THE NEW TRANSATLANTIC CLEAN ENERGY AGENDA

How the United States and Germany Can Find Common Ground on Energy & Industrial Policy Despite Differences on Climate Change

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Executive Summary

Despite ongoing political changes in the United States and Germany, the transatlantic allies continue to have deep, shared agendas. At home, both governments want to accelerate economic growth, improve competitiveness, invest in infrastructure and strengthen manufacturing. Abroad, both are committed to fighting terrorism, controlling migration, promoting freedom and enhancing stability in key regions.

On climate change, however, Germany and the United States differ. Germany has embraced a transition to a clean energy economy and has made global climate diplomacy a top priority. The Trump administration is committed to sweeping away regulations that are deemed harmful and promoting the traditional energy economy, and it is likely to downplay climate diplomacy compared to its predecessor.

Accepting these differences, the surprising truth is that the United States and Germany have tremendously overlapping interests in a wide variety of areas that might collectively be referred to as the clean energy economy. Both countries understand the economic opportunities and security benefits that flow from clean energy.

This paper highlights nearly twenty concrete areas for transatlantic cooperation on clean energy, looking both at the domestic and international level. These policy recommendations focus primarily on the economic and security benefits of transatlantic clean energy cooperation. Collectively, the initiatives would help tackle climate change, but one does not need to care about that to support them. Germany and the United States could advance all of the recommendations with a few simple steps.

First, the transatlantic partners should create a government-to-government working group to promote useful policy dialogue on the clean energy agenda. The mission of the working group should be to help each nation increase economic growth, enhance industrial competitiveness, create jobs and speed innovation on clean energy. The working group, which would be made up of representatives from several agencies in each government, would be charged with increasing understanding, identifying points of common interest, sharing best practices regarding policies and developing recommendations for action.

Second, the United States and Germany should organize an annual clean energy conference designed to bring together U.S. and German companies, state and local policy makers and other key stakeholders in civil society. The objective of these conferences would be to catalyze public-private partnerships, increase private sector investment, promote transatlantic trade and spread best practices for business across the Atlantic and globally.

Third, Germany and the United States should launch a new clean energy research and investment initiative designed to pool the know-how and resources of these two leading powers to strengthen their clean energy economies through innovation and science.

In addition to these bilateral measures, the United States and Germany should work together as a high- and time-sensitive priority to launch at the 2017 Hamburg G20 Summit a major new multilateral initiative entitled Creating the 21st Century Clean Energy Economy. The centerpiece of this initiative would be a new set of shared G20 goals on job creation, investment and education in the clean energy sector, backed by a G20 task force to help nations identify and implement nationally-appropriate solutions.
I. Introduction

The United States and Germany have a great deal in common—they share similar values, interests and policies in a host of areas, including on national security, economic policy, manufacturing, infrastructure and the commitment to freedom at home and around the world. Their bilateral economic relationship is among the most important in the world—with $175 billion dollars in annual commerce.¹

In 2017, the U.S.-German relationship will evolve to adapt to changing political dynamics in both countries. The domestic and foreign policy priorities of the Trump administration are not those of the Obama administration. Germany’s election later this year promises to showcase a diversity of perspectives and may bring forward new policy approaches regardless of which party wins.

Yet, despite this moment of change, Germany and the United States are likely to remain aligned in many areas. The Trump administration intends to focus on economic growth and job creation, with a special emphasis on revitalizing U.S. manufacturing and making it globally competitive. Economic growth, manufacturing and competitiveness are also top priorities in Germany. Both governments are committed to investing in national infrastructure to make their economies more competitive, resilient and secure, including from the threat of terrorism.

One area where the two nations differ is on climate policy. Strengthening climate action is a top priority for Germany – Chancellor Merkel has played a leadership role at the international level on climate issues and will continue to do so as the host of the G20 in 2017 – but not for the Trump administration. It is perhaps surprising that, nonetheless, the clean energy agenda holds enormous promise for bilateral cooperation going forward. To illustrate that perhaps unorthodox thesis, this paper highlights concrete opportunities for collaboration on the clean energy economy in many sectors. Importantly, the policy recommendations in this paper do not depend on the United States and Germany finding common ground on climate policy. Each recommendation advances the shared objectives of increasing economic growth, revitalizing manufacturing, improving competitiveness and strengthening national security.

