

**Testimony of Oren M. Cass
before the House Committee
on Science, Space, and Technology
December 1, 2015**

Good morning Mr. Chairman, Ranking Member Johnson, and distinguished members of the Committee. Thank you for inviting me to participate in today's hearing.

My name is Oren Cass. I am a senior fellow at the Manhattan Institute for Policy Research where my work addresses both domestic environmental policy and international climate negotiations.

My primary message to the committee is this: the climate policies pursued by this country under President Obama are a bad deal for the climate and a bad deal for this country.

Globally, international negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) no longer bear a substantial relationship to the goal of sharply reducing greenhouse-gas emissions. Commitments made by developing nations amount to a continuation of their existing emissions trajectories. The only likely achievement of the upcoming Paris conference (COP21) is a commitment by developed nations including the United States to transfer large sums of wealth to poorer nations.

This outcome is not surprising to those skeptical that U.S. "leadership" on climate policy could persuade the developing world to make economic sacrifices for the sake of reducing emissions. However, it differs dramatically from the popular narrative in which COP21 represents the historic culmination of an effective process to bring the world together and act on climate. And it deals a blow to anyone concerned about rising greenhouse-gas emissions and interested in holding all nations accountable for action.

If progress is to come from "peer pressure" and "naming and shaming," then countries failing to take substantial and costly action should be named, shamed, and pressured. Instead, they are being applauded by the United Nations, the White House, the media, and NGOs committed to climate action – an approach that fatally undermines the entire enterprise for the sake of political point-scoring.

Domestically, even the originators of the Obama administration's climate-related policies acknowledge they make sense only to the degree they influence international action. EPA Administrator Gina McCarthy, testifying before this committee in July, did not deny that the Clean Power Plan will have no detectable impact on global temperatures;

rather, she suggested: “The value of this rule is not measured in that way, it is measured in showing strong domestic action which can actually trigger global action.”¹

The State Department, in rejecting the Keystone XL pipeline, stated: “A key consideration at this time is that granting a Presidential Permit for this proposed Project would undermine U.S. climate leadership and thereby have an adverse impact on encouraging other States to combat climate change and work to achieve and implement a robust and meaningful global climate agreement.”²

If successfully spurring robust international action is the *sine qua non* of this nation’s climate policy, and that is failing, then we have *non*.

Yet proponents continue to argue that new regulations, subsidies, and mandates are ends unto themselves – that even if the mitigation of carbon-dioxide emissions will not itself produce meaningful benefits, we should regulate anyway because the impositions on the nation’s energy sector will be good for the economy. This argument defies both common sense and empirical evidence. Climate policy that does not help the climate is not good policy.

In summary, the Obama administration is placing the United States in a disastrous long-term position for the sake of securing a short-term political victory. In future years, when the world revisits commitments made today, countries that we applauded for promising nothing will be able to say they are well on their way to meeting their “goals.” Yet the United States, having put forward an aggressive commitment that even the president’s Clean Power Plan cannot achieve, will likely find itself off track.

Americans will incur the expense to take costly domestic action. We will potentially send billions of dollars overseas to countries taking no such action themselves. And yet as their emission grow unabated, we will be the ones facing scrutiny and criticism for violating the agreement. This will be President Obama’s climate legacy.

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This testimony first addresses the status of the international negotiations in detail and then turns to an assessment of domestic policy in the absence of international progress.

¹ Testimony of EPA Administrator Gina McCarthy before the House Science, Space, and Technology Committee, July 9, 2015, available at <http://www.c-span.org/video/?327016-1/epa-administrator-gina-mccarthy-testimony-proposed-regulations> (at time 20:20).

² U.S. Department of State, Record of Decision and National Interest Determination, “TransCanada Keystone XL Pipeline,” November 3, 2015, <http://keystonepipeline-xl.state.gov/documents/organization/249450.pdf>.

I. THE GLOBAL PERSPECTIVE: WHAT ARE CLIMATE NEGOTIATIONS ACHIEVING?

Three points illustrate that political posturing and legacy building have replaced the mitigation of greenhouse-gas emissions as the objective of climate negotiations: First, the negotiating process is designed to produce an easy consensus while excusing inaction. Second, the much-celebrated developing-nation commitments in fact reflect only a promise to continue with business as usual. Third, the emphasis on so-called “climate finance” is unjustified and unproductive.

A. The UNFCCC Negotiating Process

After the collapse of the Copenhagen talks in 2009, the world appears to have abandoned the prospect of achieving a binding agreement to reduce greenhouse-gas emissions. Certainly, no global cap-and-trade program, carbon tax, or other “price on carbon” is under discussion.

Instead, negotiators have adopted a “pledge-and-review” process whereby each country announces an “Intended Nationally Determined Contribution” (INDC) that represents its proposed actions and emissions reductions. The contents of these INDCs are at the discretion of the individual countries. At the insistence of developing nations, there is no requirement that INDCs achieve cuts of certain levels or that they even use consistent formats, metrics, or baselines.³ Developing nations also oppose “any obligatory review mechanism for increasing individual efforts of developing countries.”⁴ No consequences have been established for missing a plan’s goals.

The hope is that, to quote from a preliminary negotiating text, this approach will produce an “upward spiral of ambition over time”⁵ – or, as the *New York Times* headlined it, “A Climate Accord Based on Global Peer Pressure.”⁶ But as David J.C. Mackay and his colleagues noted in a recent commentary for *Nature*: “History and the science of cooperation predict that quite the opposite will happen.”⁷ A process that ignores the collective-action problems associated with climate change and provides no concrete incentives to act is ill-suited to the purported objectives of climate negotiators.

