Venture Capital and the Economics of Innovation

Lecture 8

Leadership of the Next New Economy

Response to Climate Change: The Situation

"Human-induced warming reached approximately 1°C (±0.2°C *likely* range) above pre-industrial levels in 2017, increasing at 0.2°C (±0.1°C) per decade (*high confidence*).

"Warming greater than the global average has already been experienced in many regions and seasons, with average warming over land higher than over the ocean (*high confidence*). Most land regions are experiencing greater warming than the global average, while most ocean regions are warming at a slower rate. Depending on the temperature dataset considered, 20-40% of the global human population live in regions that, by the decade 2006-2015, had already experienced warming of more than 1.5°C above pre-industrial in at least one season (*medium confidence*).

"1.5°C-consistent pathways can be identified under a range of assumptions about economic growth, technology developments and lifestyles. However, lack of global cooperation, lack of governance of the energy and land transformation, and growing resource-intensive consumption are key impediments for achieving 1.5°C-consistent pathways. Governance challenges have been related to scenarios with high inequality and high population growth in the 1.5°C pathway literature."

(Intergovernmental Pact on Climate Change, "Global Warming at 1.5C°": Technical Summary, p. TS-4, 6, available at http://www.ipcc.ch/report/sr15/ .)

“The Irreversible Momentum of Clean Energy”

“Since 2008, the United States has experienced the first sustained period of rapid GHG emissions reductions and simultaneous economic growth on record. Specifically, CO_2 emissions from the energy sector fell by 9.5% from 2008 to 2015, while the economy grew by more than 10%. In this same period, the amount of energy consumed per dollar of real gross domestic project (GDP) fell by almost 11%, the amount of CO_2 emitted per unit of energy consumed declined by 8%, and CO_2 emitted per dollar of GDP declined by 18%.”

(Barack Obama, *Science*, 13 January 2017)

American Government Abdicates

Statement by President Trump on the Paris Climate Accord

ENERGY & ENVIRONMENT | Issued on: June 1, 2017

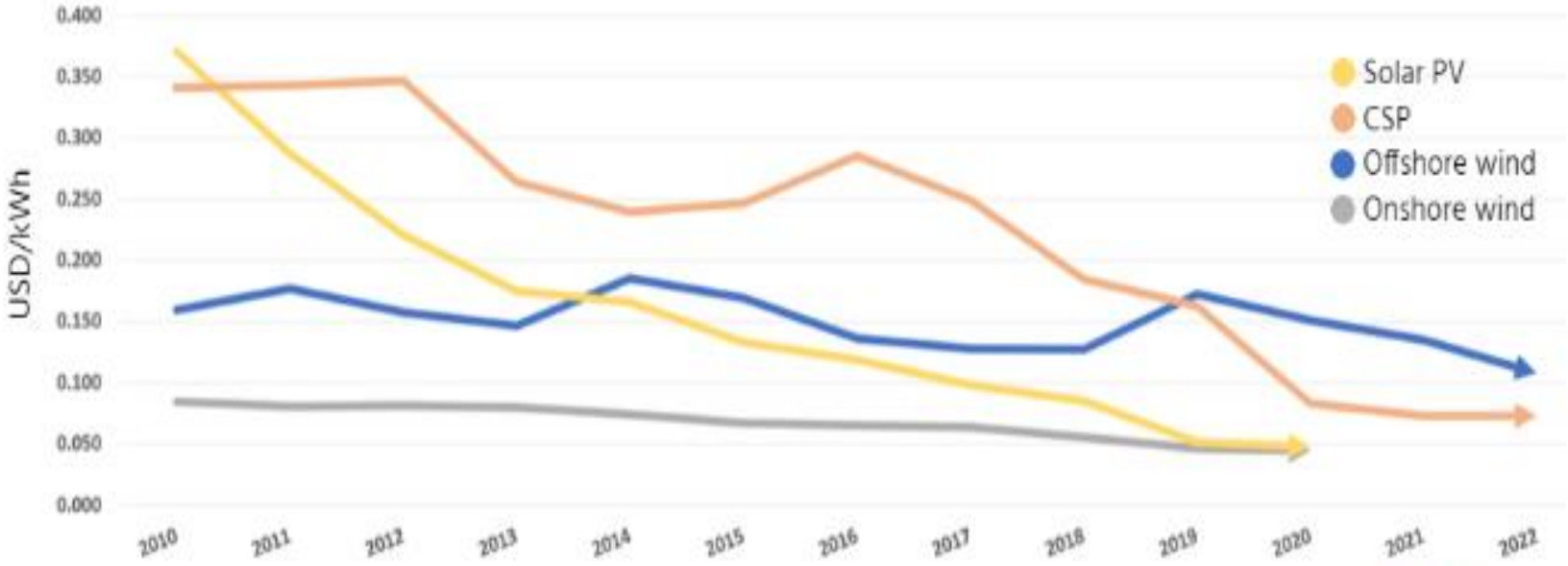
★ ★ ★

"As President, I can put no other consideration before the wellbeing of American citizens. **The Paris Climate Accord is simply the latest example of Washington entering into an agreement that disadvantages the United States to the exclusive benefit of other countries**, leaving American workers — who I love — and taxpayers to absorb the cost in terms of lost jobs, lower wages, shuttered factories, and vastly diminished economic production.

"**Thus, as of today, the United States will cease all implementation of the non-binding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country**. This includes ending the implementation of the nationally determined contribution and, very importantly, the Green Climate Fund which is costing the United States a vast fortune."

Response to Climate Change: The Good News

By 2020, **onshore wind** and **solar PV** will be a less expensive source of new electricity than the cheapest fossil fuel alternative.



RENEWABLE POWER GENERATION COSTS IN 2018 IRENA

Technological Challenges

"**Developing affordable energy storage options would reduce the need to instantaneously balance supply and demand**. Currently, most electricity stored on the grid uses pumped hydro reserves: water is pushed to a higher elevation using excess electricity, where it can be released to generate electricity using hydropower when needed. The use of pumped hydropower storage is limited geographically. **Technological advances such as better batteries could greatly expand the potential of energy storage**. **Similarly, smart grid technologies allowing for automated demand-load management can better match supply and demand**. Smart grid technologies allow for two-way communication between customers and utilities, facilitating management strategies such as peak-load pricing, where electricity prices to consumers rise and fall based on market conditions."