II. U.S.-German Policy Cooperation on Clean Energy

Over several decades Germany and the United States have pursued a shared commitment to investing in newer, cleaner sources of energy that boost economic activity, create jobs and protect public health. The transatlantic allies have worked together to nurture new industries that compete in the global marketplace, improve standards of living, protect the environment and enhance global security in an increasingly interconnected yet vulnerable world.²

Cooperation in this area increased substantially as a result of a joint declaration by President George W. Bush and Chancellor Gerhard Schröder in Mainz, Germany in 2005, when the United States and Germany created the “U.S.-Germany Working Group on Energy, Development, and Climate Change.” The so-called “Mainz declaration” launched a diplomatic process that allowed the United States and Germany to more systematically examine policy and investment options to improve cooperation on energy efficiency, advance clean energy in international development and promote pro-economic growth.

¹ U.S Census Bureau, https://www.census.gov/foreign-trade/balance/c4280.html#questions.
climate change action. The U.S.-German working group facilitated new bilateral collaboration on specific technologies, such as capturing valuable methane emissions and advancing clean fossil fuel technologies (related to carbon capture, utilization and storage). The working group also organized workshops to share best practices on how to speed the development and deployment of pro-growth, clean energy technologies.

In addition to this government-to-government dialogue, the Mainz Declaration also launched many civil society knowledge-sharing and exchange programs during this period. The German Academic Exchange Service (DAAD), the world’s largest funding organization for the international exchange of students and researchers, for example, helped ramp up bilateral cooperation among companies and NGOs. DAAD funding supported transatlantic cooperation between Germany and U.S. universities on clean energy.

Bilateral cooperation between the United States and Germany ramped up even further in 2008 under a new program called the Transatlantic Climate Bridge. This initiative was designed to facilitate enhanced German-American collaboration on improving energy efficiency and reducing pollution. Like previous programs, this new partnership helped promote government-to-government and civil society knowledge-sharing. For example, the initiative arranged for business leaders, U.S. state representatives and other policymakers to tour Germany to examine business and policy innovations. Similar civil society and policymaker exchanges also occurred with German counterparts visiting the United States. In total, the program spawned more than fifty new U.S.-German institutional partnerships, such as the research partnership between the U.S. Department of Energy’s Oakridge National Laboratory and Germany’s Forschungszentrum Jülich. Most of these partnerships remain active, contributing to policy innovation, technology diffusion, and job creation.

III. Today’s Political Context

Domestic Interests and Challenges

Both Germany and the United States have experienced substantial political and economic shifts in recent years, some of which will impact the future of their bilateral relationship. It is necessary to understand each country’s current context in order to determine where future collaboration might be most beneficial.

Germany

Over the past decade under Chancellor Angela Merkel, Germany has established a comprehensive energy and climate policy centered on dramatically increasing the share of renewable energy in the

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4 Deutscher Akademischer Austauschdienst, Bilateral SDG Graduate School. Available at: https://www.daad.de/der-daad/unsere-aufgaben/entwicklungszusammenarbeit/foerderprogramme/hochschulen infos/de/43968-bilaterale-sdg-graduiertenkollegs/.


electricity portfolio, and – since Fukushima – accelerating the phase-out of nuclear power. The cornerstone of support for renewable energy is a feed-in-tariff (FIT) providing long-term price and grid access guarantees for new renewable energy production. The FIT is part of the Energiewende (or energy transition) package of policies to scale-up renewables in Germany’s energy mix (wind, solar photovoltaic, and biomass) while phasing out coal and nuclear energy, enhancing energy efficiency and promoting energy demand management. These policies are deployed to increase Germany energy security and safety, while also achieving a series of targets to reduce greenhouse gas emissions at the national level.

The results have been impressive so far. In addition to increasing the share of electricity consumption from renewable sources from 6 to 32.3 percent between 2000 and 2016, Germany is on pace to reach 130 GW of capacity from renewable sources (out of a total capacity of 220 GW) by 2022, with wind and solar accounting for 90 percent of the added renewable capacity. This, combined with increased investments in the energy sector, has created jobs and spurred technological innovation, cementing Germany’s role as a global leader in the renewable energy sector. The success of Energiewende has enabled Germany to play a strong role in global energy and climate diplomacy, in part by demonstrating that the clean energy future is not only economically feasible but also highly desirable.

