

# Does Populist-Authoritarianism Pose a Threat to Sustainability Transitions?

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## Abstract:

Does democratic backsliding pose a threat to the sustainability transition? A number of countries have moved to a model of electoral authoritarianism in which the appearances of democracy are retained but leaders systematically trample on democratic norms and undermine accountability structures designed to limit the concentration of political power (Guriev and Treisman, 2022). This paper will explore the assumptions about the political systems of countries incorporated into important models of sustainability transitions. Does a movement away from full democracy undermine the potential for states to complete a transition? Two case studies are examined. The first considers the governance of Mexico during the presidential term of Andrés Manuel López Obrador, and López Obrador's efforts to overturn his presidential predecessor's comprehensive energy reforms. The second case study is of recent energy and climate legislation in the United States, including the 2022 Inflation Reduction Act. Will the country's high levels of political polarization and the shift of the Republican party toward authoritarianism threaten the country's recent progress toward policies supporting a transition away from fossil fuels in transport and electricity? Findings from the case studies suggest that electoral autocracies are not themselves inherently a significant threat to the sustainability transitions considered. The threats to the transitions examined may be attributed to other political factors. However, the autocratic leaders examined do associate fossil fuels with national greatness and emphasize what they allege are the high costs of renewables. And populist-authoritarian regimes pose a serious, long-run threat to the ability of democratic states to govern themselves. Without the ability to engage in "normal" politics, maintaining the momentum of important sustainability transitions will become much more difficult.

## Introduction

In the last decade the role of politics has received considerable attention in the literature on sustainability transitions. Many such transitions are innately political in that they involve high level decisions generated by a polity to shift resources away from legacy socio-technical systems, their actors and networks, toward "nurturing and diffusing a range of progressive alternatives at the niche level" likely to lead to more environmentally sustainable outcomes (Sareen and Wolf, 2021; Loorbach et al., 2020). Authors exploring this topic have enhanced our understanding of how politics may be incorporated into the Multi-Level Perspective (Geels, 2014); the mechanisms through which seemingly entrenched and immovable "locked-in" systems may be made open to political and economic influence and change (Roberts and Geels, 2018); the policy mixes available to support energy transitions (Rogge, Kern and Howlett, 2017) the particular importance of energy systems in general and fossil fuels in particular (Burke and Stevens, 2018); and how politics and political coalitions may influence the process (Avelino, Grin, Pel and Jhagroe, 2016; Hess 2014; Hess 2019).

Yet there are political dimensions of sustainability transitions that deserve further exploration. The literature largely assumes that these political machinations occur within the relatively friendly confines of a working, democratic political system. Such a system features political parties that recognize each other's right to exist and a willingness to accept the results of fairly run elections. These systems are generally capable of change through a variety of means including the classic "loop" model of policymaking, but also social movements, forming coalitions, etc. Change, however, may require decades of activism, unexpected exogenous events and dumb luck to occur.

The recent trend toward "democratic backsliding" has begun to impact the ranks of states with fully functional democratic polities. The political systems of many important and nominally "democratic" states now show signs of significant fragility, notably that of the United States but also Mexico, Turkey, Hungary, Israel, and India (Diamond, 2015; Carruthers and Press, 2022; Gorokhovskaia, Shahbaz, and Slipowitz, 2023; Repucci, 2021). A number of countries have moved to a model of electoral authoritarianism in which the appearances of democracy are retained but leaders systematically trample on democratic norms, deny the legitimacy of their political opponents and undermine accountability structures designed to limit the concentration of political power (Guriev and Treisman, 2022).

This paper will explore answers to the question, "Does a movement away from full democracy undermine the potential for states to complete a sustainability transition?" The focus will be on the nature of populism, and particularly authoritarian populism, and whether it is an ongoing threat to critical sustainability transitions. Two case studies will be explored: that of Mexico under the presidency of Andrés Manuel López Obrador, known as "AMLO," and the Morena party, which has been in power since December 2018. Lopez Obrador imposed an erratic nationalist-populist regime that has systematically sought to stop two ongoing sustainability transitions in the electricity and oil sectors.

The second case study will explore the sorry state of the United States, where high levels of political polarization and the shift of the Republican party toward populist authoritarianism threaten the country's recent progress toward policies supporting sustainability transitions in transportation and electrical energy production. The 117th US Congress, under control of the Democratic party and with the leadership of President Joe Biden, passed two major pieces of legislation, The Infrastructure Act, and the 2022 Inflation Reduction Act, providing robust support for these transitions. But are they robust enough to resist being trampled by Republican culture wars, and might a newly elected Republican president aim to undercut the Inflation Reduction Act's major mechanisms?

### **Populism Defined**

Populism has been a fundamental, if ill-defined, phenomena in the realm of political science, commonly applied to movements that pit "the people" vs. "the elites" (Muller, 2016). The multiple "flavors" of populism identified by scholars have degraded its usefulness as a category or descriptor of political movements. Some populist groups advocated greater involvement of citizens in democratic processes; others, such as the US People's Party of the 1890's were

accepting of a pluralist political system and sought to wrest power from monopolists and financial interests to support farmers and small business.