³ Coral Davenport, “A Climate Accord Based on Global Peer Pressure,” *New York Times*, December 14, 2014, <http://www.nytimes.com/2014/12/15/world/americas/lima-climate-deal.html>.

⁴ Press Release, “Meeting of Negotiators of Like-Minded Developing Countries Concludes; Javadekar Lauds Work Done by LMDC,” Press Information Bureau, Government of India, September 15, 2015, <http://pib.nic.in/newsite/PrintRelease.aspx?relid=126913>.

⁵ Parties’ Views and Proposals on the Elements for a Draft Negotiating Text (ADP.2016.6.NonPaper), UNFCCC, October 2014, http://unfccc.int/documentation/documents/advanced_search/items/6911.php?preref=600008013.

⁶ *Supra* note 3.

⁷ David J.C. MacKay et al, “Price Carbon—I Will If You Will,” *Nature*, October 12, 2015, <http://www.nature.com/news/price-carbon-i-will-if-you-will-1.18538>.

Boosters of the negotiations have highlighted the agreement to move forward with an INDC-driven structure, followed by the parade of submitted INDCs, as proof that the world can in fact come together and take meaningful action on climate change. That view is precisely backward. Negotiations have followed this course of discretionary, unenforceable pledges only because the positions and interests of countries were so plainly incompatible that a substantive agreement was not possible.

Of course, one should not exclude the possibility of progress on the basis of theory alone. Unfortunately, the poor quality of the submitted INDCs only confirms what rational analysis of the process would have predicted: significant obfuscation and posturing, but insignificant results.

B. Estimated Impact of INDCs

Because creation of INDCs was left entirely to the discretion of individual countries, with no common baseline or metrics, measuring the cumulative impact of submissions is not a straightforward process. INDCs must be standardized and then translated into a plausible emissions trajectory. A realistic baseline for emissions absent the INDCs must be established, against which progress can be measured.

If INDCs slow emissions growth relative to the past, but only by the amount emissions were already likely to slow given economic and technological progress, then countries are “committing” only to proceeding with business as usual (BAU). Conversely, choosing an implausibly high baseline and then comparing it to BAU can make simply proceeding with BAU appear significant.

Most efforts at quantification show the INDCs achieving significant progress, however that progress is the illusory result of poorly chosen baselines and unwarranted inferences.

B.1. “Top-Down” Assessments

Aggregations of INDCs have produced confusing and seemingly inconsistent results:

- Climate Interactive, a Washington-based non-profit that has partnered with the U.S. State Department,⁸ reports that temperatures by 2100 would rise 4.5°C above pre-industrial levels in a BAU case but only 3.5°C based on INDCs.⁹ However, it uses the UN Intergovernmental Panel on Climate Change (IPCC)’s RCP 8.5 reference case as its BAU, even though the IPCC specifies that: “The RCP 8.5 pathway has higher emissions than all but a few published baseline scenarios.”¹⁰

⁸ “About,” Climate Interactive, <https://www.climateinteractive.org/about/> (accessed November 11, 2015).

⁹ “Climate Scoreboard,” Climate Interactive, <https://www.climateinteractive.org/tools/scoreboard/> (accessed November 11, 2015).

¹⁰ IPCC, Fifth Assessment Report, Working Group 3, Section 6.3.1.3, http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_full.pdf.

- Climate Action Tracker (a partnership of Climate Analytics, Ecofys, NewClimate Institute, and Potsdam Institute for Climate Impact Research) reports that temperatures by 2100 would rise 3.6°C based on current policy action but only 2.7°C based on INDCs.¹¹ However, that 2.7°C figure is reached only by assuming that all countries will make additional commitments to further reduce emissions after the end of the period covered by the INDCs.¹²
- The International Energy Agency also estimates that with INDCs the global temperature will rise 2.7°C, but it achieves such a result by simply choosing a forecast through 2100 “judged as the long-term emissions trajectory most closely aligned with [its] INDC analysis.”¹³ It is not a reflection of countries’ actual commitments.
- The Massachusetts Institute of Technology’s Joint Program on the Science and Policy of Global Change reports that temperatures by 2100 would rise 3.9°C without INDCs and 3.7°C with them.¹⁴ The MIT study uses an apples-to-apples comparison of its own projections before and after incorporating the INDCs. Unfortunately, much of the progress thus disappears.
- The UN has conducted its own analysis, concluding that INDCs will reduce global carbon-dioxide-equivalent emissions in 2030 from 60.3 to 56.7 gigatons, with a twentieth percentile estimate of no improvement and an eightieth percentile estimate of a 7.5 gigaton improvement.¹⁵ The UN emphasizes that this reduction equates to growth of “11–23 per cent in the 2010–2030 period compared with 24 per cent in the 1990–2010 period,”¹⁶ implying that continuation of the prior growth rate would represent a baseline and any slowing of growth an improvement (see Figure 1). But as the IPCC observed only two years earlier in its Fifth Assessment Report: “most baseline scenarios project a deceleration in emissions growth, especially compared to the rapid rate observed in the past decade.”¹⁷

¹¹ “Global,” Climate Action Tracker, <http://climateactiontracker.org/global.html> (accessed November 11, 2015).

¹² “Global Pathways,” Climate Action Tracker, <http://climateactiontracker.org/methodology/18/Global-pathways.html> (accessed November 11, 2015).