(D. Popp, Pless, J., Jascic, I., Johnstone, N., "Innovation and Entrepreneurship in the Energy Sector," NBER Working Paper 27145, May 2020, p. 11)

The Economics of Response to Climate Change: The Conventional Approach

"**Economists have had a long predilection for price interventions to correct market failures** such as those arising from the presence of externalities. The reason is simple: market efficiency requires equating private and social returns, the presence of an externality means that there is a gap between the two, and a price intervention can close the gap, restoring efficiency. **In the context of climate change, the prescription is to price carbon,** and since what matters is the atmospheric concentration of greenhouse gases, and since the rate of decay of, say, carbon dioxide is so slow**, the price of carbon should be (approximately) the same for all uses, at all places, and at all dates**."

(Stiglitz, "Addressing Climate Change," p. 1)

The Economics of Response to Climate Change: Real World Complications

"Earlier results showing that **when information is imperfect and/or asymmetric and risk markets incomplete—that is always—markets are not (constrained) Pareto efficient imply, of course, that climate change is never the only "market failure." These microeconomic externalities imply there are likely to be significant macroeconomic externalities** that government policy will need to take into account. While these, too, may sometimes be effectively addressed through price interventions, the relevant price interventions will differ from sector to sector, depending on the nature of these macroeconomic externalities and spillovers. **Moreover, private decisions are also affected by publicly provided infrastructure.** While prices may help guide these decisions, inevitably market imperfections, such as those associated with geography, loom large, and limit the guidance that can be provided by carbon prices alone. **And government itself seldom relies on pricing alone (or even shadow prices) in making its resource allocations.**

It is this and similar insights, all of which can be framed as second or third best deviations from the "standard model," that informed our thinking…."

(Stiglitz, "Addressing Climate Change, p. 4)

The Economics of Response to Climate Change: Distributional Effects

…[**C]arbon taxes have distributive implications. In particular, it may be (if carbon consumption increases less than in proportion to income), and be perceived to be, regressive**. More broadly, it can have large adverse distributive consequences which cannot easily be undone. This was illustrated by the refrain of France's yellow vest protestors in response to the proposal for an increase in gasoline taxes, viewed as part of the broader agenda of creating a carbon price in France. "The government talks about the end of the world. We are worried about the end of the month."

"**In addition to the standard vertical inequities (between the rich and the poor), we also consider *horizontal inequities* (impacts of a tax on individuals, say, with the same income, who differ in their consumption preferences)**. Such differences provide a critique of proposals to rebate the carbon tax. While *on average*, a uniform lump sum payment may more than compensate low income individuals for increased energy costs—the evidence, as we have already noted, is that carbon consumption on average increases with income—there are sub-groups for whom that may not be true. **A more distributively sensitive but less efficient policy—a carbon tax exempting fuel (which already has a high implicit carbon tax)—might increase social welfare and might not have run into such opposition**.

(Stiglitz, "Addressing Climate Change, pp. 6,7)

The Economics of Response to Climate Change: Uncertainty

"**Individuals are risk averse, and cannot obtain insurance against many of the risks that they face—including the uncertainties posed by policy itself.** In a world in which individuals may not be sure about the full distributive consequences of a carbon tax, risk aversion will mean that a carbon tax lowers their ex ante expected utility. Risk averse individuals may believe that a carbon tax (even when accompanied by a lump-sum redistribution) might make them worse off, simply because they are uncertain about the general equilibrium effects.

"**A fourth concern…combines risk and the absence of a full set of insurance markets and fully state contingent policies and a particular aspect of distribution— intergenerational equity**. Alternative policies have implications for intergenerational distribution, including that of risk bearing, the consequences of which are not fully offset by intergenerational transfers."

(Stiglitz, "Addressing Climate Change, pp. 8-9)

The Economics of Response to Climate Change: Behavioral Factors

"There is a final set of modifications to the simplistic welfare framework that we take into account: ***adjustment is costly*, both financially and psychically, and it is the latter that raises the most problematic issues**.

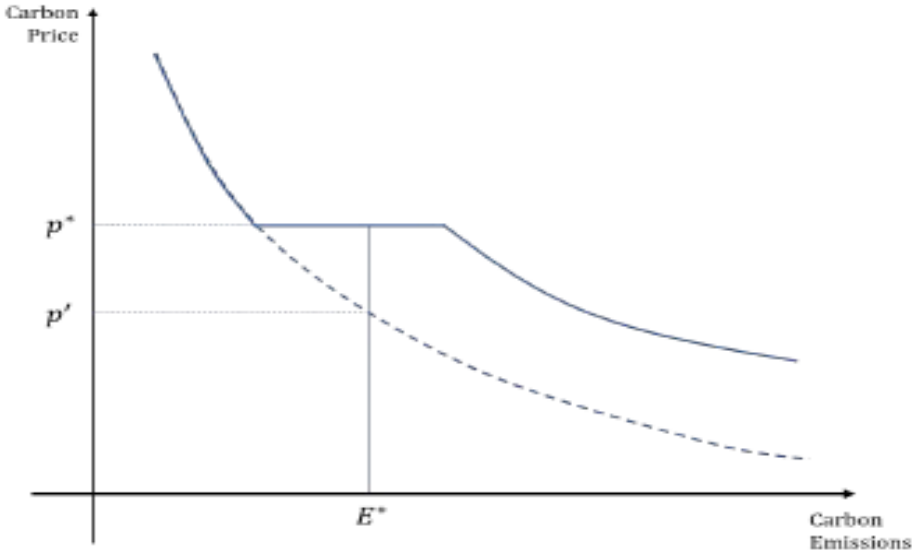
"Moreover, **advances in *behavioral economics* have detailed the many ways in which individuals differ from the homo oeconemicus of standard theory**, both in limited cognitive capacities and in the endogeneity of preferences, which to a large extent are culturally determined. **Policies predicated on analyses of rational agents with fixed preferences often go astray, simply because the underlying predicate that agents are rational with fixed preferences is so off the mark**….And this may be particularly important when it comes to the establishment of norms when individually rational behavior is so out of tune with societal well-being.

"**One important insight of behavioral economics already noted is that individuals are "loss averse." This means that the societal consequences of a policy that symmetrically imposed losses on some individuals and gains to others would lower social welfare: the losses of the losers would be more salient than the gains of the winners. Greater salience can easily translate into greater political activism**."