With elections in Germany slated for September 2017, Chancellor Merkel has announced her intention to run for a fourth term. Although promoting action on international climate and energy initiatives has been a popular strategy for Merkel, she faces challenges on the domestic front with respect to the clean energy agenda – the biggest issue being the planned phase-out of lignite coal plants. To meet international climate change targets, the German government agreed that coal should be phased out but industry has complained there is not yet a concrete plan on how to do this without harming the economy. Coal companies and coal miners are key voters for Merkel’s coalition party, and some are speculating that coal-dependent communities and industries might support Merkel’s opponents in greater numbers than before.

The United States

The federal governments’ focus on climate change increased substantially during the Obama administration. In its 2014 Quadrennial Defense Review, for example, the Department of Defense concluded that the impacts of climate change are “threat multipliers” and, in the National Climate Assessment, the Global Change Research Program concluded that the United States is already experiencing the impacts of climate change through drought, extreme weather, ocean acidification and sea level rise.

With the election of Donald Trump, federal emphasis on the threat of climate change is certain to decrease. While there is uncertainty about the policies and measures that the Trump administration...
could put in place relating to clean energy and the industrial economy, the administration has indicated that issues such as tax reform, infrastructure spending and the competitiveness of U.S. industry are top priorities. On industrial policy, President Trump has signaled that he wants to invest $1 trillion in infrastructure projects, which could offer opportunities to improve the electricity grid, expand cleaner forms of transportation through high-speed rail and charging stations for electric vehicles and include resilience measures to protect communities against extreme weather events. Forward-looking policies on low carbon infrastructure could offer a lasting legacy for the United States and provide space for leadership at the international level through sharing best practices and replicating the approach around the world.

In addition to the federal level, states have served as the nation’s laboratories for diverse climate and clean energy policies, and their actions are continuing to drive the U.S. clean energy transition. Many states advocate greater investments in energy efficiency and are spearheading research and development on renewable energy technologies.

Similarly, while U.S. business interests are diverse and contain multiple opinions on climate action, a surprisingly broad and vocal assortment of companies in the financial, energy, tech, pharmaceutical and aviation industries have reaffirmed their commitment to the low carbon economy and continued action on climate change going forward, outlining the economic benefits to investments in clean technology as pro-business initiatives.14

**International State of Play**

The U.S.-German transatlantic relationship is entering a new phase under new leadership in a unique global landscape. Climate diplomacy by both governments in recent years helped create huge momentum in international cooperation on climate action, culminating in the Paris Agreement in 2015. But continued momentum and political engagement in this venue is uncertain going forward. In the face of political shifts toward populist governments in key countries around the world, it is unclear whether momentum on climate change and clean energy will keep the same pace, or even feature as prominently in international political venues in 2017 and 2018.

Despite these important political shifts, international clean energy cooperation is likely to remain a priority for many major economies. The German government has signaled its intention to provide strong leadership on clean energy and climate change as the 2017 G20 host, and other countries, including China, have indicated their interest in continued engagement in several international venues to advance discussions on low carbon opportunities.

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13 Ibid.
IV. Opportunities for Future Engagement

The joint challenges of competitiveness, job creation and economic growth present opportunities for continued collaboration on a clean energy agenda. Below, we describe exciting new opportunities for further U.S. and German collaboration at both the domestic and international levels.

Domestic Opportunities

Opportunities for collaboration at the domestic level include cooperation on competitive infrastructure, promotion of cyber security in energy systems, support for clean energy research and development, manufacturing job creation, tax reform and further engagement and partnership with the private sector on clean energy projects. The paragraphs below describe potential areas for fruitful US and German cooperation, with specific, actionable recommendations appearing in numbered paragraphs throughout.

Competitive Infrastructure

Reviving America’s infrastructure is a priority for the new administration. The Trump infrastructure plan specifically highlights “investments in transportation, clean water, a modern and reliable electricity grid, telecommunications, security infrastructure, and other pressing domestic infrastructure needs.”