In recent decades, a group of leaders in Mexico, Turkey, Hungary, India and the United States have espoused a populist model that rejects pluralist democratic politics. Norris and Inglehart (2019) frame it as a "style of rhetoric" emphasizing first order principles on who should rule. Legitimate power rests with "the people," while the usual sources of power and authority--elected representatives, the press, political parties, bureaucrats, intellectuals, scientists, judges--are all framed as corrupt and illegitimate (Muller, 2016). Populists thus style themselves as "insurgents" who are willing to trample long-standing norms and conventions to get things done on behalf of their "people." They--and they alone--can speak for the "authentic voice of ordinary people" (Norris and Inglehart, 2019, 6).

This conception of "the people" as a unified and morally pure force set against corrupt elites is fictional, fantastical and a cynical technique to seek and wield political power (Naim, 2022). Naim emphasizes that the recent set of authoritarian populist leaders has a simple goal, to get and keep power at any cost. A critical aspect of the process is to undermine any element of the long-standing system possessed of legitimacy that may threaten their ascendance, in particular the authority of elected representatives, the judiciary, government bureaus and their employees, and the press.

The toxic two-step of the recent populists has been to link rhetoric in behalf of "the people" with authoritarian values that prioritize "collective security for the group at the expense of liberal autonomy for the individual" (Norris and Inglehart, 2019, 7). This emphasizes security against instability and disorder (protecting the people vs. immigrants and foreigners); the value of conformity to "guard our way of life," and the need for obedience toward strong leaders who are willing to "do what it takes" to protect the group. This fuels a cult of fear that dehumanizes political opponents and rationalizes the need to eradicate any such opposing political parties, for after all, they are out to destroy your way of life.

Such authoritarian populists aim to capture and control the institutions of the state, engage in mass clientelism (providing favors in exchange for political support) and systematically suppress civil society (Muller 2016). The notion of "the rule of law" becomes drained of meaning as the populist leader argues it has become a tool of the corrupt elites and will eventually be used against them, the people.

### **Sustainability Transitions and Authoritarian Populism**

We will largely side-step the complex question of why and how democratic backsliding and authoritarian populism have gained traction in recent decades, an issue explored in depth by a wide range of authors including Naim, (2022); Applebaum (2020), Carothers and Press (2022) and many others. Given that authoritarian populism as defined is not an ideology but primarily a means to gain and wield power, it has relatively little to say about what Norris and Inglehart term "second-order principles" including what decisions are needed, what should be done, and what policies should be followed (2019). The cultural backlash thesis of Norris and Inglehart, however, ties a set of issues and policies to these populists that signal support for "our people"

against immigrants and refugees, demanding strong borders, a strong military, and trade protectionism, while also taking aim to protect "traditional" lifestyles and limiting same-sex marriage and LGBTQ rights.

The question for this inquiry is whether there are aspects of populist-authoritarian political control that make such leaders reflexively opposed to important sustainability transformations, notably in the arenas of production and consumption of fossil fuels, the shift to BEV (battery electric vehicle) transport, and the shift toward renewable electricity sources. Both of these transformations are critical in the battle against rising global CO2 levels and climate change. The paper's working hypothesis is that elements of the populist authoritarian model make leaders using this model of governance more likely to oppose key sustainability transformations. Or are there other cultural, historical and/or political forces at play? Two cases in North America will be examined, that of Mexico under the presidency of Andrés Manuel López Obrador, and the United States, where the former president, Donald Trump, remains the front-runner for the Republican nomination for President in 2024.

### **Mexico under "AMLO"**

In the 2018 Mexican presidential election, candidate Andrés Manuel López Obrador, known as "AMLO" won with 55 percent of the vote. This was Lopez Obrador's third attempt at the office. He lost bitterly contested elections for the Mexican presidency in both 2006 and 2012 and has argued ever since that the 2006 contest in particular was stolen from him (Martin, 2020).

In office, Lopez Obrador has governed from the populist authoritarian playbook, although the lack of a supermajority for his Morena political party in the Mexican legislature has limited his capacity to enact sweeping and fundamental change. His sweeping goal is a "Fourth Transformation," for the country, a revolutionary movement to eliminate corruption, income disparities, and secure national self-sufficiency. He has "removed checks and balances, weakened autonomous institutions, and seized discretionary control of the budget. Arguing that police forces cannot stop the country's mounting insecurity, he has supplanted them with the Mexican military and endowed it with unprecedented economic and political power" (Dresser, 2022). Following the rhetorical style of other populist leaders, AMLO derides his opponents in the press and legislature by deeming them "traitors to the country," aiming to undercut their legitimacy. He has eliminated successful anti-poverty programs benefiting his own supporters and replaced them with badly designed presidential initiatives. And Lopez Obrador and the Morena party are continuing efforts to weaken through budget and staff cuts the electoral institutions created by the Mexican state following the collapse of the country's long-running governance by the PRI, the Institutional Revolutionary Party (Wirtschafter and Sarukhan, 2023).