(Stiglitz, "Addressing Climate Change, pp. 9-10)

A Simple Model:
Carbon Tax + Specific Regulation

"Figure 1A illustrates the carbon tax that achieves the given level of carbon emissions, with the level of carbon emissions falling as the carbon price increases**. Assume there is some important sector j, which is very carbon intensive *and* such that for that sector, a switch to a low carbon-intensive production technology only occurs at a very high carbon price**. We identify a switching price, p*, at which it switches to a low carbon technology. The switching price p* determines the carbon price required to achieve emission levels of E*; at a price below p*, the level of carbon emissions exceeds the desired level.



The General Lesson

"…[T]he result just derived can be viewed as a specific application of a more general result in the theory of optimal taxation and expenditures: when there are distributive effects that cannot be undone by commodity taxes (including type specific factor subsidies), production efficiency is in general not desirable. Here, it would be desirable to tax carbon emissions in the jth sector at a higher rate. This would be the case even if there were a continuous technology choice in the jth sector. There are instances in which this can be (and has been) done: we can charge a higher price for aviation fuel (consumed more by the rich) than for gasoline. **More generally, if we can identify a set of goods which are more carbon intensive and more consumed by the rich, it would be desirable to impose higher taxes (including higher carbon taxes) on these goods**. And the same holds for intermediate goods which are used in the production of final goods which are consumed disproportionately by the rich….

"If that were all that there were to the matter, we could achieve the result either by a regulation or a sector specific carbon tax set at the level to just induce the use of the low emission technology. But **in practice, matters are more complicated. Because the critical tax may differ from firm to firm, a different tax would have to be set for each firm. And because the critical tax might differ over time, it would have to be continuously reset.**

(Stiglitz, "Addressing Climate Change," p. 22)

And Economic Policy [always] Generates Political Responses

"**Not surprisingly, there are political consequences arising from the possibility of adverse (uncompensated) distributional effects** Individuals are particularly sensitive to high new taxes (consistent with the theory of loss aversion), and political discourse often centers on the individuals who are likely to be hurt. **Large losers from a carbon tax will campaign against the carbon tax. As we noted earlier, there is typically uncertainty about the ultimate effect of a tax, and thus large numbers of individuals, even possibly a majority, may face a lowering of their ex ante expected utility, and thus oppose even a tax with lump sum rebates. The regulation, by keeping the carbon tax to a lower level, reduces the distributive effects**, except for those associated with sector j, and may accordingly mitigate these adverse political effects. **Thus the tax-cum-regulatory policy may be (more) politically robust.**

"Moreover, both among recipients and non-recipients of subsidies, **there may be beliefs (rational or irrational) concerning what are acceptable and non-acceptable subsidies, taxes, and regulations**, all of which are particularly relevant to the political economy of carbon taxation…."

(Stiglitz, "Addressing Climate Change," p. 23)

Carbon Policy and "Deep Preferences"

"…While from an analytical perspective, there may be limited or no difference amongst…alternatives, behavioral economics has shown that framing and perceptions matter. Thus, **it may be acceptable to stop firms that impose large costs on others (big polluters) through regulation, but not acceptable to "allow" them to pollute, simply by paying a price to do so.** Among environmentalists, a standard criticism of an environmental tax is that it allows those with money to destroy the environment: it puts a price on something that should be priceless.

"…**While there has not been much research into the relative impact of prices vs regulations in changing "deep preferences," from what has been observed in other contexts, putting a price on the environment may make it more acceptable to "abuse" it,** i.e. to engage in emissions, while strong regulatory constraints may help create a norm of protecting the environment.

"Similarly, in many countries, for instance, there has been a change in attitudes about the use of plastics, and especially plastic bags, a change in which grocery store policies may have played an important role, as they increasingly switched to paper and reusable bags. **The switch had salience. It was an everyday reminder of the importance of the environment, and it thereby helped reinforce pro-environment attitudes and values….**"

(Stiglitz, "Addressing Climate Change," p. 24-5)

Carbon Tax and Technological Innovation

"Achieving an efficient, equitable, and politically acceptable adjustment process may accordingly entail time-varying prices—with **a presumption that prices adjust slowly to the long-run equilibrium in order to spread the adjustment costs out over time.**

"Here I want to present an argument to the contrary: that **it may be desirable to have a higher carbon price in the short run than in the long run**.

"…**There are large fixed costs of switching technologies, and only large changes in relative prices can induce a change in technology. Once that change is effected, there would be large switching costs to return to a high carbon technology, and especially if there is learning by doing, so that the low carbon technology continues to improve relative to the high-carbon technology**….The theory of localized learning argues that improvements in one technology—for example, a low-carbon technology—spill over at best imperfectly to other technologies, say, the high carbon technology. **This implies that the prices required to *maintain* a low carbon economy can be lower than those required to induce a switch.**

(Stiglitz, "Addressing Climate Change," p. 28-9)

The First Energy Crisis: 1973

"…**At the time of the first oil shock, very few analysts and commentators…correctly read the quadrupling of oil prices OPEC governments' cartel as a massive excise tax** imposed on energy consumers in the advanced countries, industrial and residential alike**….[I]t drove up the cost of doing business and as producers sought to maintain profit margins, it also drove up prices and the cost of living**….

"**Reducing the impact of this tax depended on increasing the elasticity of demand and the elasticity of substitution with respect to energy**—that is, increasing the efficiency of energy production and consumption while reducing the cost of switching to non-petroleum sources. **But this investment was not forthcoming from the private sector as profit margins were squeezed and the economy slumped while rates rose with inflation**….[Even with the prod of state initiatives such as minimal fuel standards for autos, this was the work of years…"

(Janeway, *Doing Capitalism* 2ND ed., pp. 324-5).

The Missing Mission

"…[T]he United States has abdicated from leading the next technological transformation that is presenting itself with increasing urgency. **Response to climate change has offered the potential for massive, job- and profit-creating investment in "greening" the world's economic infrastructure** while simultaneously sponsoring the invention and deployment of alternative technologies for energy generation and for managing energy consumption. **This is Carlota Perez's vision…[of] the Green Golden Age**. Here, Trump's unilateral withdrawal from the Paris Accord is the symbolic statement of rejection. Concurrent efforts to reverse and/or refusal to enforce relevant regulatory initiatives constitute the retreat."

