

# 4 Ways Obama and Trudeau Can Partner to Curb Climate Change

By Cathleen Kelly March 3, 2016

#### Introduction

When Canadian Prime Minister Justin Trudeau travels to the United States for his first state visit, he and President Barack Obama should seize the opportunity to launch a new era of U.S.-Canadian cooperation to curb climate change, accelerate the transition from fossil fuels to renewable energy sources, and safeguard the Arctic.<sup>1</sup> The United States and Canada share far more than borders; the two countries are close allies on key issues, including counterterrorism, the environment, the Arctic, law enforcement, and maritime safety.<sup>2</sup> The two nations also trade more than \$2 billion in goods and services daily.<sup>3</sup>

Obama and Trudeau's March meeting will do more than bolster the U.S.-Canadian bond—it will also set the stage for their trilateral meeting with President Enrique Peña Nieto of Mexico at the North American Leaders' Summit this spring and could help to catalyze more ambitious climate action globally. The energy ministers from the United States, Canada, and Mexico took steps toward accelerating North American efforts to curb climate change when they jointly signed a Memorandum of Understanding, or MOU, in February to expand climate change and clean energy collaboration.

Time is running out for President Obama to secure new climate policy breakthroughs and a lasting climate change legacy by the end of his tenure, and this is cause enough for the two like-minded leaders to cement strong bilateral agreements. There are other reasons besides this ticking clock, however, that make Prime Minister Trudeau's visit an ideal time to advance pro-environment policies.<sup>4</sup>

#### Aligning progressive policies

Justin Trudeau's riveting journey to the prime minister's office has electrified the Canadian people and progressive thinkers around the globe. Prime Minister Trudeau's progressive policy vision breaks firmly from that of his Conservative predecessor, former Prime Minister Stephen Harper. Harper—a climate science skeptic—withdrew

Canada from the Kyoto Protocol, oversaw a decade of lax climate policies, and, according to leading environmental advocates, lagged behind other leaders in terms of fighting global climate change.<sup>6</sup> In sharp contrast, Prime Minister Trudeau acknowledges the dangers of unchecked climate change, has pledged to inform his policymaking with science, and supports carbon pricing and a pan-Canadian approach to cut greenhouse gas pollution.<sup>7</sup> This dramatic shift throws open new doors for U.S.-Canadian collaboration to combat climate change.

#### Making good on Paris goals

To prevent a dangerous fate for people and the planet, the United States and Canada must meet their commitments under the climate agreement that was solidified at the December 2015 Paris climate conference and put forward stronger national climate goals in the future. At the Paris negotiations, 195 countries finalized the first-ever universal climate deal, agreeing to make the needed changes in the way countries around the world power the planet in order to limit the worldwide average temperature rise to well below 3.6 degrees Fahrenheit—2 degrees Celsius—and to work toward a 2.7 degrees F—1.5 degrees C—limit.<sup>8</sup>

The United States set a goal to reduce its greenhouse gas pollution by 26 percent to 28 percent below 2005 levels by 2025. Canada committed to cut its greenhouse gas pollution by 30 percent below 2005 levels by 2030. Despite this progress, scientists and policy experts alike acknowledge that the commitments that countries made in Paris will not be strong enough to avoid unmanageable climate change. Fortunately, additional actions by governments to keep warming below dangerous levels are technically and economically feasible. Despite this progress, scientists and policy experts alike acknowledge that the commitments that countries made in Paris will not be strong enough to avoid unmanageable climate change. The fortunately, additional actions by governments to keep warming below dangerous levels are technically and economically feasible.

In the United States, laws and regulations already on the books—including the Clean Power Plan—are moving the United States toward its Paris goal, but the country will need new policies to reach it. <sup>13</sup> International experts have labeled the goal that Canada set in Paris as "inadequate" because it allows industrial greenhouse gas pollution to increase by 21 percent above 1990 levels. <sup>14</sup> In addition, experts anticipate that, with Canada's current policies, the country will miss meeting its Paris goal "by a wide margin." <sup>15</sup> By jointly committing to ambitious climate actions in March, President Obama and Prime Minister Trudeau can help their countries meet their existing climate targets and lay the foundation to set stronger goals in the future.