Two of Lopez Obrador's signature policy initiatives have been to reverse the country's rapid transformation under the Peña Nieto administration of the electricity generation and oil production sectors. Resource nationalism has long been a favored policy framework in Mexico, and the country's nationalization of the oil industry in 1932 by President Lazaro Cardenas is even celebrated with a national holiday. But by the early years of this century, Petroleos de Mexico, better known as PEMEX, was heavily indebted, incapable of increasing production, and widely

perceived as corrupt and inefficient (Vietor & Sheldahl-Thomason, 2017). Yet the Mexican state relied heavily on tax revenues from the company, which into the 1980's provided a third of Mexican government revenues. The country's monopoly electricity provider, the Comision Federal de Electricidad (CFE) struggled with similar challenges and failed to develop the country's vast potential for renewable energy. Pena Nieto's 2014 reforms revised the Mexican constitution to enable private investment in the oil, gas and electricity sectors, including the right for companies to explore for and produce petroleum and gas. (Vietor and Sheldahl-Thomason, 2017). The complex set of reforms created new regulatory structures for the electricity and oil and gas sectors, curbed the power of PEMEX' famously corrupt employee union, and overhauled the company's massive \$90+ billion debt load and its employee pension program.

On the electricity side, the government retained a monopoly on electricity transmission and distribution but eliminated the CFE monopoly on production. It created an open access system that would enable a fast increase in production of renewable energy. It also implemented comprehensive reforms of the electricity sector that aimed to lower costs, increase capacity and output and support the growth of the renewables sector. This included ending the CFE monopoly on production, creating a wholesale electricity market, and allowing the organization to enter into power purchase agreements with private producers and to gain access to the country's grid on an open-access basis. The reforms led to a wave of investment in the country's electricity sector including many global solar and wind companies.

Viewed with hindsight, these ambitious reforms were massively complicated and implemented with relatively little public outreach. Arguably they were a neoliberal dream, creating open and functioning markets in two complex energy sectors while retaining significant regulatory oversight by the Mexican state. But luck was not entirely with the Pena Nieto administration. The reforms ran counter to a strong current in Mexican political culture and history skeptical of foreign control and involvement in the country's resource development. The oil reforms assumed oil prices would be sustained at \$100 per barrel, but oil prices plunged to under \$40 bbl in 2016, followed by a spike in Mexican gasoline prices in 2017 that caused widespread protests. The country's electricity sector remained dependent on imported natural gas, and supply interruptions in the winter of 2018 led to a series of blackouts. And a series of corruption scandals in the Pena Nieto administration soured voters on the president (whose approval rating fell to 18 percent in January 2018) and on democracy in general (Ngo, 2018).

During the 2018 presidential election campaign, Lopez Obrador alleged that the energy reforms were as corrupt as the rest of the Pena Nieto administration and made comments suggesting his administration would reverse them. Once in office, he continued his attacks, alleging "that some foreign energy investors are "looting" the nation and that Mexican lawyers who work for them are guilty of treason" (Semple and Lopez 2021). His administration has worked to overturn the reforms, though an attempt in 2022 to change the constitution to support the CFE and overturn much of the Pena Nieto electricity reform failed (Murray, 2022) . A 2021 law limits the participation of foreign investors in the energy sector; other actions have included stacking regulators loyal to him on the board of the electricity regulating commission; refusing to approve permits for new wind and solar projects funded by foreign firms, cancelling auctions for new

wind and solar projects, blocking connection of many new solar and wind energy project to the national grid, and cancelling auctions of oil blocks in the Gulf of Mexico that would have been open to development by foreign oil firms (Lopez, 2022).

Mexico remains dependent on imported natural gas from the US, and the turn away from development of renewables has both increased that dependence and made its electricity prices higher than would have been the case under the earlier reforms. These actions have caused significant trade frictions with the United States and weakened investor confidence in Mexico. The latest government action has been to nationalize the country's lithium deposits. Foreign investment in Mexico's energy sector has plunged, and new government investments have overwhelmingly emphasized the fossil fuel sector. The government plans to invest \$6.2 billion to build 15 fossil fuel-powered thermal plants by 2024 and has invested billions of dollars in the Olmeca oil refinery in the state of Tabasco with the goal of increasing Mexican downstream refining capacity.

Lopez Obrador denies that his administration is against an energy transition, or ignoring the challenge of climate change, but simply is not ready. "That technological advancement will become a reality...To get there, we need more time." (Lopez, 2022). The administration points to a major solar facility in northern Mexico, controlled by the CFE, as proof that it will continue to invest in renewables. But overall, Morena's policies reflect a mix of resource nationalism, energy security/self-sufficiency, and a hankering for a past era when oil generated lucrative and stable employment. When asked to explain AMLO's opposition to the Pena Nieto reforms, one analyst's response was simple: "He's an oil man" (Lopez, 2022) But it is now highly unlikely that the country will be able to meet the goal set in a 2008 law to meet 35% of its electricity needs through clean energy by 2024, and 50% by 2050 or to limit the growth in its carbon emissions. Despite the challenges of the country's energy system and weak economy, AMLO remains popular, with approval ratings still exceeding 60% despite a decline due to his efforts to weaken the country's electoral system.

### **The United States: Sustainability Transitions Advancing, but At Risk**

During the first two years of the Joe Biden administration, the US Congress passed landmark legislation in support of sustainability transitions in the country's electricity and transportation systems. With the electioneering for the 2024 presidential election already underway, a critical question hangs over this process: what are the risks to the implementation of these policies associated with the possible reelection of former president Donald Trump? Trump and other Republicans in the presidential race have already begun to emphasize opposition to many of the clean energy initiatives included in the Biden agenda. Trump's reelection or the election of a Republican with a similar platform could put Biden's climate accomplishments at risk.