¹³ International Energy Agency, “World Energy Outlook: Special Briefing for COP21,” 2015, https://www.iea.org/media/news/WEO_INDC_Paper_Final_WEB.PDF.

¹⁴ John Reilly et al, “Energy & Climate Outlook: Perspectives from 2015,” MIT Joint Program on the Science and Policy of Global Change, 2015, <http://globalchange.mit.edu/files/2015%20Energy%20%26%20Climate%20Outlook.pdf> (box 2).

¹⁵ Synthesis Report on the Aggregate Effect of the Intended Nationally Determined Contributions, UNFCCC, October 30, 2015, <http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf>.

¹⁶ *Id.*

¹⁷ *Supra* note 10.

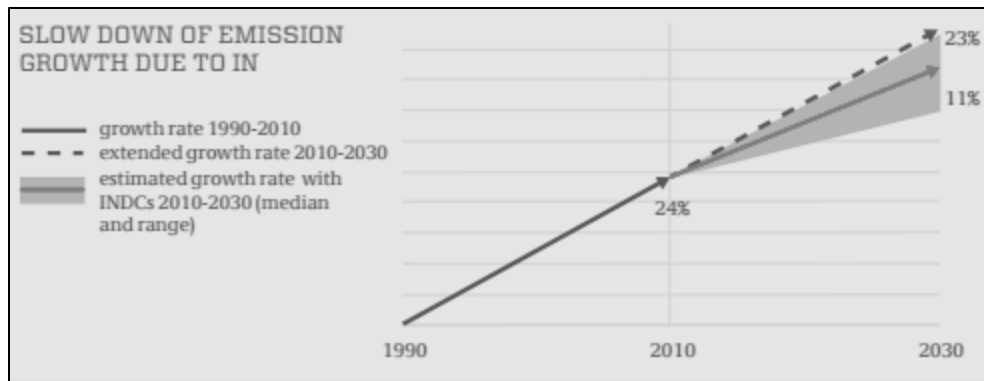


Figure 1. UNFCCC Assessment of INDC Impact from Constant-Growth Baseline.¹⁸

In aggregate, the best estimate for temperature rise with INDCs appears to be 3.5°C (Climate Interactive) to 3.7°C (MIT), while the best estimate of the world’s trajectory absent them is 3.6°C (Climate Action Tracker current policy) to 3.9°C (MIT). In other words, the actual improvement if all countries follow through with their voluntary contributions, is 0.1 to 0.2°C.

However, even this estimate may overstate the impact of the INDCs.

B.2. A Better Baseline

None of the assessments described above uses the set of baseline scenarios developed by the IPCC Special Report on Emissions Scenarios (SRES) in 2000 to describe the likely emissions associated with various future trajectories of economic growth and technological progress.¹⁹ Of these, the “A1B” scenario provides a particularly useful and widely-used baseline. According to the IPCC:

The A1 storyline and scenario family describes a future world of very rapid economic growth, global population that peaks in mid-century and declines thereafter, and the rapid introduction of new and more efficient technologies. Major underlying themes are convergence among regions, capacity building and increased cultural and social interactions, with a substantial reduction in regional differences in per capita income. The A1 scenario family develops into three groups that describe alternative directions of technological change in the energy system. The three A1 groups are distinguished by their technological emphasis: fossil-intensive (A1FI), non-fossil energy sources (A1T) or a balance across all sources (A1B) (where balanced is defined as not relying too heavily on one particular energy source, on the assumption that similar improvement rates apply to all energy supply and end use technologies).²⁰

¹⁸ Synthesis Report on the Aggregate Effect of the Intended Nationally Determined Contributions (Brief Overview), UNFCCC, October 30, 2015, http://unfccc.int/files/focus/indc_portal/application/pdf/synthesis_report_-_brief_overview.pdf

¹⁹ IPCC, Fourth Assessment Report, Working Group 1, Summary for Policy Makers, https://www.ipcc.ch/publications_and_data/ar4/wg1/en/spmssp-projections-of.html.

²⁰ *Id.* (emphasis added).

The A1B scenario has been used as a baseline in recent years by both the U.S. government²¹ and European researchers²². Climatologists Michael Mann and Richard Alley of Penn State University call it “a ‘middle of the road’ emission scenario that is often used as a baseline for comparisons.”²³ Its emissions trajectory falls in between those of the RCP 6.0 and RCP 8.5 pathways,²⁴ consistent with the IPCC’s observation that: “Although most baseline scenarios project a deceleration in emissions growth, especially compared to the rapid rate observed in the past decade, none is consistent in the long run with the pathways in the two most stringent RCP scenarios [2.6 and 4.5], with the majority falling between the 6.0 and 8.5 pathways.”²⁵

One possible reason that INDC analyses have avoided using the A1B baseline is that using it eliminates any sign of progress. According to the Model for the Assessment of Greenhouse-gas Induced Climate Change (MAGICC), developed through support of the U.S. Environmental Protection Agency,²⁶ the projected climate change by 2100 under the A1B scenario is 3.4°C.²⁷ This result is consistent with the IPCC’s own estimate for the scenario of 3.3°C warming.²⁸ Either figure is *already below* the best estimate for what the INDCs achieve. In its report, MIT also shows the A1B trajectory of emissions as virtually indistinguishable from the INDC-driven projection.²⁹

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A “bottoms-up” assessment of individual INDCs confirms the view that countries have promised only what was already likely to happen.

