. However, the shift towards electric vehicles is a very ambitious programme, as it would not only require new infrastructure, but on top of a renewable electricity grid, we would need a lot more electricity supply. China has shown that a fast move towards electric vehicles will ultimately lead to more electricity production via thermal coal. In my opinion, the much smarter move would be to phase out coal first and introduce carbon taxes, and only once this has been achieved, one could look at phasing out the next fossil fuel. As most developed nations try to do everything at once, I suspect we end up with higher energy inflation, which will ultimately lead to failure, as it did in previous attempts. The Biden Energy Bill is certainly far from deflationary and will make the price of oil and gas more expensive, making it highly inflationary. The longer investments in oil & gas get delayed, the worse inflation will get.

[4] https://pubs.usgs.gov/periodicals/mcs2021/mcs2021-cobalt.pdf
[5] https://pubs.usgs.gov/periodicals/mcs2021/mcs2021-nickel.pdf

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The Biden Energy Bill

Category	Amount in bn $
Total package	1,750
Climate-related funding	550
Committee on Ways and Means	33
Renewable production tax credit (until 2026)	0.5 cents/kilowatt hour or 2.5 cents/kilowatt hour bonus rate
Renewable investment tax credit (until 2031, then declining annually)	6% base credit for energy property or 30% bonus rate provision
Zero-emission nuclear power production credit (credit reduces if electricity price increases)	0.3 cents/killowatt hour and 1.5 cents/killowatt hour bonus rate
Biodiesel, renewable diesel tax credits (until 2026)	$1 a gallon tax credits
Sustainable aviation fuel credit (from 2023)	$1.25 per gallon + $0.1 for each % above 50% emission reduction
Clean hydrogen provision	$0.6 per kg of clean hydrogen produces
Energy efficient commercial building deduction	$0.5 per square foot + $0.02 for each % above 25% reference (max $5 per square foot)
Refundable EV credit	$4k + $3.5k for US assembled EV before 2027 (<50% of purchase price)
Zero-emission charging infrastructure provision	6% <$100k + 4% + bonus credit of 30% <$100k and 20% thereafter
Bicycle commute	$20-$81 per month, $900 for electric bicycle
Energy project credit	23.1
Advanced manufacturing investment/production credit	25% investment credit, 10% production credit
Qualified environmental justice program credit	10
Committee on Energy and Commerce	124
Clean heavy-duty vehicles	5
Grants to reduce air pollution at ports	3.5
Greenhouse gas reduction fund	29
Collaborative Community Wildfire Air Grants	0.15
Diesel emissions reductions	0.06
Funding to address air pollution	0.28
Funding to address air pollution at schools	0.05
Low Emissions Electricity Program	0.087
Funding for Section 211 of the Clean Air Act	0.015
Funding for implementation of the American Innovation and Manufacturing Act	0.038
Funding for enforcement technology and public information	0.05
Environmental Product Declaration Assistance Program	0.25
Methane Emissions Reduction Program	0.775
Climate Pollution Reduction Grants	5
Low-embodied carbon labeling for construction materials for transportation projects	0.1
Grants to reduce waste in communities	0.19
Environmental and Climate Justice Block Grants	3
Home Energy Performance-Based, Whole-house Rebates and Training Grants	6.25
High-Efficiency Electric Home Rebate Program	6.25
Critical facility modernization	0.5
Assistance for latest and zero building energy code adoption	0.3

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Zero-Emissions Vehicle Infrastructure Grants	1
Funding for Department of Energy Loan Programs Office	43.6
Advanced Technology Vehicle Manufacturing	3
Domestic Manufacturing Conversion Grants	3.5
Energy Community Reinvestment Financing	5
Tribal Energy Loan Guarantee Program	0.2
Transmission line and intertie incentives	2
Grants to facilitate the siting of interstate electricity transmission lines	0.8
Organized Wholesale Electricity Market Technical Assistance Grants	0.04
Interregional and offshore wind electricity transmission planning, modeling and analysis	0.1
Advanced Industrial Facilities Deployment Program	4
Committee on Natural Resources	7
Tribal Climate Resilience	0.441
Native Hawaiian Climate Resilience	0.049
Tribal Electrification Program	0.294
Investing in Coastal Communities and Climate Resilience	6.000
Environmental and Climate Data Collection	0.065
Office of Insular Affairs Climate Change Technical Assistance	0.029
Onshore fossil fuel royalty rates	from 12.5% to 18.75%, adjusting for inflation going forward
Offshore oil and gas royalty rate	minimum 14%
Oil and gas minimum bid	Onshore oil & gas minimum bid from $2 to $10 per acre
Deferred coal bonus payments	repeals >50% of land leasing to go to coal
Fossil fuel rental rates	onshore rental rate for oil & gas leases from $1.5 & $2 to $3 & $5 for first two years, +
Fossil fuel lease term length	oil & gas lease from 10 to 5 years, coal lease from 20 to 10 years
Expression of Interest fee	$15 to $50 per acre fee
Elimination of noncompetitive leasing	always in competitive auction format
Oil and gas bonding requirements	leaseholder needs to provide guarantee to ensure land restoration
On- & Offshore oil and gas inspection fees	costs covered by the producer going forward
Severance fees	$0.5 per barrel of oil & $2 per metric ton of coal
Idled well fees	$500 for idled wells 1-5 years, $7.5k for 15 years +
Annual pipeline owners fee	$10k per mile deeper than 152 metres, $1k per mile less deep than 152 metres
Royalties on all extracted methane, Elimination of royalty relief	eliminates royalty waiver
Climate Adaptation Science Centers	0.050
Committee on Oversight and Reform	13.2
General Services Administration Clean Fleets	2.995
United States Postal Service Clean Fleets	5.985
General Services Administration Emerging Technologies	0.975
General Services Administration Procurement and Technology	3.250
Committee on Science, Space and Technology	3.1
Department of Energy Research, Development and Demonstration Activities	2
Air quality and climate research	0.1
National Aeronautics and Space Administration climate research and development	0

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Oceanic and Atmospheric research and forecasting for weather and climate	0.4
Climate education	0
Computing capacity and research for weather, oceans and climate	0.2
Committee on Transportation and Infrastructure	8.5
Community Climate Incentive Grant Program	4
Alternative Fuel and Low-Emission Aviation Technology Program	0.3
Climate Resilient Coast Guard Infrastructure	1
Port Infrastructure and Supply Chain Resilience	0.6
Alternative Water Source Project Grants	0
Sewer Overflow and Stormwater Reuse Municipal Grants	1.9
Environmental review implementation	0
Low-Carbon Transportation Materials Grants	0.9
Committee on Financial Services	25.7
Improving energy efficiency or water efficiency or climate resilience of affordable housing	2
Investments in Rural Rental Housing	2
Strengthening Resilience Under National Flood Insurance Program	21.7
Committee on Agriculture	44.7
Non-Federal Land Forest Restoration and Fuels Reduction Projects and Research	0.7
State and Private Forestry Conservation Programs	3.85
Additional funding for electric loans for renewable energy	2.9
Rural Energy Savings Program	0.20
Rural Energy for America Program	2.3
Biofuel infrastructure and agriculture product market expansion	0.96
USDA assistance for rural electric cooperatives	9.7
Department of Agriculture Research Funding	0.85
Soil Conservation Assistance	$25 per acre to address climate change, soil health
Additional Agricultural Conservation Investments	22.30
Conservation Technical Assistance	1.0
Committee on Education and Labor	19.6
Corporation for National and Community Service and the National Service Trust	15.29
Workforce Development in Support of Climate Resilience and Mitigation	4.28

Source: Akingump

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