(Janeway, *Doing Capitalism*, 2nd ed., p. 338)

ARPA-E

"**Unlike the Defense Department, the U.S. Energy Department does not have a significant procurement budget**. When a DARPA-clone, the Advanced Research Projects Agency-Energy (ARPA-E), was formed in 2009 as an independent agency within that department reporting to the Secretary, it therefore had to focus on the technology transition problem…ARPA-E created not only a strong group of program managers but a 'tech-to-market' group with experience in scaling up start-up firms. Every ARPA-E award-winner has to have not only a technology development approach but a technology scale-up plan, which the tech transition team helps them to fashion and implement. **Since venture capital funding has been difficult to obtain for energy projects, creative approaches to scale-up have been developed, including alliances with established companies and follow-on R&D funding from applied agencies**.

(W. B. Bonvillian, "A Summary of the DARPA Model," Policy Exchange, *Visions of* DARPA, 2020, available at https://policyexchange.org.uk/wp-content/uploads/Visions-of-Arpa.pdf).

ARPA-E: Marginal or Trivial?

"**The DOE initiatives represent an effort to overcome what has been the key weakness in the U.S. innovation system – a failure to provide government support during the critical period when a new technology has to be ramped up for mass production or mass deployment**….

"The DOE…is providing direct assistance to firms building production facilities in the United States for the batteries needed to power a new generation of plug-in hybrid cars. And similar efforts are in motion to build U.S. productive capacity for solar energy, wind energy and biofuels…." (F. Block (2011); "Innovation and the Invisible Hand of Government" in F. Block and Keller, M.R. *State of Innovation: The U.S. Government's Role in Technology Development*, Boulder CO: Paradigm Publishers, pp. 14-5)

ARPA-E Budgets:

FY2011 - $180 million

FY2012 - $275 million

FY 2013 - $251 million

FY 2014 - $280 million

FY 2015 - $280 million

FY 2016 - $291 million

FY 2017 (request) - $350 million

FY 2017 (est.) - $306 million

Note: The ARPA-E website provides no Budget information after FY 2017:

https://arpa-e.energy.gov/?q=arpa-e-site-page/arpa-e-budget

ARPA-E: In Liquidation?

- **The $20,000,000 request for FY 2018 is a $271,000,000 decrease from the FY 2016 enacted level and will be used, along with the requested $45,000,000 use of prior year balances, to execute the termination of the Advanced Research Projects Agency – Energy**.
- **Under the Budget Request for FY 2019, ARPA-E requests no additional appropriation and will execute the multi-year termination of the program as described in the FY 2018 President's Budget Request**. ARPA-E will utilize reprogrammed carryover to actively manage its $439 million1 portfolio of forward-funded projects. **ARPA-E will not invest in new R&D technologies in FY 2019** and as such will not make additional Small Business Innovation Research / Small Business Technology Transfer (SBIR/STTR) program investments.
- **Advanced Research Projects Agency - Energy**

  FY 2018 Enacted = $353 million

  FY 2019 Enacted = $366 million

  FY 2020 Requested = ($287 million)

(ARPA-E Budget Request, available at https://arpa-e.energy.gov/sites/default/files/ARPA-E%20FY%202020%20Budget%20Request.pdf)

The Next Tech Revolution: Where is VC?

US VC CleanTech Investments by Year

	Capital Raised ($M)	# of Deals Closed	Average Capital Raised ($M)
2004	30.0	2	15.0
2005	2.7	1	2.7
2006	7.9	1	7.9
2007	70.5	3	35.3
2008	234.3	5	46.9
2009	180.5	8	25.8
2010	13.5	5	3.4
2011	61.9	9	7.7
2012	88.6	12	8.1
2013	212.7	17	13.3
2014	35.5	10	3.9
2015	206.5	14	15.9
2016	63.0	16	4.2
2017	309.3	16	20.6
2018	127.9	34	4.7

(NVCA 2019 Yearbook, p. 14 Appendix)

Ignorance or Indifference: Which is Worse?

"Trump administration sees a 7-degree rise in global temperatures by 2100"

"The draft statement, issued by the National Highway Traffic Safety Administration (NHTSA), was written to justify President Trump's decision to freeze federal fuel-efficiency standards for cars and light trucks built after 2020. While the proposal would increase greenhouse gas emissions, the impact statement says, that policy would add just a very small drop to a very big, hot bucket.

"**The amazing thing they're saying is human activities are going to lead to this rise of carbon dioxide that is disastrous for the environment and society. And then they're saying they're not going to do anything about it**," said Michael MacCracken, who served as a senior scientist at the U.S. Global Change Research Program from 1993 to 2002."

(J. Eilperin, *Dennis, B., and Mooney, C., Washington Post,* September 28, 2018.)

Market Power and Political Power

"**Markets are mechanisms of social choice, in which dollars effectively equal votes**; those with more purchasing power thus have more influence over market outcomes. **Governments are also social choice mechanisms, but voting power is – or is supposed to be – distributed equally**, regardless of wealth. Political equality should act as a counterweight to the weighted "voting" power in the market.

"To this end, **governments must perform at least three key functions. First, they must use regulation to mitigate market failures** caused by externalities, information gaps or asymmetries, or monopolies. **Second, they must invest in tangible and intangible assets, for which the private return falls short of the social benefit**. And, **third, they must counter unacceptable distributional outcomes.**

"But governments around the world are failing to fulfill these responsibilities – not least because, **in some representative democracies, purchasing power has encroached on politics. The most striking example is the United States, where electability is strongly correlated with either prior wealth or fundraising ability…."**

(M. Spence, "the Inequality of Nations," Project Syndicate, August 1, 2019)

Loss of American Political Authority

"There remains one other exposure at the foundations of the Innovation Economy – indeed, at the foundations of market capitalism. Five years ago I wrote:

> **Loss of authority by those charged with directing the state will always undermine the confidence of participants in the markets of financial capitalism.**

I was thinking then specifically of the collapse in the credibility of political leadership in the United States and Germany in 1931–1932 and, more recently, in the feedback from Watergate to the stagflationary world in which I served my apprenticeship more than forty years ago. Writing today, it is impossible not to anticipate a comparable crisis of confidence in American leadership. Indeed, the Trump Administration has already demonstrated a remarkable capacity for incoherent incompetence, mixing messages and undermining commitments and thereby generating confusion, at best, at home and around the world….

"**It is already possible to imagine that, in retrospect, the most lasting legacy of this Administration will have been its contribution to accelerating China's advance to global leadership**, assuming its own version of the Three-Party Game remains sufficiently stable."