²¹ Jeremy Melillo et al, eds., “Climate Change Impacts in the United States: The Third National Climate Assessment,” U.S. Global Change Research Program, October 2014, http://s3.amazonaws.com/nca2014/low/NCA3_Climate_Change_Impacts_in_the_United%20States_LowRes.pdf.

²² Ole B. Christensen et al, “European and Global Climate Change Projections,” The ClimateCost Project, September 2011, http://www.climatecost.cc/images/Policy_brief_1_Projections_05_lowres.pdf.

²³ Michael Mann and Richard Alley, “SRES Scenarios,” Penn State University, <https://www.e-education.psu.edu/meteo469/node/145> (accessed November 11, 2015)

²⁴ IPCC, Fifth Assessment Report, Working Group 2, Chapter 1, http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap1_FINAL.pdf (figure 1-4).

²⁵ *Supra* note 10 (and figure 6.4).

²⁶ “MAGICC/SCENGEN: About,” <http://www.cgd.ucar.edu/cas/wigley/magicc/about.html> (accessed November 11, 2015).

²⁷ M. Meinshausen et al, “Emulating coupled atmosphere-ocean and carbon cycle models with a simpler model, MAGICC6: Part I – Model Description and Calibration,” Atmospheric Chemistry and Physics, 2011, <http://live.magicc.org> (accessed November 11, 2015).

²⁸ IPCC, Fourth Assessment Report, Summary for Policy Makers, https://www.ipcc.ch/publications_and_data/ar4/syr/en/spms3.html (table SPM.1 provides warming since 1980-1999; note (d) provides adjustment to pre-industrial baseline).

²⁹ John Reilly et al, “Energy & Climate Outlook: Perspectives from 2015,” MIT Joint Program on the Science and Policy of Global Change, 2015, <http://globalchange.mit.edu/files/2015%20Energy%20%26%20Climate%20Outlook.pdf> (figure 17).

It is the major developing nations whose aggressive emissions trajectories will dictate the world's total emissions this century – four-fifths of carbon-dioxide emissions in the A1B scenario. But those are the same nations whose desperate need for economic growth precludes a willingness to focus on emissions reductions. They are committing only to doing what they believed their economies would do anyway, rather than making sacrifices or incurring costs.

Two, China and India, are reviewed in detail here.

B.3. Country Assessment: China

China has committed to reaching peak emissions “around 2030” but offered no commitment regarding the level of that peak or the subsequent rate of emission decline. It has also committed to reducing carbon-dioxide emissions per unit of GDP by 60 to 65 percent in 2030 as compared to 2005.³⁰

But four years ago, in 2011, a study by the U.S. government's own Lawrence Berkeley National Laboratory had already concluded that Chinese emissions would peak around 2030.³¹ An analysis by Bloomberg New Energy Finance further concludes that the commitment with respect to emissions intensity is actually *less* ambitious than BAU.³²

China's recent announcement that its coal consumption is up to 17 percent higher than previously estimated makes the commitment even weaker and more easily achievable, as its officials acknowledge.³³ Because its commitments include no absolute emissions targets, starting from a higher baseline simply means it can consume and emit more while still meeting its goal. Especially insofar as Chinese leaders may have been aware their official statistics underreported coal consumption and emissions, they have played the INDC game masterfully.

Climate Action Tracker, one of the organizations attempting to calculate INDC impacts, provides a China-specific view and projects the country's commitments to fall squarely in the middle of the projection for current policy (i.e., absent the INDC). Notably, the analysis disregards the emissions intensity target entirely because “the weak INDC carbon intensity targets, if taken literally, would only be reached at the expense of

³⁰ “Intended Nationally Determined Contribution of China,” UNFCCC, June 30, 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/China/1/China's%20INDC%20-%20on%2030%20June%202015.pdf>.

³¹ Nan Zhou et al, “China's Energy and Carbon Emissions Outlook to 2050,” Lawrence Berkeley National Laboratory, April 2011, <https://china.lbl.gov/sites/all/files/lbl-4472e-energy-2050april-2011.pdf>.

³² “How Ambitious Are the Post-2020 Targets?,” Bloomberg New Energy Finance, October 2, 2015, <http://about.bnef.com/content/uploads/sites/4/2015/10/2015-10-02-How-ambitious-are-the-post-2020-targets-UPDATE-2-Oct.pdf>.

³³ Chris Buckley, “China Burns Much More Coal Than Reported, Complicating Climate Talks,” *New York Times*, November 3, 2015, <http://www.nytimes.com/2015/11/04/world/asia/china-burns-much-more-coal-than-reported-complicating-climate-talks.html>.

important national policies and actions, including in relation to reduced air pollution. This appears unlikely in our judgment.”³⁴ The analysis acknowledges that the commitment is meaningless but therefore dismisses it as implausible and substitutes a more climate-friendly estimate.

B.4. Country Assessment: India

Nonetheless, China’s INDC is a model of climate ambition when compared to India’s. While the *New York Times* headlined India’s announcement with “India Announces Plan to Lower Rate of Greenhouse Gas Emissions,”³⁵ the country offered no commitment with respect to its emissions – even a potential future peak – and only a 33 to 35 percent reduction in emissions per unit of GDP in 2030 as compared to 2005.³⁶

Analyses from multiple perspectives demonstrate the emptiness of this commitment. In April, India’s Centre for Policy Research estimated an emissions trajectory for the country absent further policy action³⁷ and the INDC commitment falls squarely in the middle of the established range. Bloomberg finds it significantly worse than BAU³⁸ and researcher Glen Peters has shown the proposed progress is slower than historical trend.³⁹ Indeed, the most obvious reference point is in the INDC itself: India reports that its energy efficiency has already improved more than 17 percent between 2005 and 2012. Assuming no change in its carbon intensity of energy, India could improve only half as fast going forward and still achieve its “goal.”