This case study will aim to briefly characterize the current state of the US political system and where the two major parties stand on elements of the Biden climate agenda. The Republican party includes elements that are strikingly populist-authoritarian, including the so-called MAGA ("Make America Great Again") faction and the associated Freedom Caucus in the US House of Representatives. But it is important to note that major elements of Biden's agenda passed by the

117th Congress were approved with Republican support. The case study will summarize the two major bills, the Infrastructure Act and Inflation Reduction Act and their elements supporting sustainability transitions in electricity production and transportation. It will also assess the vulnerability of those initiatives to repeal or delay if one or more houses of Congress or the Presidency change parties in January 2025.

The 117th Congress passed two major pieces of legislation that are impacting sustainability transitions, the *Infrastructure Investment and Jobs Act*, H.R. 3684, signed into law on November 15, 2021, and the *Inflation Reduction Act*, H.R. 5376, which became law on August 16, 2022. H.R.3684, *The Infrastructure Investment and Jobs Act*, includes a total of \$1 trillion dedicated to repairs of the nation's roads, bridges and railways as well as providing high-speed internet to rural communities. Two subsections of the Act have significant implications for electrifying transport and supporting the shift to renewable energy. The first provides \$7.5 billion to support construction of electric vehicle infrastructure, to build a national network of EV chargers in the United States. EV chargers will be built both within communities and along highway corridors to facilitate long-distance travel. The act also seeks to focus charging support for rural and disadvantaged communities.

The second subsection provides \$73 billion to support Clean Energy Transmission and the modernization of the country's electric grid. The US grid is divided into regions governed by Regional Transmission Organizations that lack strong interregional links and poorly serve the US Midwest, which is blessed with the country's most robust wind energy resources. Funds from the Act may be used to build thousands of miles of transmission lines, will be invested in research and development for advanced transmission and electricity distribution technologies, and will support implementation of smart grid technologies. The Act also creates a new Grid Deployment Authority,. This funding will also support demonstration projects and research hubs for advanced nuclear reactors, carbon capture, and clean hydrogen.

The Infrastructure Act had bipartisan support. 32 Republicans, 13 in the House and 19 in the Senate, voted for approval. Although former President Donald Trump urged conservatives to vote against the bill, GOP leaders Lindsey Graham of South Carolina and Minority Leader Mitch McConnell of Kentucky supported the legislation (Jones, 2023). One price of that bipartisanship was a drastic reduction in scale from the \$2.3 trillion plan Democrats originally proposed, with resources for lead pipe replacement, and support for transit and clean energy projects cut substantially (Cochrane, 2021).

The Inflation Reduction Act is recognized as the single most consequential piece of climate legislation ever passed in the US. A broad coalition of groups concerned about climate change, the environment, employment, environmental racism, green manufacturing, the clean energy sector, and even the auto industry supported the legislation. Roughly two-thirds of the Act's costs, initially estimated at \$271 billion are tax credits associated with its climate-related provisions. These “carrots” provide incentives for new clean energy production and investment, new and used electric vehicle purchases and clean energy and energy efficiency investments by individuals and households. There are no caps on these expenditures, which are scheduled to be

available until 2032 for electric vehicles. The EV tax credits became one of the most controversial aspects of the law when West Virginia Senator Joe Manchin insisted on domestic production and battery sourcing requirements late in the legislative process. Since the Act's passage, estimates of the costs of the suite of tax credits have exploded to as much as \$1.2 trillion as takeup of the credits has accelerated faster than expected (Tankersley and Plumer, 2023). The bill's sponsors had no alternative but to build it around massive subsidies and incentives. Inclusion of a regulatory “stick” in the bill such as a nationwide carbon price or cap and trade system in the bill would have doomed its passage.

The remaining third of the Act's costs, initially estimated at \$121 billion by the Congressional Budget Office are direct expenditures. These are focused on forestry and agriculture, energy loans and other financial investments and a variety of other initiatives.

Table 1 provides a detailed list of the Act's tax credits and expenditures with energy and environmental implications. The Act included a set of revenue raising clauses as well as two sections that are notably incongruous in an Act aimed at reducing the drivers of climate change. One of these was expansion of oil and gas leases in the Gulf of Mexico and on federal lands generally; the other was approval of the Mountain Valley Pipeline, without which Senator Joe Manchin of West Virginia would have withheld his support of the bill and doomed it to failure.

How will these policies impact the US' ongoing sustainability transformations in the electricity generation and transportation sectors as well as the country's carbon emissions pathway? By one estimate, the clean energy provisions of these acts could reduce US emissions by about 1 billion metric tons in 2030, or about 42 percent below 2005 levels (Jenkins, Mayfield, Farbes, Jones, Patankar, Xu, Schivley, 2022).