(Janeway, *Doing Capitalism,* 2ND ed., pp. xxx-xxxi).

Will China Lead?

China emerges as global climate leader in wake of Trump's triumph

With the US president-elect threatening to withdraw from the Paris Agreement, Beijing is to ready to lead world's climate efforts, reports Environment 360

Xie Zhenhua, China's special representative for climate change affairs, delivers a speech. Photograph: Abdeljalil Bounhar/INBAR/AP

Source: *The Guardian*, 11/26/2016

Chinese Commitment to Renewable Energy

"**At the start of 2017, China announced that it would invest $360 billion in renewable energy by 2020 and scrap plans to build 85 coal-fired power plants**. In March, Chinese authorities reported that the country was already exceeding official targets for energy efficiency, carbon intensity, and the share of clean energy sources. And just last month, China's energy regulator, the National Energy Administration, rolled out new measures to reduce the country's dependence on coal.

"**These are just the latest indicators that China is at the center of a global energy transformation, which is being driven by technological change and the falling cost of renewables**. But China is not just investing in renewables and phasing out coal. It also accounts for a growing share of global energy demand, meaning that its economy's continuing shift toward service- and consumption-led growth will reshape the resource sector worldwide."

(World Economic Forum, "How China is leading the renewable energy revolution," August 29, 2017, available at https://www.weforum.org/agenda/2017/08/how-china-is-leading-the-renewable-energy-revolution)