Climate Action Tracker also concedes that India’s target is less ambitious than BAU, but nevertheless awards the country a rating of “Medium.”⁴⁰ The only countries in the world to receive better ratings are Morocco, Costa Rica, Ethiopia, and Bhutan.

Looking beyond China and India, Indonesia has submitted a plan⁴¹ so vague that the World Resources Institute could not assess it; Taryn Fransen, project director of the

³⁴ “China,” Climate Action Tracker, <http://climateactiontracker.org/countries/china.html> (accessed November 11, 2015).

³⁵ Ellen Barry and Coral Davenport, “India Announces Plan to Lower Rate of Greenhouse Gas Emissions,” *New York Times*, October 1, 2015, <http://www.nytimes.com/2015/10/02/world/asia/india-announces-plan-to-lower-rate-of-greenhouse-gas-emissions.html>.

³⁶ “Intended Nationally Determined Contribution of India,” UNFCCC, October 1, 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf>.

³⁷ Navroz K. Dubash et al, “Informing India’s Energy and Climate Debate: Policy Lessons from Modelling Studies,” Centre for Policy Research, April 2015, http://cprindia.org/sites/default/files/Informing%20India%27s%20Energy%20and%20Climate%20Debate_CPR-IIASA.pdf.

³⁸ *Supra* note 32.

³⁹ Glen Peters, “Is the Indian #INDC ambitious?” Twitter, October 12, 2015, https://twitter.com/Peters_Glen/status/653497917613830144/photo/1 (accessed November 11, 2015).

⁴⁰ “India,” <http://climateactiontracker.org/countries/india.html> (accessed November 11, 2015).

Institute's Open Climate Network concluded it "does not allow for any accountability."⁴² Even Climate Action Tracker rates the plan "Inadequate" and finds it less aggressive than current policy projections.⁴³

Brazil, the most ambitious of the large developing countries, may actually have proposed an improvement on current policy. However, its carbon footprint has historically been driven by deforestation, which has slowed dramatically in recent years leading to significantly lower emissions. In its INDC, Brazil reports a 41 percent decline in emissions between 2005 and 2012 but commits to only a 37 percent reduction between 2005 and 2025.⁴⁴ As professor Timmons Roberts and research fellow Guy Edwards of Brown University observed at the Brookings Institution, this is "seeking credit for work done" and "the new targets mean only tepid steps forward."⁴⁵

In mid-November, long after all deadlines had passed, Pakistan submitted a one-page INDC making no commitments and offering the tautological observation that "Pakistan is committed to reduce its emissions after reaching peak levels to the extent possible."⁴⁶ Nigeria submitted its own plan less than 48 hours before the start of talks, leaving no opportunity for an assessment.⁴⁷ A cursory review would seem to indicate that it worked from an implausible "business-as-usual" defined as emissions growing at least as quickly as the economic output (economic growth of 5% per year, emissions growth of 114% over the 2015-2030 period or 5.2% per year).⁴⁸

In summary, claims of progress for the INDC-driven approach are incorrect and depend on the use of inappropriate baselines or an assumption of action not even pledged. But if actual discussions over emissions reductions have been reduced to the submission of voluntary, unenforceable, and often empty INDCs, what is the point of even meeting in Paris?

⁴¹ "Intended Nationally Determined Contribution of Indonesia," UNFCCC, September 24, 2015, http://www4.unfccc.int/submissions/INDC/Published%20Documents/Indonesia/1/INDC_REPUBLIC%20OF%20INDONESIA.pdf.

⁴² Suzanne Goldenberg, "Indonesia to Cut Carbon Emissions by 29% by 2030," Guardian (UK), September 24, 2015, <http://www.theguardian.com/environment/2015/sep/21/indonesia-promises-to-cut-carbon-emissions-by-29-by-2030>.

⁴³ "Indonesia," Climate Action Tracker, <http://climateactiontracker.org/countries/indonesia.html> (accessed November 11, 2015).

⁴⁴ "Intended Nationally Determined Contribution of Brazil," UNFCCC, September 28, 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Brazil/1/BRAZIL%20iNDC%20english%20FINAL>.

⁴⁵ Guy Edwards and Timmons Roberts, "Despite Its Heavyweight Status, Brazil's Climate Plan Punches Below Its Weight," PlanetPolicy (Brookings), September 30, 2015, <http://www.brookings.edu/blogs/planetpolicy/posts/2015/09/30-brazil-climate-plan-edwards-roberts>.

⁴⁶ "Intended Nationally Determined Contribution of Pakistan," UNFCCC, November 12, 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Pakistan/1/Pakistan%20INDC.doc>.

⁴⁷ "INDCs as Communicated by the Parties," UNFCCC, accessed November 29, 2015, <http://www4.unfccc.int/submissions/INDC/Submission%20Pages/submissions.aspx>.

⁴⁸ "Intended Nationally Determined Contribution of Nigeria," UNFCCC, November 28, 2015, http://www4.unfccc.int/submissions/INDC/Published%20Documents/Nigeria/1/Approved%20Nigeria's%20INDC_271115.pdf.