#### Research reveals that climate change risks are accelerating

A landslide of new evidence points to the urgent need for immediate and ambitious action to combat climate change. Seas are rising more rapidly than at any time in the past 28 centuries and human activities are primarily to blame for greenhouse gas pollution, according to a recent study published in the *Proceedings of the National Academy of Sciences*. <sup>16</sup> In January, on the heels of the hottest year on record, NASA reported recordbreaking heat around the globe. Measurements found acute Arctic temperature spikes that were roughly 7.2 degrees Fahrenheit—4 degrees Celsius—warmer than the historic average. <sup>17</sup> January and February of 2016 also saw record low levels of Arctic sea-ice extent. <sup>18</sup> A recent United Nations report found that weather-related disasters in the past two decades have killed more than 600,000 people, left 4.1 billion other people injured, displaced, or in need of emergency assistance, and inflicted economic losses estimated at trillions of dollars. <sup>19</sup> Those authors conclude that the frequency and effect of such events will increase without immediate action to curb climate change.

#### An agenda for change

Together, these developments have carved a path for President Obama and Prime Minister Trudeau to use their March meeting to jointly commit to curbing climate change through the following four actions:

- Cutting methane pollution from oil and gas development
- Promoting renewable energy generation and trade
- Curbing black carbon pollution in the Arctic
- Improving the global understanding of Arctic warming risks

By committing to take these actions, President Obama and Prime Minister Trudeau will set the stage to secure an ambitious continental clean energy and climate change agreement when they meet with President Peña Nieto of Mexico at the North American Leaders' Summit this spring. These joint actions would also allow the leaders to make meaningful progress toward reducing the risks of Arctic and global warming.

#### Cutting methane pollution from oil and gas development

The United States and Canada are the second and fourth largest oil and gas methane emitters, respectively, worldwide. Oil and gas methane emissions have the same short-term climate effect as 40 percent of total carbon pollution from global coal combustion; experts argue that these emissions, therefore, are one of the largest untapped opportunities to combat climate change. A recent draft revision to the U.S. Greenhouse Gas Inventory reveals that U.S. methane emissions from the oil and gas industry are 27 percent higher than earlier estimates. 22

When President Obama and Prime Minister Trudeau meet in March, they should commit to work together to identify and implement the best and most cost-effective regulations to reduce methane pollution from oil and gas development. Canada should also commit to reducing its oil and gas methane emissions by 45 percent below 2012 levels by 2025. This goal is on par with the U.S. target to reduce oil and gas industry methane emissions. These commitments will ensure energy integration between the two countries and provide leadership for other countries to take similar steps to reduce their methane emissions. By taking these actions, the United States and Canada will together make a meaningful move toward avoiding the most dangerous climate change effects.

In August 2015, the U.S. Environmental Protection Agency, or EPA, proposed a "new source performance standard" to reduce methane emissions from new U.S. oil and gas operations and help achieve the Obama administration's goal to reduce methane emissions for the oil and gas sector by 40 to 45 percent from 2012 levels by 2025. <sup>23</sup> Both the Clean Air Task Force and the Rhodium Group, in separate analyses, estimate that the United States will not be able to reach this goal without initiating a new rule to cut methane pollution from existing oil and gas operations. <sup>24</sup>

In Canada, an analysis by ICF International, estimated that the provinces, working with the Trudeau administration could cut Canadian oil and gas methane pollution by 45 percent below projected 2020 levels. <sup>25</sup> Canada could accomplish this cut at the low cost of \$2.00 per metric ton of carbon dioxide, or CO2—C\$2.76 per metric ton of CO2—using readily available technologies. <sup>26</sup> Achieving this pollution cut would support the recovery and potential sale of otherwise lost natural gas, improve air quality and public health, and deliver net savings to consumers and the Canadian economy. For these reasons, the western Canadian province of Alberta took bold action in its Climate Leadership Plan, when it included a goal to cut methane emissions from oil and gas operations by 45 percent by 2025—consistent with President Obama's target. <sup>27</sup>