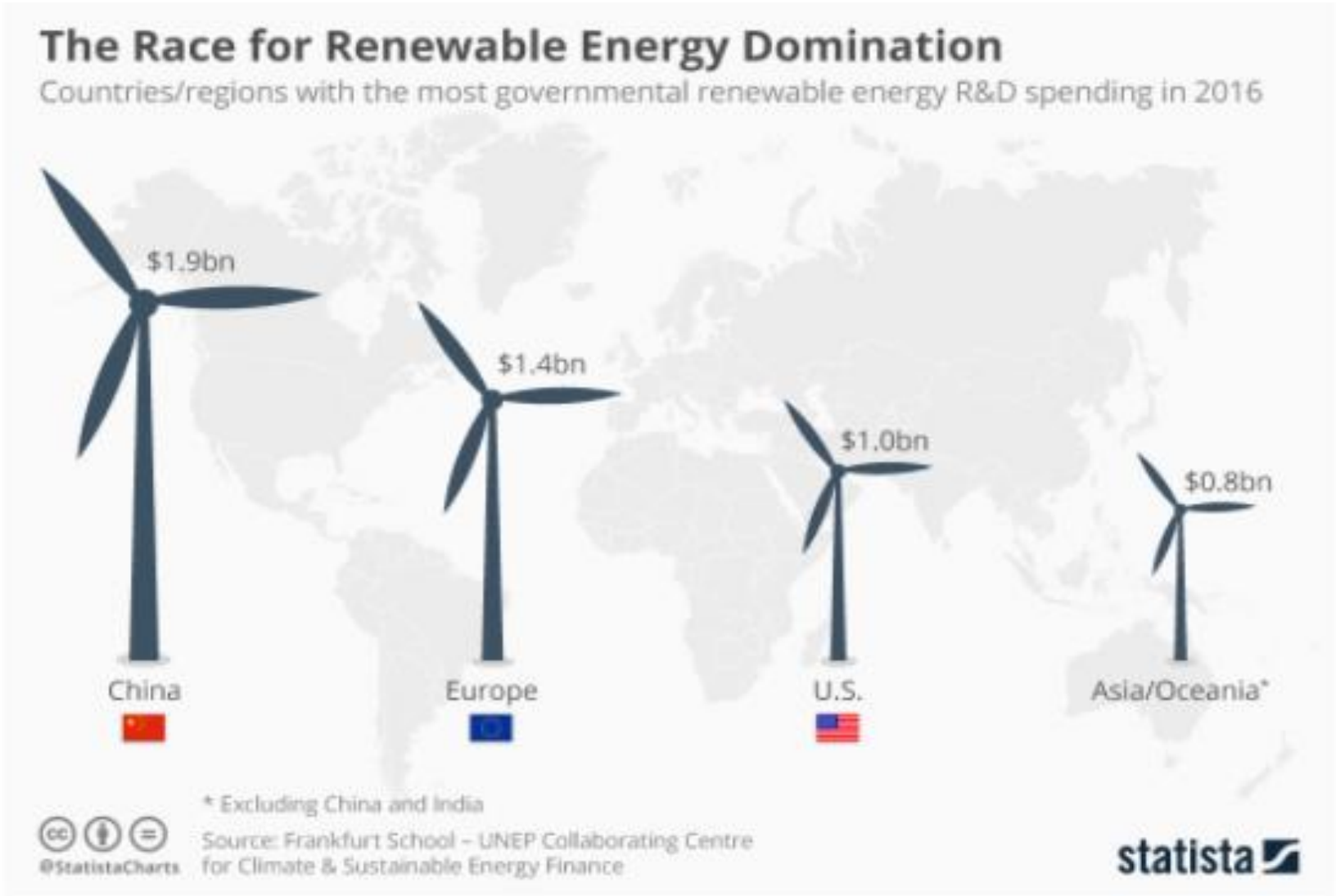


Image: Statista

China's Key Role

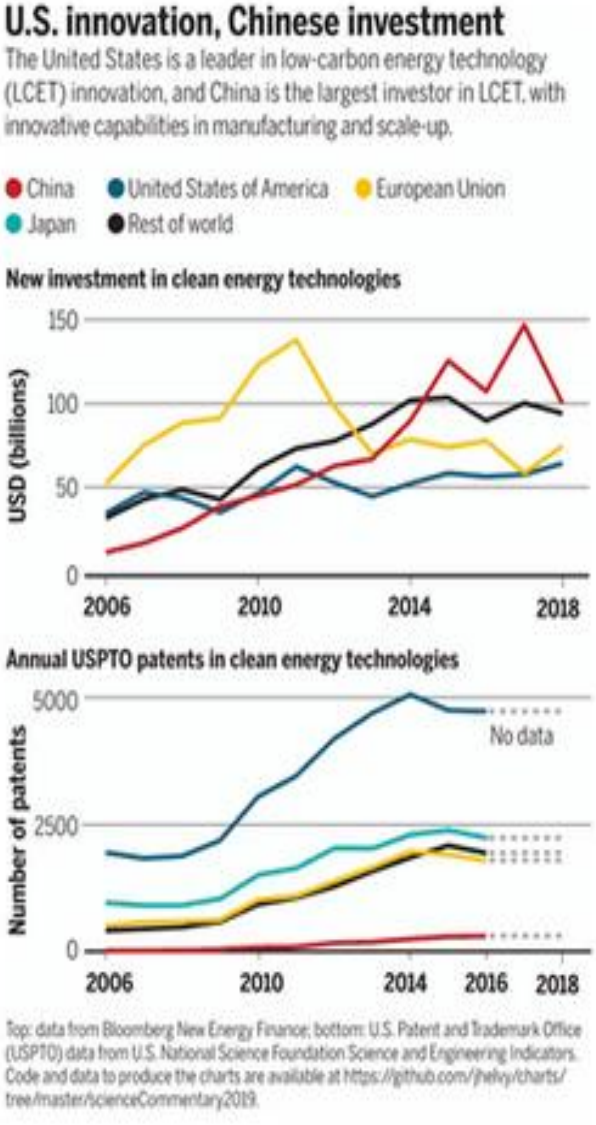
"**Meeting the goals of the Paris Agreement will require net zero greenhouse emissions by 2050 and substantial reductions before then. It will also require collaboration with China**, which has emerged as the global leader in the mass production of low-carbon energy technologies (LCETs). **In part because of China's investments in manufacturing, the LCETs required to meet climate targets have become increasingly cost-competitive with fossil fuel sources**. But some attribute China's rapid rise in LCET sectors to unfair industrial policies—such as forced technology transfer requirements, massive subsidies, and outright intellectual property (IP) theft—aimed at strategically dominating the next generation of energy technologies. **Trade relations between China and the world are currently unsettled, especially with the United States**...."

(J. Helverston and Nahm, J., "China's Key Role in Scaling Low-Carbon Energy Technologies, *Science*, 15 Nov 2019. Vol. 366, Issue 6467, pp. 794-796)

US-China Collaboration?

"**The United States and China account for 40% of the world's annual energy consumption, putting these two nations at the center of global efforts to mitigate GHG emissions**. They are also uniquely equipped to jointly address this challenge. **Historically, the U.S. government