

The US Should Treat Climate Policy as Economic Policy

¹Jonas Nahm & ²Johannes Urpelainen

¹Johns Hopkins School for Advanced International Studies,
Washington, D.C., United States

²Center on Regulation and Markets
Brooking Institution, Washington, D.C., United States

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Abstract

The United States and China jointly account for more than 40 percent of global greenhouse gas emissions, putting these two nations at the center of efforts to address the climate crisis. Yet cooperation on climate policy between Washington and Beijing has stalled in recent years, reflecting a broader deterioration in the U.S.-China relationship. After decades of increasing dependence on imports from China, the pandemic highlighted the vulnerability of global supply chains to external shocks and strengthened calls for national self-sufficiency both in China and the United States. The stakes and opportunities of such a move are nowhere higher than in clean energy sectors, where China currently dominates global manufacturing. China makes roughly two-thirds of the world's solar panels, nearly half of global wind turbines, and three quarters of lithium-ion batteries needed for electric vehicles and on-grid energy storage. To date, the U.S. federal government has not done enough to improve the competitive position of domestic clean energy sectors, which could provide an alternative to the current reliance on China. In the absence of policies to support these industries domestically, tariffs the main U.S. government response to China's rise have made clean energy technologies more expensive but have not drastically improved the competitive position of American firms.

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Corresponding Author: **Jonas Nahm**

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Background to the Study

Other economies have taken a different approach. Partly in response to China's dominance in clean technology industries, European policymaking now treats climate change as an economic imperative, as governments seek to expand shares for domestic firms in growing global clean energy technologies markets and hope to meet a growing share of domestic demand with home-grown technologies. From offshore wind turbines to hydrogen and battery technologies, Europe has combined economic and climate objectives in strategic initiatives to support the growth of domestic clean energy industries. For instance, the EU established the European Battery Alliance to reduce dependence on China for the highest value components in electric vehicle manufacturing. Its goal is to position domestic firms along the entire battery supply chain for economic and security reasons, with the alliance taking on a coordinating function to bring the required industrial actors together. The EU's push to self-sufficiency in the use of clean energy technologies has taken on new urgency since Russia's invasion of Ukraine, as the continent seeks to reduce its dependence on imports of Russian fossil fuels. The United States needs to treat climate policy as economic policy or risk falling behind other economies that have made clean energy industries a domestic priority. Not just since the beginning of the Ukraine crisis, the Biden administration has looked for ways to boost the domestic production of clean energy technologies. Yet the use of tools such as the Defense Production Act alone won't be sufficient to secure the domestic production of clean energy technologies that are needed more than ever for energy security and to protect the United States from a volatile global price environment.

To strengthen the competitive position of domestic clean energy sectors, the United States should;

- (i) Improve financing for domestic clean technology industries through the creation of a national lending institution,
- (ii) Create a stable domestic market environment for low-carbon technologies to reduce investment uncertainty, and
- (iii) Renew investments in vocational training to create a workforce ready to tackle the clean energy challenge. Without a clear strategy to support the growth of domestic clean energy sectors, calls for greater economic separation from China will likely jeopardize climate goals while ceding economic gains to nations with more comprehensive green growth strategies.

Why Climate Policy is Economic Policy

Historically, governments have often prioritized economic growth over climate policy, particularly during periods of economic hardship. Yet the view that emissions reductions and good economic policy are irreconcilable is increasingly outdated. In 2021, global markets for renewable energy and electric vehicles soared to USD \$366 and USD \$273 billion, respectively; global investment in the clean transition topped USD \$755 billion. Global clean energy markets are now roughly equivalent to the GDP of Switzerland and roughly three times the size they were ten years ago. In light of rapidly growing markets for clean energy technologies, policymakers around the world have begun to promise new jobs, industries, and sources of prosperity in the transition to a zero-carbon economy. In addition to creating