After the first year of implementation, the most encouraging impacts of the IRA have been in the electric vehicle (EV) sector. This socio-technical system has significant momentum toward a fast transformation. During the first half of 2023, EV sales comprised 7.2% of all new US vehicle sales and projections are for EV's to take 14% of the market in 2025 and be close to 40% by 2030 (Krisher, 2023). After decades of false starts and failed EV platforms such as the Chevy EV1, Tesla motors made EV ownership both chic and practical with desirable vehicles and a nationwide charging network that limited EV range anxiety. The instant acceleration, quiet operation and reduced operating costs of EV's remain strong selling points. In most parts of the US charging an EV is cheaper than refueling an ICE vehicle with gasoline (Coren, 2023). The fact that EV's successfully convert 90% of the energy in their batteries into movement (assuming a strong regenerative braking system)—vs. about 20% for ICE vehicles barely gains attention (Kirk, 2022). But from a societal perspective, the gains in efficiency and reductions in GHG's will be enormous. RMI estimated that having 70 million EV's in the US fleet by 2030 (about 1/4<sup>th</sup> of all light duty vehicles) would reduce US transportation carbon emissions by 45% and help the country meet its ambitious climate change goals (Daniels, Gross, Lewis, Stone, 2022).

Thanks to the IRA, investment in EV and related battery production capacity have exploded; by one estimate, companies have announced \$230 billion in manufacturing investments so far



(Gelles, D., Plumer, B., Tankersley, J., 2023) . Much of that investment has occurred in the southern US in Republican-dominated states; by one estimate 60 percent of the 200 projects

Table 1. Inflation Reduction Act elements (Source: Paris, F., Parlapiano, A., Sanger-Katz, M. and Washington, E., 2022).

<u>Clean electricity</u>	Cost in billions
New tax credits for wind, solar, geothermal electricity sources/storage	\$62.7
Extending existing tax credits for wind and solar power	\$51.1
Tax credit for existing nuclear reactors to prevent closures	\$30.0
Extend energy credit through 2024	\$14.0
Clean energy rebates and grants for residential buildings: heat pumps	\$9.0
Financing for energy infrastructure	\$6.8
Tax credit for carbon capture and storage	\$3.2
 <u>Manufacturing</u>	 Cost in billions
Clean manufacturing incentives for US production	\$37.4
Reduce emissions from energy-intensive industries (concrete)	\$5.3
 <u>Individual clean energy incentives</u>	 Cost in billions
Green energy tax credits for individuals	\$36.9
 <u>Clean fuel and vehicles</u>	 Cost in billions
Tax credits for new and used electric cars and charging stations	\$14.2
Clean hydrogen production	\$13.2
Fuel tax credits for low-carbon car and airplane fuels, biodiesel	\$8.6
Financing for clean energy vehicle production, loans and grants	\$2.9
 <u>Air pollution</u>	 Cost in billions
“Green bank” for energy investments in poor communities	\$20.0
Other air pollution reduction-monitor and reduce pollution	\$14.8
 <u>Conservation, rural development and forestry</u>	 Cost in billions
Agricultural conservation to improve soil carbon, decrease emissions	\$16.7
Rural development clean energy investments	\$13.2
Forest conservation and restoration to reduce wildfire risk	\$4.8
 <u>Transportation and infrastructure</u>	 Cost in billions
Improvements to federal buildings and highways	\$5.2
Electric transmission loans and grants, plus offshore wind generation	\$2.3
 <u>Other climate spending</u>	 Cost in billions
Drought resilience	\$4.6
Weather and climate resilience	\$4.6
Other federal research, projects and oversight; FEMA, DOE	\$4.2
Zero-emissions U.S.P.S. trucks	\$3.0
National Park Service funding for climate resilience	\$1.0
Data collection and environmental reviews	\$0.8

Other	\$0.7
Tribal funding for clean energy, electrification, climate resilience	\$0.5
Wildlife recovery and habitat climate resilience	\$0.3

announced so far are in districts with Republican members of Congress (Siegel, Tamborrino, and Blaeser, 2023). Automakers in the US and worldwide are strategically preparing for a future independent of the ICE (internal combustion) engine, that shifts transport to a BEV paradigm. Major challenges remain, notably the availability of nickel, lithium, and other rare earth metals needed for current battery and EV technology, as well as continuing problems with the automotive supply chain. The gradual enhancement of US charging capacity will begin to alleviate concerns about range anxiety. A debate is beginning about the advantages of PHEV (plug-in hybrid) and related hybrid engine technologies that can dramatically reduce ICE driving and improve gas mileage while making the most of limited supplies of lithium and other scarce resources.

There are several significant risks to this transformation scenario in the US. The first is the continuing high cost of EV's. With the average cost of all vehicles over \$48,000 (and EV's over \$53,000) and out of the price range of many individuals and families, less costly EV's are critical. The recent announcement by General Motors that they will continue to produce the reasonably priced Chevy Bolt is a very positive sign. Second, charging capacity remains undeveloped in much of the US. By one estimate, the country will need 700,000 Level 2 and 70,000 Level 3 chargers by 2023 to meet expected demand. There are now about 160,000 EV chargers in the US (Lewis, 2023). The recent commitment of a suite of automakers to build a multi-billion dollar robust fast charging network is a positive step (likely using funds from the IRA) but will take time to roll out (Krisher, 2023).