has been the largest investor in LCET R&D…**, which has led to major advances in key technologies such as solar photovoltaic cells. **Since the 1980s, however, the U.S. innovation ecosystem has followed a trend away from large, vertically integrated firms that were able to invent and produce new technologies, and toward smaller, entrepreneurial firms focused on the generation of new ideas**. Manufacturing was increasingly outsourced and offshored. In many sectors, **the United States now lacks China's strengths in commercialization and scale-up**. Many U.S. LCET firms, and startups in particular, stand to benefit from collaborating with foreign partners to access the capital and specialized manufacturing capabilities needed to turn their innovations into mass-produced, commercially viable products.

(Helveston and Nahm, "China's Key Role,)



U.S. innovation, Chinese investment

The United States is a leader in low-carbon energy technology (LCET) innovation, and China is the largest investor in LCET, with innovative capabilities in manufacturing and scale-up.

GRAPHIC: X. LIU/*SCIENCE*

Does China Mean It?

China coal power building boom sparks climate warning

"Building work has restarted at hundreds of Chinese coal-fired power stations, according to an analysis of satellite imagery."

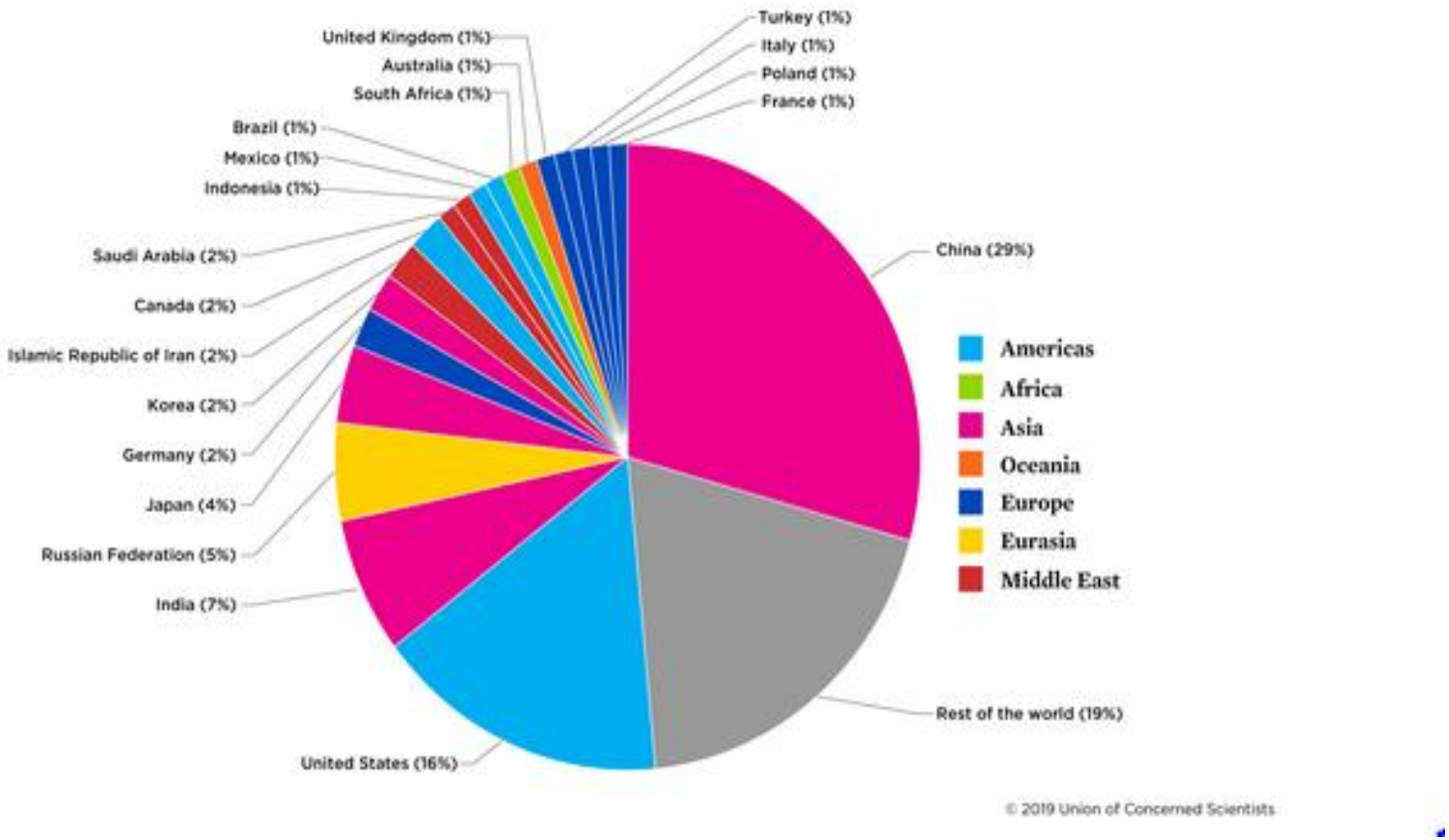
(BBC, 26 September 2018)

Why Is China Placing A Global Bet On Coal?