In May 2015, then-Prime Minister Harper announced Canada's climate goal for the Paris climate agreement, which includes a plan to regulate methane pollution from the oil and gas sector through a sector-by-sector approach that aligns with recently proposed U.S. actions to reduce methane emissions.<sup>28</sup> When Prime Minister Trudeau took office

last fall, he directed Canadian Minister of Environment and Climate Change Catherine McKenna to "ensure that our government provides national leadership to reduce emissions, combat climate change and price carbon."<sup>29</sup> He set as his top environmental priorities developing a pan-Canadian climate change plan and establishing national emission-reduction targets, in partnership with provinces and territories.<sup>30</sup> He also committed to work with the United States and Mexico to develop an ambitious North American clean energy and environmental agreement.<sup>31</sup>

Prime Minister Trudeau and President Obama could jointly commit to explore and implement the best approaches to curbing methane pollution from oil and gas development bilaterally, and under the MOU signed in February by Canadian Natural Resources Minister Jim Carr, U.S. Secretary of Energy Ernest Moniz, and Mexican Secretary of Energy Joaquin Coldwell to expand North American climate change and energy collaboration.<sup>32</sup> The MOU includes actions to support clean energy innovation and best practice sharing to curb oil and gas sector emissions, including methane and black carbon pollution.<sup>33</sup>

U.S.-Canadian collaboration to identify and implement the best policies and practices to cut methane pollution from the oil and gas industry would support the Obama administration as it assesses when and how to curb methane pollution from existing U.S. oil and gas operations. A commitment from the United States and Canada to work together on this issue would show needed international leadership—including through the Arctic Council—to inspire similar actions from Russia, Mexico, and other nations with globally significant methane emissions from oil and gas operations. Russia is both the world's top emitter of methane pollution from oil and gas and a member of the Arctic Council—a forum for the eight Arctic nations to promote sustainable development in the region. If the United States, Canada, and other Arctic Council nations take strong actions to cut methane emissions under the Framework for Action on Enhanced Black Carbon and Methane Emission Reductions—agreed to in April 2015—they could help to bring Russia along on implementing similar methane regulations.

The United States and Canada should also agree to advocate that the Arctic Council set an ambitious regional goal to cut Arctic methane pollution under the black carbon and methane framework. As it stands currently, the framework only calls on Arctic nations to set a regional goal to curb black carbon pollution. Lastly, the two nations should commit to continuing their leadership within the Climate and Clean Air Coalition—a global effort to reduce methane emissions and other short-lived climate pollutants—by recruiting more U.S. and Canadian companies to join the Oil and Gas Methane Partnership and curb their methane emissions.

## Promoting renewable energy generation and trade

Energy is a core aspect of Canada and the United States' trade relationship, which is the largest in the world. When President Obama and Prime Minister Trudeau meet in March, they should commit to improve the efficiency, reliability, and carbon footprint of the electricity grid by expanding renewable generation, collaboration on the next generation grid, and U.S.-Canadian clean energy trade.

Recent policy developments on both sides of the border make this an ideal moment to expand U.S.-Canadian partnerships to promote renewable energy. In August 2015, the EPA and President Obama announced the Clean Power Plan, or CPP, to reduce carbon pollution from U.S. power plants and increase U.S. demand for renewable energy.<sup>37</sup> Although the U.S. Supreme Court recently put the CPP on hold while it considers a legal challenge against the plan, the EPA, the president, and experts are confident that the plan will ultimately be upheld because it rests on strong legal and scientific footing.<sup>38</sup> Many states are moving forward with steps to meet the CPP requirements, despite the Supreme Court's decision to halt the rule's enforcement.<sup>39</sup>