Third, can any manufacturer master the electric pickup? Pickup vehicles are by far the top sellers in the US with the top three most popular US vehicles (Ford F-Series, Chevy Silverado and Dodge Ram) being large pickups. Ford's F-150 Lightning and the Rivian R1-T have been praised in the automotive press, but their high cost and perceived deficiencies (can they really tow a boat more than a few miles?) could slow the EV parade.

Finally, the government role in support of this transition has risks attached. Projects supported by government loan guarantees sometimes fail, as in the infamous Solyndra case in which the Department of Energy (DOE) guarantee to this solar panel firm led to a \$528 million loss following the firm's failure (McDonnell, 2021). "Solyndra" is now a political Rorschach test: either a classic example of an out-of-control and wasteful federal government; or an expected failure by a program intended to support risky, but potentially rewarding investments unable to gain full private funding, and that over time has generated a surplus for taxpayers. (What other projects did the DOE loan program fund? A scrappy EV startup called....Tesla). But a similar failure by an auto company with a guaranteed IRA loan would be pounced on by Republican lawmakers in Congress and used to batter the program ceaselessly.

In addition, the Biden Administration is seeking to shift the automaking landscape by raising auto emissions standards to high levels, a change opposed by most major automakers and most Republican politicians. Proposed regulations being promulgated by the US Environmental

Protection Agency, and US Department of Transportation, are very likely to wind up being reviewed by a US Supreme Court that has shown increasing skepticism toward strong government regulation. This could remove the auto industry’s incentives to continue a strong push toward EV’s, when most of their profits are being generated by ICE vehicles.

The sustainability transformation in electricity production is a much more challenging case, and here I will provide an overview of the major challenges and how the IRA impacts the speed of this process. The US electricity market is very complex and key actors from investor-owned utilities, state regulators and clean energy firms have long time horizons due to the high capital cost and long life span of energy producing assets. The huge decrease in the levelized cost of energy from renewable sources such as wind and solar has led to a dramatic rise in their proportion of US electricity production. Figure 1 shows the reduction in the cost curve of utility-scale solar and onshore wind compared to nuclear energy, coal and natural gas. The uptick in 2023 for both solar and onshore wind is due to both abruptly higher interest rates and supply chain issues. Most observers believe that these increases will be short-lived and that costs will again be on a downward curve.

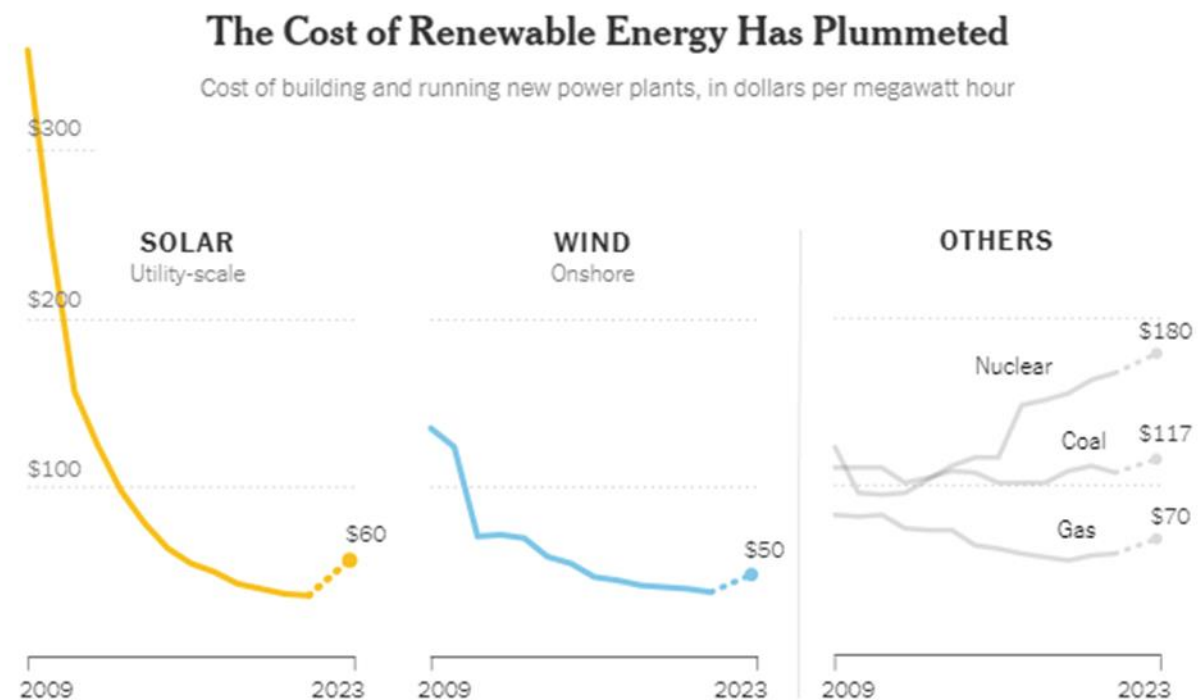


Figure 1. Reduction in the levelized cost of energy of renewables vs. nuclear, coal and natural gas. Source: Gelles, D., Plumer, B., Tankersley, J. (2023).