"China, known as the world's biggest polluter, has been taking dramatic steps to clean up and fight climate change.

So why is it also building hundreds of coal-fired power plants in other countries?" (National Public Radio, 29 April 2019)

Does China Mean It: They Better!



The New York Times

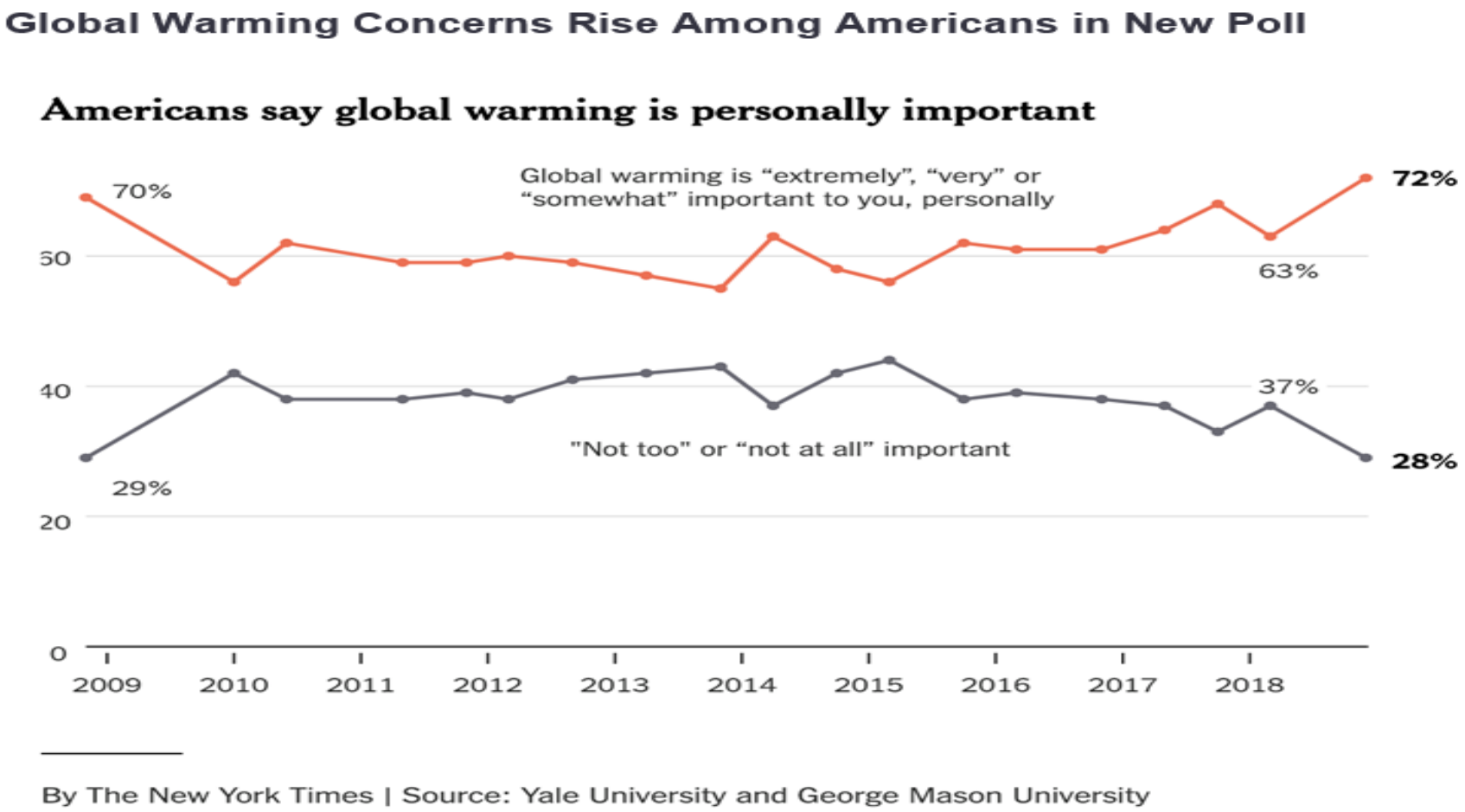
By Steven Lee Myers and Alissa J. Rubin

Published March 18, 2020
Updated March 19, 2020, 5:42 a.m. ET

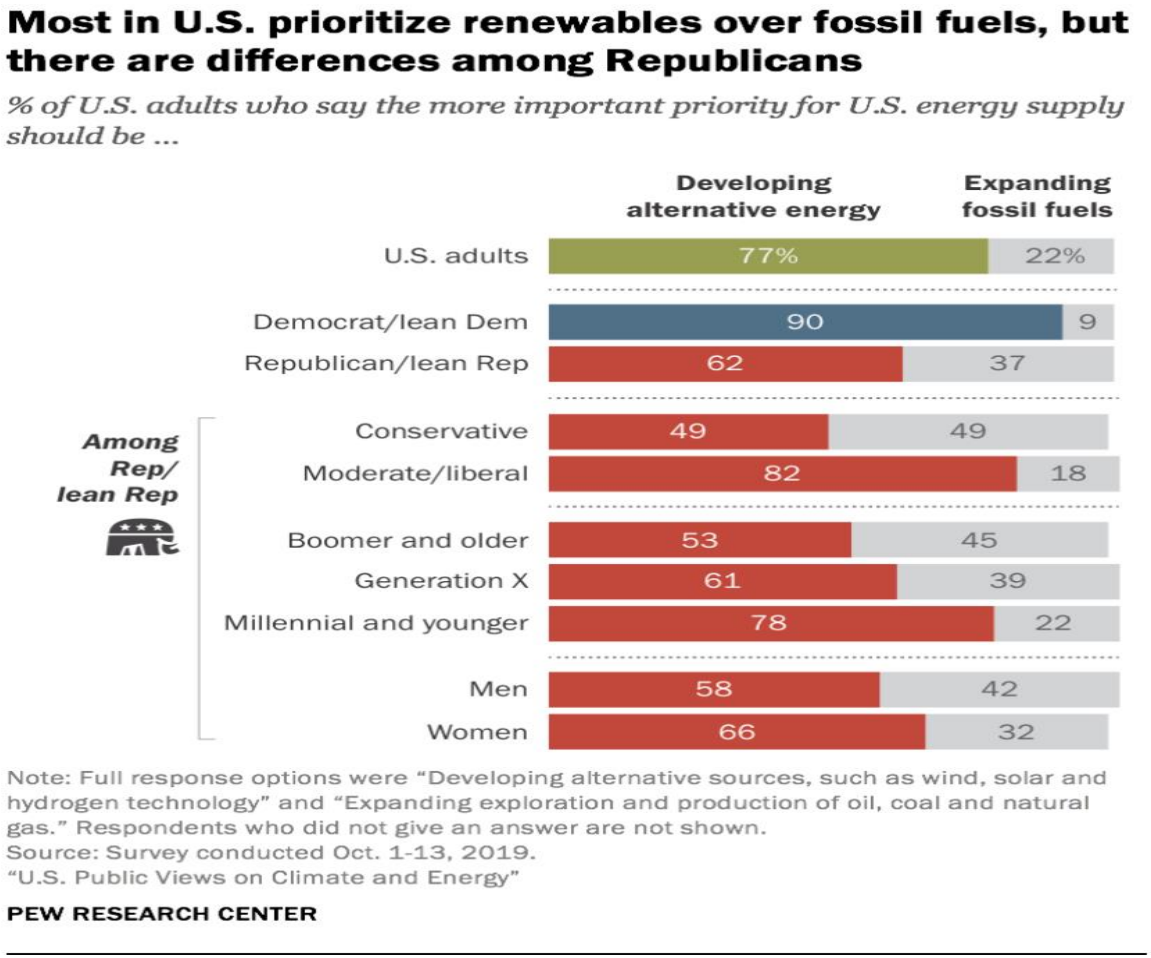
Its Coronavirus Cases Dwindling, China Turns Focus Outward

Beijing is mounting a humanitarian aid blitz in countries struggling with their own outbreaks. In doing so, it's stepping into a role the West once dominated.

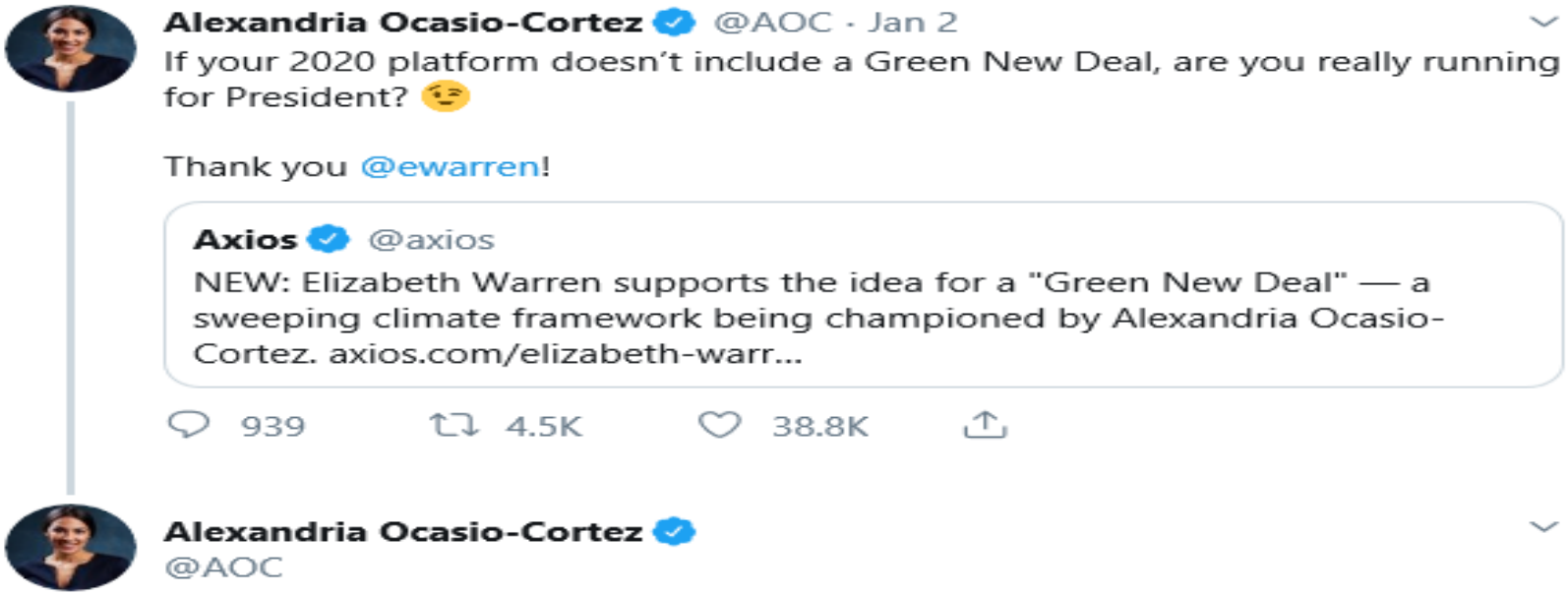
And in America:
A New Hope?



Even among Republicans



A Green New Deal?



Alexandria Ocasio-Cortez @AOC · Jan 2

If your 2020 platform doesn't include a Green New Deal, are you really running for President? 😉

Thank you @ewarren!

> **Axios** @axios
> NEW: Elizabeth Warren supports the idea for a "Green New Deal" — a sweeping climate framework being championed by Alexandria Ocasio-Cortez. axios.com/elizabeth-warr...

939 4.5K 38.8K

Alexandria Ocasio-Cortez
@AOC

Many people ask what a Green New Deal entails.

We are calling for a wartime-level, just economic mobilization plan to get to 100% renewable energy ASAP.