The recent extension of U.S. renewable energy tax credits compliments the Clean Power Plan and will provide an even more immediate boost in U.S. renewable energy capacity investments. In December 2015, the U.S. House and Senate passed a federal budget deal that included five-year extensions for the solar Investment Tax Credit—which has helped propel the solar industry in the United States to record growth over the past few years—and the production tax credit for wind energy. These tax credit extensions will provide a more stable business climate for the wind and solar energy industries.<sup>40</sup> This added market certainty will drive an increase in installed renewable generation capacity, lower carbon pollution from the U.S. electricity system, and increase opportunities for clean energy trade with Canada.<sup>41</sup>

In addition, on February 16, a bipartisan group of 17 U.S. governors—six of whom were from states that border Canada—made a joint commitment to promote clean energy and low-carbon transportation choices, to modernize the electrical grid, and plan for a new energy future. This commitment could potentially open up new avenues for U.S.-Canada electricity trade and renewable energy cooperation.<sup>42</sup>

In Canada, Prime Minister Trudeau's election has created new enthusiasm for U.S.-Canadian renewable energy collaboration. Justin Trudeau ran on an election platform that promised new investments in climate resilient infrastructure—including renewable energy and grid improvements to reduce climate change risks, improve public health, create jobs, and grow the economy.<sup>43</sup> Specifically, he committed to work with provincial leaders to develop a comprehensive framework to curb climate change and eventually phase out fossil fuel subsidies. He also pledged to establish so-called green bonds to sup-

port renewable energy projects and the Canada Infrastructure Bank to upgrade the grid and other infrastructure. <sup>44</sup> Currently, 65 percent of Canada's electricity generation comes from renewable sources, and this capacity is projected to grow substantially in the future; such growth will increase opportunities to export clean energy across the border. <sup>45</sup>

As it stands there are more than 30 electricity transmission lines that cross the U.S.-Canadian border. 46 Electricity trade between the United States and Canada allows consumers in western Canada and the U.S. Northeast to access low-cost hydropower from across the border, and increases electricity reliability for Midwest, Northeast and Western states, and Western Canadian provinces.

By jointly committing to expand renewable generation, collaboration on the next generation grid and U.S.-Canadian clean energy trade, Prime Minister Trudeau and President Obama will accelerate the transition away from fossil fuels toward renewable energy, improve electric grid reliability, and cut carbon pollution on both sides of the border.

U.S.-Canadian cooperation to increase renewable energy generation and trade could take place bilaterally, or under the new MOU to strengthen North American clean energy and climate change cooperation.

## Curbing black carbon pollution in the Arctic

Nowhere on Earth are the effects of climate change more evident than in the Arctic, which is warming twice as fast as the rest of the planet. Declining summer sea ice cover in the Arctic is expected to drive more commercial activity there, including shipping and natural resource extraction.<sup>47</sup> This will bring both economic opportunities and significant environmental challenges, including black carbon pollution, or soot, and oil spill risks.<sup>48</sup>

Black carbon pollution—a super-charged driver of Arctic climate change—is responsible for roughly 30 percent of recent Arctic warming, according to experts. <sup>49</sup> When emitted in or near the Arctic and other icy regions, black carbon pollution heats and darkens the surfaces of snow and ice, which reduces its reflectivity—or albedo—and warms the atmosphere. <sup>50</sup> Black carbon threatens the health and wellbeing of communities in the Arctic and other regions, and is linked to heart attacks, strokes, respiratory illness, and higher rates of infant mortality and premature death. <sup>51</sup>

Experts project that shipping traffic in the U.S. Arctic will rise by seven-fold in 2025 relative to current shipping activity. <sup>52</sup> While Shell Global set aside its U.S. Arctic oil ambitions in September 2015—and ExxonMobil, BP Global, and Chevron Corporation halted oil exploration in Canada's arctic waters earlier that year—when the oil market rebounds, these and other companies could refocus on Arctic offshore oil development. <sup>53</sup>