In 2022, wind provided 10.2% of US electricity production and solar PV 3.4%, percent while coal has declined to under 20% and natural gas has been relatively steady at about 40%. But there are serious challenges to continuing the momentum of this transition. Both utility-scale solar PV and wind turbines have a dramatically lower energy density than traditional coal or natural gas thermal plants. They require a lot of space, and now even environmentalists are

beginning to block large scale projects out of concern for preservation of natural areas and habitat (Tankersley, Plumer, Swanson, and Penn, 2023). Related siting and permitting issues are already slowing down the ability of these sources to continue to increase their share of national electricity production at a rapid rate. New installations of clean power in the US fell by 16% in 2022 compared to 2021 (Plumer, 2023). And while the IRA and Infrastructure Act contain many billions of dollars to strengthen the country's electrical grid and transmission capacity, there has not been federal government action to reform permitting and approval processes to speed construction of this capacity. The existing system is simply overwhelmed. By the end of 2021, over 8,100 energy projects were waiting for permission to be connected to the grid as of the end of 2021, an increase from 5,600 in 2020. Billions in new projects are already being stranded due to lack of transmission capacity (Plumer, 2023). This could be a very slow process, and an eventual Republican president or Congress may take advantage to remove funding from this initiative.

The most common concern expressed about the overall IRA by sympathetic observers is that the sheer scale, scope and ambition of these initiatives are setting them up to fail. Does the federal government have the capacity and expertise to coordinate all of these initiatives? While the Biden Administration is trying its best, the US in recent years has not shown skill at the not so simple acts of turning its basic research discoveries into successful industries, making things and pulling off big projects (Thompson, 2022). We need to get better at it, fast. This is a fundamental element of the US landscape for sustainability transitions that deserves attention. The final complication is the set of prevailing wage and apprenticeship requirements attached to most of the Act's key provisions. These will raise the cost and complexity of their implementation considerably. Will these slow implementation and raise costs in ways that threaten the entire project?

At the grand scale, these Acts, plus the CHIPS Act supporting US investment in semiconductors, are viewed as critical elements of "Bidenomics," a rejection of the neoliberal framing that government should minimize its role and spending and not ever try to "pick winners." Bidenomics provides a counter-narrative: We need public investment in key areas of the economy, which will help make the related industries more competitive, assist in the transitions to a clean energy economy, and in the process provide employment for millions of Americans....including many who might have supported Trump in the past (Dionne, Jr. 2023). But the cost remains worrisome. The US is on pace to add \$19 trillion in debt by 2033 and have a federal debt of 100% of GDP by 2024 and there is no real plan to raise revenues on the horizon. As a result, whether the IRA's tax credits are financially sustainable is an open question (Tankersley and Plumer, 2023). And associating a set of critical socio-technical transitions with a vulnerable Democratic President, supported by a costly law passed with no Republican votes, is a significant political risk.

### **And Now For the Politics**

The (to be charitable) erratic and underperforming term of office of President Donald Trump ended with an explosive coda, the first attempt to prevent the peaceful transfer of power in the US since the beginning of the republic. Although the US is still a functioning democratic state,

its political polarization has made it very vulnerable to poor governance as well as an electoral takeover by a presidential candidate with an authoritarian vision. The efforts by President Joe Biden to provide steady leadership occur against the background of an increasingly authoritarian Republican party that controls the US House of Representatives (albeit barely), 28 of 50 state governments and includes a majority of supporters who continue to believe that Donald Trump was the rightful winner of the 2020 election and support his 2024 candidacy. A solid 58 percent of Republicans in a recent poll plan to vote for Trump in 2024; although 51% of those polled believe he has done something illegal (Santhanam, 2023). Trump remains the front-runner for the 2024 Republican presidential nomination despite his serious legal troubles and it would be folly to assume, should he be the nominee, that he would accept the outcome of an election that was not in his favor.

Should Trump win the 2024 election--and that outcome cannot be ruled out given Biden's low approval ratings, concerns about his age and likelihood of an economic recession in the next 15 months--Trump has already signaled the governing style, actions and issues he would pursue. Consistent with his actions in term 1, he will be against anything that Biden is for. (He took a similar attitude toward Obama Administration policies in his first term). Besides weaponizing the justice system to strike back at his "enemies" he would decimate the top ranks of the civil service to install loyalists and use executive orders to roll back as many elements of the Biden climate and energy agenda as possible (Tomasky, 2023). He may have the US Supreme Court working as his ally on that project as several members of the Court have shown great skepticism toward previous Court decisions providing deference to the "administrative state" that provides a legal basis for much of the current president's clean energy agenda.

Trump has also indicated opposition to the transitions underway, particularly in the clean energy sector. His opposition to wind turbines has been long standing and almost certainly is a result of his anger at the wind farm placed offshore of the Trump International Golf Links, that he believed ruined the view from the course. Trump's stump speeches now regularly assail "windmills" for killing birds, causing cancer and being too expensive (Bump, 2022). Most recently he encouraged United Auto Workers to support him and slow the EV transition due to what he argues will be its negative impacts on auto employment and wages (Waldman, 2023).