C. An Emphasis on “Climate Finance”

Negotiations in Paris will focus little on greenhouse-gas emissions and almost entirely on the more mundane subject of cash. Specifically, the developing world expects developed countries to offer more than \$100 billion per year in what is called “climate finance.”

Then-Secretary of State Hillary Clinton first announced a developed-world commitment to such enormous wealth transfers in a bid to save the Copenhagen talks in 2009.⁴⁹ UN Secretary-General Ban Ki-moon now insists “credible climate financing is essential” to success in Paris⁵⁰ while Miguel Cañete, the EU’s Commissioner for Climate Action, has reportedly promised not only \$100 billion per year by 2020 but increasing amounts thereafter.⁵¹ Christiana Figueres, the Executive Secretary of the UN Framework Convention on Climate Change, wrote in an op-ed published October 30:

Crucial to that success [in Paris] and to fostering the current and future ambitions of countries will be finance – and, more specifically, support from developed countries to the aspirations of developing ones. Six years ago, rich countries pledged to provide \$100 billion to poorer countries by 2020, the date when the new agreement will come into force. Paris needs to provide certainty, clarity and confidence that this promise will be met, not least to support the climate action plans – Intended Nationally Determined Contributions (INDCs) – of the most vulnerable nations, including the least developed countries and the small island developing states.⁵²

What remains unclear is not only the source of this finance, but also its rationale. Figueres notes that one purpose might be to support the implementation of INDCs (though, as discussed above, those INDCs do not generally represent new action). As her phrasing implies, many justifications have been floated:

- First, developing nations suggest that developed nations owe them an “ecological debt” for the latter’s disproportionate share of past emissions. Pope Francis endorsed this argument in his encyclical on the environment.⁵³ This argument holds that because scientific estimates place an upper limit on the amount of carbon dioxide that humanity can ever emit, nations like the U.S. that have already emitted more than their fair share are accumulating debt payable to

⁴⁹ Lisa Friedman and Darren Samuelsohn, “Hillary Clinton Pledges \$100B for Developing Countries,” *New York Times*, December 17, 2009, <http://www.nytimes.com/cwire/2009/12/17/17climatewire-hillary-clinton-pledges-100b-for-developing-96794.html>.

⁵⁰ “100 Billion Reasons a Global Climate-Change Deal May Fall Apart,” *Bloomberg Business*, June 29, 2015, <http://www.bloomberg.com/news/articles/2015-06-29/un-leader-says-climate-talks-won-t-hit-mark-to-limit-warming>.

⁵¹ Fiona Harvey, “No Plan B if Paris Climate Summit Ends in Failure, Says EU Climate Chief,” *Guardian* (UK), July 6, 2015, <http://www.theguardian.com/environment/2015/jul/06/no-plan-b-if-paris-climate-summit-ends-in-failure-says-eu-climate-chief>.

⁵² Christiana Figueres, “Time to Focus on Climate Finance,” G7 G20, October 30, 2015, <http://www.g7g20.com/articles/christiana-figueres-time-to-focus-on-climate-finance>.

⁵³ Pope Francis, *Laudato Si'*, May 24, 2015, http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html.

nations using less than their fair share. In America's case, the monetary value of the debt could reach trillions of dollars.⁵⁴

- Second, developing nations suggest that developed nations should pay them “reparations” for natural disasters caused by the climate change for which past developed-nation emissions are purportedly responsible. While many western politicians are eager in the domestic context to attribute natural disasters and their severity to climate change, they are reluctant to do so in an international context where accepting such causation could trigger enormous and unpredictable liability.⁵⁵
- Third, developing nations suggest that the funding will help them to pursue low-carbon development, deploy more renewable energy, and adapt to whatever climate changes occur. This rationale is the only one that U.S. negotiators have acknowledged as valid.⁵⁶ However, in the current negotiating framework, it remains unclear what developed nations would be receiving for their money. India, for instance, has suggested it will require \$2.5 trillion between now and 2030 – to pursue its business-as-usual INDC.⁵⁷

As should be clear, it makes little sense under any rationale for the developed world to offer trillions of dollars in wealth transfers as part of an agreement not likely to produce emissions reductions. But increasingly, those payments are considered the price of the agreement. Developed-world climate negotiators are pursuing a transaction in which leaders in the developed world, having staked their political capital and legacies on achieving an “agreement,” must pay developing nations to sign on the dotted line.

This dynamic – where the objective of an agreement is the agreement itself – explains why a process was embraced that prioritizes empty consensus over any prospect of substantive action, why the empty commitments that followed have been celebrated as important achievements rather than condemned as inadequate, and why negotiations now center on wealth transfers.

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⁵⁴ Oren Cass, “Leading Nowhere: The Futility and Farce of Global Climate Negotiations,” Manhattan Institute for Policy Research, October 2015, <http://www.manhattan-institute.org/html/leading-nowhere-futility-and-farce-global-climate-negotiations-7816.html>.

⁵⁵ Ben Webster, “Britain Rejects Demands for Climate Disaster Compensation,” *The Times* (UK), November 21, 2013, <http://www.thetimes.co.uk/tto/environment/article3927261.ece>.

⁵⁶ Andrew C. Revkin and Tom Zeller Jr., “U.S. Negotiator Dismisses Reparations for Climate,” *New York Times*, December 9, 2009, <http://www.nytimes.com/2009/12/10/science/earth/10climate.html>.