When U.S. Secretary of State John Kerry became the Arctic Council Chairman in April 2015, he set a strong agenda to address the climate change risks, strengthen Arctic Ocean stewardship, and improve the economic and living conditions of Arctic communities.<sup>54</sup> At an August 2015 global Arctic conference in Anchorage, Alaska, the eight Arctic nation foreign ministers—along with ministers from 10 Arctic Council observer nations and the Europe Union—issued a joint statement on climate change and the Arctic. In the statement, the foreign ministers acknowledged "the importance of the Framework for Action on Black Carbon and Methane, adopted at the Arctic Council Ministerial in April 2015, which provides for enhanced opportunities to act together to reduce emissions of black carbon (soot) that impact the Arctic."55 The Framework calls on Arctic Council members and observer nations to track and reduce their black carbon and methane pollution; Arctic nations also pledged to set a regional target to cut black carbon pollution.56

President Obama and Prime Minister Trudeau can accelerate the implementation of this agenda, as well as the black carbon and methane framework, when they meet this month by jointly pursuing black carbon pollution cuts from Arctic shipping; oil and gas development; and diesel generators that currently supply power to many Arctic communities.

#### Heavy fuel oil phase-out for Arctic shipping

President Obama and Prime Minister Trudeau should agree to jointly urge the International Maritime Organization, or IMO, to phase out the use of heavy fuel oil in vessels traveling in the Arctic and invite other Arctic nations to join them in calling for the phase out at the IMO's Marine Environment Protection Committee meeting in April. The IMO already prohibits ships from using and carrying heavy fuel oil, or HFO, in the Southern Ocean.57

In February 2015, 15 leaders of nongovernmental organizations released a letter urging the United States to lead Arctic Council nations in seeking a HFO phase-out in the region.<sup>58</sup> In their letter, the NGO's note that, "effectively cleaning up an HFO spill in Arctic ice-covered waters is impracticable, if not impossible."59 In 2009, the Arctic Council's Arctic Marine Shipping Assessment identified a heavy fuel oil spill as the biggest environmental risk of Arctic shipping, and black carbon pollution as the shipping industry's biggest contribution to global warming.<sup>60</sup> Roughly 30 percent of the ships that travel through the Arctic use HFO, but these vessels account for 75 percent—by mass of the total amount of HFO used and carried by ships for future use.<sup>61</sup>

#### Cutting black carbon pollution from offshore oil and gas development

President Obama and Prime Minister Trudeau should jointly commit to curb black carbon pollution from offshore oil and gas development. For example, the U.S. Bureau of Ocean and Energy Management, or BOEM, is in the process of updating its air quality standards for Arctic offshore oil and gas drilling. 62 President Obama can direct BOEM to make the new standards at least as stringent as EPA's air quality standards and to specifically address black carbon pollution. The Trudeau administration, in partnership with provinces and territories, could make similar updates to Canadian standards for Arctic offshore oil and gas development.

#### Increasing Arctic community access to renewable energy

President Obama and Prime Minster Trudeau should announce new initiatives to support hybrid diesel and renewable energy microgrids—which are remote and localized power grids—and energy efficiency improvements in remote Alaskan and northern Canadian communities. 63 Without these hybrid microgrids, remote villages in the Canadian Arctic are almost completely reliant on high-polluting diesel-fueled energy systems.<sup>64</sup> Hybrid microgrids integrate renewable energy resources, such as wind, solar, biomass, and small-scale hydro, into existing diesel-powered systems and are increasingly incorporating some type of energy storage. 65 Alaska has more than 200 isolated grids, and more than 70 communities now utilize some type of renewable energy to displace expensive diesel fuel.<sup>66</sup> Just 54 of these hybrid systems in Alaska are estimated to displace 30 million gallons of diesel in 2016.<sup>67</sup>

In February, the U.S. Department of Energy, or DOE, announced that it would make \$7 million available for technical assistance and training in energy programs for Alaska Native communities and American Indian tribes. <sup>68</sup> In January, DOE committed to providing \$220 million over three years to support grid modernization research and development—including a \$1 million project in Alaska to increase the reliability of remote energy systems while cutting diesel use by 50 percent. <sup>69</sup> In July 2015, the governments of Manitoba, Quebec, Newfoundland and Labrador, The Northwest Territories, Yukon, and Ontario established a Pan-Canadian Task Force to reduce diesel fuel use for electricity generation in remote communities.<sup>70</sup>