And the implications for the Republican party and its capacity and willingness to support sustainability transitions in the electricity and transport sectors? Members of the US House of Representatives began efforts to repeal and or defund the IRA as soon as they took office in 2023, complaining about its cost and the expansion of government it represents. There are few indications that party members and representatives are likely to reverse their long-term support for the country's oil, gas and coal industries. The Heritage Foundation's Project 2025 aims to provide a blueprint for a fast governmental transition should a Republican win the White House in 2024. A key piece of the plan is to eliminate federal government clean energy programs and support the production of fossil fuels (McNamee, 2023).

There are signs that the investment and jobs being created by IRA subsidized investments in Republican-held Congressional districts are beginning to fracture the party's anti-IRA stance, with some localities eagerly supporting the new plants. But resistance on the ground can be

fierce; the latest attacks are on whether some firms receiving IRA subsidies have links to China, as well as complaints about the environmental impacts of some projects (Siegel, Tamborrino, and Blaeser 2023).

Republican politicians remain by far the largest recipients of political donations from the oil and gas industry (Open Secrets, 2023). High profile, and costly government support for these transitions is politically vulnerable in a country where “government” remains a pejorative in over half the states. Several states including Texas, Florida and West Virginia have already begun to boycott banks whose sustainability metrics appear to favor renewable energy projects over traditional fossil fuel investments.

Republican politicians will continue to push the culture war buttons including the “war” on fossil fuels, claims that the government is trying to take away natural gas stoves, and asserting that “real men cook with gas.” (Krugman, 2023). And will the widespread and large-scale investments underway lead to employment impacts that will both raise and improve the project’s public profile, but lead Republican governors to support it? To date most Americans know little about the details of the IRA, and the Biden Administration is making it a priority to get the word out.

### **Discussion and Conclusion: Do Populist-Authoritarian Governments Pose a Threat to Sustainability Transitions?**

The two cases examined do not provide strong support for the hypothesis that aspects of populist-authoritarian governance make such regimes inherently likely to oppose important sustainability transitions in electrifying transport and improving the sustainability of each country’s electricity system. However, the autocratic leaders examined do associate fossil fuels with national greatness and emphasize what they allege are the high costs of renewables. Additional research into other democratic regimes veering in an authoritarian direction will be needed to test their support for or opposition to important sustainability transitions and the rationale for such opposition.

In the United States, there is no doubt that the reelection of Donald Trump would pose a significant threat to these transitions. A future Trump administration would take whatever steps possible to delay those transitions and support the fossil fuel industry. But the US Republican party has been allied with the oil, natural gas, coal and other extractive industries for decades; the George Bush II Administration with the support of Vice President Dick Cheney was relentless in its efforts to roll back regulations and support fossil fuel production. The party’s shift in a MAGA-inspired, more populist and authoritarian direction has not changed that stance. Although the party is now willing to acknowledge the existence of climate change and 84 House Republicans joined a “Conservative Climate Caucus,” the party’s platform remains consistent: it seeks to increase US production of oil, natural gas and coal. The group is advocating for a massive tree-planting scheme to sequester carbon, its only concession to climate concerns (Groves, 2023). We will begin to see during the 2024 presidential election campaign and the election if Bidenomics wins over enough voters and begins to pull state and local Republican politicians in a less-fossil-fuel-friendly direction.

The complex case of Mexico and the two sustainability transitions explored provides some support for the hypothesis. The Pena Nieto energy reforms were comprehensive and brilliantly designed. But their overall failure and the slowdown in the country's fossil fuel and electricity system transitions may be explained by factors other than AMLO's authoritarian approach to governance. The abrupt policy shift represented by the energy reforms, after relatively little public input or involvement, in two policy arenas that are hyper-sensitive in Mexico, control over the country's resources and involvement of multi-national companies, was highly risky. It left the Pena Nieto government open to criticism from resource nationalists, who were quick to pounce. The administration's missteps and corruption allegations left it widely open to allegations that many elements of the energy plan were also corrupt. The implementing team needed quick wins from the policy. But the public did not notice the wins, including rock-bottom bids by renewables companies for large amounts of power, and saw the continuing challenges of the country's energy system. And the new president happened to be from an oil-producing Mexican state, be a strong believer in having electricity and oil production under government control, and able to make the case to voters that the energy reforms were fundamentally corrupt and benefited private and foreign companies.

Yet populist-authoritarian regimes do pose a significant threat to important sustainability transitions. They seek to make fundamental changes to critical institutions and structures of government that increase their power and can be difficult to undo. When they are able to win supermajorities in national legislatures, they ease through the process "legally;" passing new laws and revising constitutions to move the system in their direction. Victor Orban in Hungary has been most effective at this technique.

When they lack such majorities, they will use other means to achieve their ends, and by painting their opponents as corrupt, unpatriotic and a threat to the nation, they poison the polity and make "normal" politics impossible. This makes populist-authoritarian regimes very dangerous and potentially a serious threat to sustaining ongoing transitions. In recent years many Republican party politicians in the US also have veered toward an anti-science stance that is deeply troubling. If policy is not built on the best available data it threatens the political and social system's ability to respond thoughtfully to problems and rests key political decisions on a foundation of lies and farragos. Given the importance, complexity and costs associated with the sustainability transitions emphasized in this study, we need normal politics more than ever, and must acknowledge the serious threat that populist-authoritarian regimes pose to our polities and future sustainability.

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