service-sector jobs in the installation and maintenance of clean energy technologies and infrastructure for the electrification of the transportation sector, policymakers have argued that climate policy will lead firms to invest in technological innovation and ultimately relocate manufacturing to commercialize and produce clean energy technologies domestically. Among policy options to address climate change, those that pursued the dual objective of achieving emissions reductions while creating new sources of economic growth have been easier to implement politically. Such economic benefits have also helped justify growing public investments in the clean energy transition. Yet economic co-benefits from climate policy have not been achieved everywhere. Although governments worldwide have connected climate policymaking to the broader premise of “green growth,” not all economies have successfully built large industrial sectors in support of decarbonization. One reason green sources of economic growth have proven elusive has been the political opposition of industries invested in fossil fuels. Clean energy sectors—wind, solar, storage, and electric vehicles, among others—continue to compete with an existing fossil fuel-based energy system. Utility companies, car manufacturers, and traditional energy providers have mounted political opposition to the clean energy transition. In many cases, such opposition has undermined policies to create markets for clean energy technologies and prevented state support for firms seeking to develop zero-carbon alternatives. This is true even if in many parts of the world new energy technologies are now cheaper than those they are seeking to replace.

Other governments have begun to strategically position their domestic economies to benefit from rapidly growing investment in clean energy. Nowhere is this more the case than in China, which has rapidly established itself as the dominant manufacturer in industries central to addressing greenhouse gas emissions. Over the past two decades, China has increased its share of global solar photovoltaic production from less than 1 percent to over 60 percent of the world's solar panels. For 15 of the past 17 years, China has added more production capacity for crystalline solar cells than any other country in the world. China is also one of the world's largest producers of and market for electric vehicles. It now commands roughly 75 percent of global production capacity for non-consumer batteries, which are the highest value component in electric vehicles and critical for on-grid electricity storage. China dominates most individual steps in the supply chain, including in the mining and production of Nickel, Cobalt, and Lithium, in the manufacturing of cathodes and anodes, and lithium-ion cell manufacturing. In 2020, China accounted for 58 percent of global production capacity for wind turbine nacelles, primarily for its large and growing domestic market. In addition to producing components for domestic turbine assembly, China produces gearboxes and generators that are used by turbine manufacturers around the world.

China's dominance in the production of low-carbon energy technologies has national security implications in the United States and elsewhere. Without investments in alternative supply chains from raw materials to final assembly, meeting global climate goals could mean trading dependence on Russian fossil fuels for reliance on China for electric vehicle batteries and renewable energy products. As the Ukraine crisis has demonstrated, such interdependencies are easily weaponized. China's rise to dominance in clean energy industries was not accidental, but the result of strategic and aggressive government support for R&D and

manufacturing. No other economy has devoted a similar level of resources to the expansion of production capacity and manufacturing R&D in clean energy sectors central to reducing greenhouse gas emissions. This has especially been the case since 2006, when the central government began encouraging “indigenous innovation” to reduce dependence on foreign technologies through increased domestic R&D efforts. Efforts further accelerated under President Xi's Made in China 2025 initiative, which designated the development of domestic low-carbon emitting technology sectors as a strategic national priority. China's provincial and municipal governments, meanwhile, brokered bank loans and provided land, facilities, and tax incentives to manufacturers in wind, solar, and battery industries. It is estimated that between 2010 and 2012 alone, wind and solar firms received credit lines of USD \$47 billion by Chinese banks; the China Development Bank, one of three state-owned policy banks, reportedly extended USD \$29 billion in credit to the 15 largest wind and solar firms.

In part in response to China's rise in clean energy industries, the European Union has increasingly treated climate policy as economic policy. The EU's “Fit for 55” proposal seeks to marry climate and economic goals by investing in low-carbon industries that guarantee jobs and prosperity as Europe pushes emissions reductions. Such goals are also noticeable in Europe's transportation sector, where the EU has proposed reducing new vehicles' average emissions by 55 percent in 2030 and 100 percent in 2035. This amounts to an outright ban of internal combustion engine vehicles by 2035, expanding on policies that have already passed in individual member states including France.

Conclusion

The EU proposals send a strong signal to European firms that they need to participate in the transition away from fossil fuels or be left behind in a global industrial policy competition with China. In combination with promises to expand renewable energy capacity and charging infrastructure, increase taxes on conventional fuels, and develop low-carbon sources of hydrogen, these policies for clean energy industries build on ongoing efforts to close key gaps in industrial supply chains. As mentioned above, the EU has already funded a European Battery Alliance to establish a competitive European battery industry that would reduce Europe's dependence on China.

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