The success of remote Arctic microgrids that integrate renewable energy depends on strengthening local capacity to install and maintain them. The Arctic Remote Energy Networks Academy, or ARENA—currently piloted by the University of Alaska Fairbanks—supports knowledge sharing, professional networks, and workforce development to expand the implementation of hybrid microgrids in Arctic communities.<sup>71</sup>

The Canadian government has already committed to invest in ARENA.<sup>72</sup> In order to strengthen local capacity in Arctic communities to replace outdated and polluting diesel systems with hybrid microgrids, President Obama and Prime Minister Trudeau could jointly announce investments in ARENA.

President Obama and Prime Minister Trudeau should agree to expand support of energy efficiency retrofits of schools, public and commercial buildings, and homes in these remote Arctic communities. Such retrofits can reduce diesel fuel use and energy requirements by 30 percent or more and open up the possibility of new home construction where many communities are experiencing housing shortages. These initiatives would strengthen community resilience by substantially lowering household energy budgets—which sometimes exceed 50 percent of household income—as well as improve public health and reduce CO2 and black carbon pollution in the region.<sup>73</sup>

The previously mentioned joint actions—phasing out HFO use for Arctic shipping; curbing black carbon pollution from offshore oil and gas development; and installing microgrid capacity in remote Arctic communities—would support the new North American MOU to expand climate change and energy collaboration, which aims to cut black carbon pollution from oil and gas development and accelerate renewable energy use across the continent. These joint efforts would also help the Arctic Council set an ambitious regional target to cut black carbon pollution because the U.S. and Canada are significant sources of black carbon emissions and are influential members of the Council.<sup>74</sup> By taking these actions, the United States and Canada would also help inspire efforts by China and other Arctic Council observer nations to reduce their black carbon pollution.

# Improving the global understanding of Arctic warming risks

When Prime Minister Trudeau took office, he committed to ending the antiscience era of the Harper administration and moving toward evidenced-based policymaking. 75 When they meet in March, President Obama and Prime Minister Trudeau should commit to expand Arctic science collaboration, including through the Arctic Council, in order to better understand and manage Arctic-warming risks. This science collaboration could focus on improving the countries' knowledge of the accelerating melting pace of the Greenland ice sheet and Arctic glaciers; permafrost thaw; changing weather patterns in the region and lower latitudes; ocean acidification; and climate effects on marine life and fisheries.

Arctic warming has calamitous consequences in the region and for much of the globe. Arctic warming is accelerating global sea level rise and increasing flood risks for the 40 percent of the world's population that lives near coasts. <sup>76</sup> A 2015 report by leading scientists sponsored by the International Cryosphere Climate Initiative found that, even with the Paris climate agreement in place, the global community is facing the complete loss of most mountain glaciers across the planet and disintegration of portions of the Greenland ice sheet.<sup>77</sup> Scientists also expect Arctic permafrost thaw, irreversible damage to Arctic Ocean fisheries, and—before 2040—complete loss of Arctic summer sea ice. 78

Experts are also linking the melting Arctic to wholesale changes in the "winds, temperatures and precipitation patterns around the globe, with potentially strong local effects along the east coast of the United States and west coast of northern European countries."79 In particular, these changes may be influencing the frequency, location, and severity of storms—think Hurricane Katrina and Superstorm Sandy—as well as the polar vortex weather events that punished the U.S. East Coast and Midwest during recent winters.<sup>80</sup> The Arctic Council's Arctic Monitoring and Assessment Programme found that ocean acidification is affecting Arctic marine ecosystems and has the potential to effect commercial fisheries that are important to northern economies, as well as marine resources that are used by Arctic indigenous people.81

The Obama administration has invested in Arctic climate science to better understand these risks, including through the U.S. Global Change Research Program, the National Snow and Ice Data Center, and Arctic scientific research and analysis by National Oceanic and Atmospheric Administration, among other programs. 82 The Arctic Council has also supported scientific studies to improve our understanding of the consequences of Arctic warming.<sup>83</sup> Nonetheless, the magnitude and rate of many Arctic climate changes is uncertain.84