⁵⁷ *Supra* note 36.

The current climate negotiations obscure rather than advance the objective of reducing greenhouse-gas emissions. Vocal supporters, by crediting developing nations for proceeding on their current course, ensure that the required “naming and shaming” will not occur. Yet somehow, it is the critics who stand accused of blocking progress.

Policymakers and activists from all points on the political spectrum should be united in condemning as unhelpful the Paris talks now underway. Congress should reject and refuse to appropriate funds for any agreement emphasizing wealth transfers over emissions reductions.

II. THE DOMESTIC PERSPECTIVE: WHAT IS U.S. POLICY ACCOMPLISHING?

U.S. leadership is not spurring developing nations to sacrifice economic growth for emissions reductions.

But without such an effect, there is no justification for the costly domestic actions undertaken by the Obama administration. Still, supporters argue that aggressive carbon-dioxide regulations like the Clean Power Plan are good economic policy even if they offer no carbon-dioxide-related benefits. These claims are disingenuous, *post hoc* rationalizations that are unsupported by economic analysis.

Environmental Regulation and Economic Growth

One claim made in favor of additional regulation is that forcing investment in pollution-control technology or alternative energy sources will “create jobs.”⁵⁸ This is tautologically true. Similarly, an EPA “Large Holes Plan” that required each state to dig a certain number of large holes would create new hole-digging jobs and likely some shovel-related innovation. Neither plan necessarily contributes to the economy’s health or the nation’s prosperity.

Solar provides a helpful example. The Solar Energy Industries Association reports, based on a study it commissioned from Bloomberg New Energy Finance, that expiration of the current federal subsidy for solar investments would produce a loss of 80,000 solar jobs in 2017 – approximately two-thirds of the projected 2016 total.⁵⁹ In other words, even after a long period of aggressive government support, the majority of jobs in the industry are not economically viable without further taxpayer largesse.

⁵⁸ E.g., Remarks by EPA Administrator Gina McCarthy (as prepared), Resources for the Future, August 11, 2015, <http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/12f82a2927e222dc85257e9e00693ba0!OpenDocument>.

⁵⁹ “Solar ITC Impact Analysis,” Solar Energy Industries Association, September 2015, <http://www.seia.org/research-resources/solar-itc-impact-analysis>.

More broadly, the claim is made that regulation must be good for the economy because the economy has grown when past regulations were implemented. To quote an August speech by EPA Administrator Gina McCarthy: “They’ll say that our transition to cleaner energy system [sic] will kill jobs. Well, I’m not sure they’ve been following the economics as well as they should, because the solar industry is creating jobs 10 times faster than the rest of the economy. And, by the way, over the last 40 years, we’ve cut air pollution by 70 percent – while our economy has tripled.”⁶⁰

Senator Ed Markey observed at a recent Senate hearing on the Clean Power Plan: “In New England, New York, Delaware, Maryland, we implemented a Regional Greenhouse Gas Initiative [RGGI]. From 2007 until today, we’ve reduced our greenhouse gases across those nine states by 40 percent. In Massachusetts, we saw an increase in our gross domestic product by 29 percent at the same time. We can do it. We can do it.”⁶¹

In real terms, total GDP growth in Massachusetts from 2007 to 2014 was 8.7 percent according to the Bureau of Economic Analysis.⁶² But that says nothing about what growth would have been without RGGI. In the seven year period from 1999 to 2006, Massachusetts GDP grew 18.2 percent – surely it would be unfair to suggest that RGGI cut growth by more than half.

This analytical principle obviously extends beyond Massachusetts. While there is no question that the economy has continued to grow even as laws like the Clean Air Act have made extraordinary gains in the nation’s environmental quality, this does not suggest that environmental regulation is therefore a *cause* of this growth or even a net positive for the economy. To the contrary, careful economic studies consistently demonstrate that regulation has slowed economic growth and harmed workers, particularly in those industries most heavily regulated:

- “[I]n the first 15 years after the CAAAs became law (1972-1987), nonattainment counties (relative to attainment ones) lost approximately 590,000 jobs, \$37 billion in capital stock, and \$75 billion (1987\$) of output in polluting industries.” (NBER, University of Chicago)⁶³

⁶⁰ *Supra* note 58.

⁶¹ Remarks by Senator Ed Markey, Hearing of the Senate Environment and Public Works Committee, July 8, 2015, <http://www.epw.senate.gov/public/index.cfm/hearings?ID=99E70038-D5CB-4E63-8695-231AB995D089> (at time 1:35:00).

⁶² “Real GDP by State (millions of chained 2009 dollars),” Bureau of Economic Analysis, <http://www.bea.gov/iTable/iTable.cfm?reqid=70>, accessed November 29, 2015.

⁶³ Michael Greenstone, “The Impacts of Environmental Regulations on Industrial Activity: Evidence from the 1970 and 1977 Clean Air Act Amendments and the Census of Manufactures,” NBER Working Paper 8484, September 2001, <http://www.nber.org/papers/w8484.pdf>.