In Canada, the Harper administration stifled the free flow of scientific information with unwelcome implications for industry, eliminated important scientific research programs, and forced the Polar Environment Atmospheric Research Laboratory, or PEARL, in Eureka, Nunavut, to close. 85 The lab was one of the closest in the world to the North Pole and played a critical role in detecting the largest ozone hole ever found over the Arctic. 86 The lab's closure created a significant dearth of scientific measurement in the Arctic.87 Since his election last fall, Prime Minister Trudeau has been working to remedy his predecessor's divestment in climate change science, including by directing Minister of Environment and Climate Change Catherine McKenna to examine the implications of climate change on Arctic marine ecosystems.

To improve the global understanding of Arctic warming risks and to help prevent catastrophic climate change, President Obama and Prime Minister Trudeau should launch a task force—either bilaterally or through the Arctic Council—to determine the amount of Arctic permafrost, sea ice, snow cover, glaciers, and the Greenland ice sheet that must be preserved to avoid dire tipping points. The task force conclusions should be used by the Arctic Council and U.S. and Canadian policymakers to set national policies and targets that prevent Arctic climate changes from crossing dangerous thresholds.88

Lastly, the leaders can increase cooperation to protect important marine areas, and integrate indigenous knowledge of shifting migration patterns for fish, marine mammals, and other species into planning for marine protected areas. President Obama and Prime Minister Trudeau should jointly commit to the goal of conserving 10 percent of their coastal and marine areas in the Arctic Ocean and adjacent seas by 2020 and that they will collaborate with other Arctic nation leaders to help achieve this goal for the entire region, including in the high seas. This goal is consistent with the goal adopted by parties to the Convention on Biological Diversity and included in Prime Minister Trudeau's environment and climate change mandate letter. 89 These joint announcements would bolster the Arctic Council efforts already under way to develop a pan-Arctic network of marine protected areas.

By focusing on expanding Arctic science collaboration, accelerating strategies to reduce black carbon pollution and strengthening the resilience of communities and wildlife in the region, President Obama and Prime Minster Trudeau will discourage irresponsible resource competition in the region, slow Arctic warming and promote peaceful, sustainable and resilient development in the region.

#### Conclusion

At their March meeting, President Obama and Prime Minister Trudeau should commit to the joint actions above to lay the groundwork for both nations to take on more ambitious climate change goals down the road. These joint actions—cutting methane pollution from oil and gas development, promoting renewable energy generation and trade, curbing black carbon pollution in the Arctic, and improving the global understanding of Arctic warming risks—would also accelerate clean energy innovation and the transition from fossil fuels to renewable energy use and safeguard the Arctic. Efforts to strengthen U.S.-Canadian collaboration to curb climate change, and also meet the goals of the February MOU, would set the stage for securing an ambitious continental clean energy and climate change agreement at the North American Leaders' Summit this spring.

Climate change poses a grave threat to national security that worsens by the day. It will cause such catastrophes as more frequent and severe extreme weather, which triggers humanitarian crises and mass migrations, exacerbates poverty, and accelerates conflict.<sup>90</sup> The stakes for President Obama and Prime Minister Trudeau's March meeting are high. By locking in the bold new climate change and clean energy partnerships described above, these leaders will build momentum for more ambitious climate action globally, and move their nations a critical step closer to passing a healthier planet on to our children and future generations.

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### Acknowledgements

The author would like to thank Greg Dotson, Alison Cassady, Erin Flanagan, Shiva Polefka, Rafe Pomerance, Laura Henson Strickler, Gwynne Taraska, Philine Qian, Margaret Williams, Will Beaudouin, and Emily Haynes for their contributions.

The Center for American Progress thanks the Nordic Council of Ministers for its support of our education programs and contribution to this issue brief. The views and opinions expressed in this brief are those of the author and the Center for American Progress and do not necessarily reflect the position of the Nordic Council of Ministers. The Center for American Progress produces independent research and policy ideas driven by solutions that we believe will create a more equitable and just world.

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