- After the 1990 Clean Air Act amendments, “the average worker in a regulated sector experienced a total earnings loss equivalent to 20% of their preregulatory earnings.” (Quarterly Journal of Economics, University of California-Berkeley)⁶⁴
- The stricter regulations applied by the Clean Air Act to “nonattainment” counties favors others, “reducing [plant] births for polluting industries in nonattainment areas by 26–45 percent.” (Journal of Political Economy, U.S. Census Bureau, Brown University)⁶⁵
- Losses in total factor productivity from the Clean Air Act “correspond to annual lost output in the manufacturing sector of about \$20.8 billion in 2010 dollars. This is roughly 8.8 percent of average manufacturing sector profits over this period.” (MIT, University of Chicago)⁶⁶

Honest discussions of the cost and benefits of environmental regulation must begin from the acknowledgment that there are costs and benefits. In the absence of climate benefits, carbon-dioxide regulations cannot be justified by claiming that the economic costs are benefits themselves.

The European Experience

The EPA need not experiment on the American economy to discover that the proposed policies are costly ones. Europe has conducted the experiment already. Since 2006, thanks to aggressive government mandates and subsidies, European investment in clean energy has dramatically outpaced U.S. investment according to Bloomberg New Energy Finance.⁶⁷ In 2010, near its peak, European investment more than tripled U.S. investment.

What happened? Last year, the U.S. Energy Information Administration reported that since 2006 European residential electricity prices have skyrocketed – increasing by 43

⁶⁴ W. Reed Walker, “The Transitional Costs of Sectoral Reallocation: Evidence from the Clean Air Act and the Workforce,” *Quarterly Journal of Economics*, 2013, http://faculty.haas.berkeley.edu/rwalker/research/walker_transitional_costs_CAA.pdf.

⁶⁵ Randy Becker and Vernon Henderson, “Effects of Air Quality Regulations on Polluting Industries,” *Journal of Political Economy*, 2000.

⁶⁶ Michael Greenstone et al, “The Effects of Environmental Regulation on the Competitiveness of U.S. Manufacturing,” MIT Center for Energy and Environmental Policy Research, September 2012, <http://web.mit.edu/ceep/www/publications/workingpapers/2012-013.pdf>.

⁶⁷ Luke Mills, “Global Trends in Clean Energy Investment,” Bloomberg New Energy Finance, October 2015, <http://about.bnef.com/content/uploads/sites/4/2015/10/2015-10-08-Clean-Energy-Investment-Q3-2015-factpack.pdf>.

percent compared to a 17 percent increase in the United States.⁶⁸ Industrial electricity prices in Germany are up 60 percent in five years.⁶⁹

In an article titled “Worse Than Useless,” *The Economist* reported that major utility companies have lost more than \$500 billion in market value and that the continent’s largest source of renewable energy is now wood.⁷⁰ Germany spent \$20 billion on subsidies in 2013 alone, yet German coal consumption and carbon-dioxide emissions were actually rising.⁷¹

Europe is reversing course quickly. Countries are slashing subsidies.⁷² Since 2011, investment has plunged nearly 70 percent and in Q3 of 2015 reached its lowest level since 2004.⁷³ In 2015, for the first time, U.S. investment will exceed Europe’s.

While those celebrating green investment as an end unto itself will undoubtedly celebrate this American “victory,” anyone concerned with economic growth and competitiveness should hope this country avoids a repeat of the European experience.

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Thank you again for the opportunity to appear before the Committee. I look forward to answering your questions.

⁶⁸ “European Residential Electricity Prices Increasing Faster Than Prices in United States,” U.S. Energy Information Administration, November 18, 2014, <https://www.eia.gov/todayinenergy/detail.cfm?id=18851>.

⁶⁹ Matthew Karnitschnig, “Germany’s Expensive Gamble on Renewable Energy,” *Wall Street Journal*, August 26, 2014, <http://www.wsj.com/articles/germanys-expensive-gamble-on-renewable-energy-1409106602>.

⁷⁰ “Worse than Useless,” *Economist*, January 15, 2014, <http://www.economist.com/news/leaders/21595002-current-policies-are-mess-heres-how-fix-them-worse-useless>.

⁷¹ Matthew Carr, “Rising German Coal Use Imperils European Emissions Deal,” *Bloomberg Business*, June 20, 2014, <http://www.bloomberg.com/news/articles/2014-06-19/rising-german-coal-use-imperils-european-emissions-deal>.

⁷² See, e.g., *supra* note 69 (Germany); Susanna Twidale, “Britain Moves to Slash Renewable Subsidy Costs,” *Reuters*, July 22, 2015, <http://uk.reuters.com/article/2015/07/22/uk-britain-renewables-subsidies-idUKKCN0PW0DW20150722> (UK).

⁷³ *Supra* note 67.

Biography for Oren M. Cass

Oren Cass is a senior fellow at the Manhattan Institute, where he focuses on energy, the environment, and antipoverty policy. He was domestic policy director of Mitt Romney's presidential campaign in 2011-12. In that role, Cass shaped campaign policy and communication on issues from health care to energy to trade. He spoke regularly on behalf of the campaign, including in debates at Harvard University on health care policy and at MIT on energy and environmental policy. Since then, Cass has outlined conservative policy approaches on poverty, climate change, environmental regulation, and international trade. Cass has briefed members of Congress and congressional staff in both the House and Senate and his essays and columns have been published in the *Wall Street Journal*, *New York Times*, *Washington Post*, *National Affairs*, *City Journal*, *National Review*, *Investor's Business Daily*, and *Washington Examiner*.

Prior to joining MI, Cass was a management consultant for Bain & Company in the firm's Boston and New Delhi offices, where he advised global companies across a range of industries on implementing growth strategies and performance-improvement programs. He holds a B.A. in political economy from Williams College and a J.D. from Harvard University, where he was an editor and the vice president of volume 125 of the *Harvard Law Review*.