Funding will be provided through a mix of public sources and by mobilizing private capital using tax incentives for infrastructure finance.

Germany has public-private financing instruments in place to develop infrastructure projects, which leverage the use of private capital to allow public funding to go further (see the Partnerships with Business opportunity). This financing model is merged with targeted urban planning to further the development of “smart cities,” with integrated infrastructure that strengthens public health, furthers energy efficiency and increases economic competitiveness.

Here’s how the two governments can learn from each other about how to promote competitiveness and job creation through infrastructure investments.

1. **Promoting smart infrastructure in the “Built Environment”:** Both Germany and the United States will require substantial investment in infrastructure to continue modernizing their economies over the coming years and decades. These investments should be smart – pro-growth, efficient, resilient and secure.

   Working together, Germany and the U.S. can share best practices by convening a dialogue between sub-national leaders, where much of infrastructure investment decision-making takes place. In addition, the national governments should create a policy dialogue with the aim of improving national infrastructure investments.

2. **Creating growth and jobs through greater energy efficiency:** The president has broad powers to shape energy regulations through agencies such as the Environmental Protection Agency (EPA) and Department of Energy (DOE). Energy Secretary Rick Perry has a record in favor of energy efficiency while serving as Governor of Texas. DOE has recently finalized energy efficiency standards for commercial boilers, air conditioning units and other appliances and equipment, which could save consumers a combined $30 billion in reduced energy bills if fully

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implemented by the new administration. The Department of Energy can continue to further energy efficiency by taking on these standards.

Germany’s 2050 Climate Action Plan demonstrates its strategy towards achieving its long-term goals, including by reducing energy use in the buildings sector. A U.S.-Germany joint research project can identify best practice technology requirements for common appliances and examine the potential of energy efficient technologies to reduce energy waste and costs for households and businesses.

3. Promoting transport infrastructure investments to improve public health: Increasing economic competitiveness includes making transportation more effective and reducing congestion. Across the U.S economy, substandard road infrastructure costs motorists between $700-$1,000 per year in wear, damages and repair costs. Both Germany and the United States rank poorly in the World Economic Forum’s 2016 Global Competitiveness Report for the overall quality of their transportation infrastructure, placing 13th and 14th, respectively. In August 2016 Germany’s Federal Ministry of Transport and Digital Infrastructure adopted a plan to spend €269 billion on construction and modernization of infrastructure over the next 15 years.

The concerns over economic costs of infrastructure are heightened in densely populated urban areas. Germany has prioritized making public transportation available in cities, both to facilitate commuting as well as to improve air quality for residents. An environmental priority for the new U.S. administration is clean air, including by reducing air pollution in America’s cities.

A U.S. and Germany-hosted conference of cities could focus on how to deploy infrastructure funding effectively while improving livelihoods for residents through cleaner air and water. More broadly, municipal engagement can be furthered through organizations such as the Compact of Mayors, which has as one of its priorities addressing environmental issues that are common across U.S and German cities.

Cyber Security in Energy Systems

Securing infrastructure from cyber attacks is a priority for Germany and the United States, requiring efforts across multidisciplinary fields in order to protect the public from harm. The modernization of the electricity grid offers opportunities to enhance efficiency and demand side management, and facilitate greater deployment of renewable energy. In addition, new technologies such as smart metering give consumers access to real-time information so that they can cut their energy waste. In order for this modernization to be successful, both countries will need to address implications for cyber security.

4. Ensuring the transition to smart grids doesn't compromise security: The deployment of renewable energy increases the potential for generation to be distributed, rather than centralized in major power plants. This has altered the structure of the electricity market through the increase in households that are vendors of electricity as well as users. As the grid becomes smarter, the need for a clear strategy for reducing vulnerabilities is heightened.

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A joint research team between Germany and the United States should conduct a feasibility study into the necessary steps required to modernize the grid while reducing the risks of cyber attacks. At the multilateral level, both countries could spearhead an effort to build upon existing efforts within the North Atlantic Treaty Organisation (NATO) on cyber security to address the intersection of making the grid smarter while ensuring a secure transition with reduced risk of cyber attacks.

**Clean Energy Research and Development**

Reflecting the prevailing Republican ideology, President Trump believes that renewable energy research and development (R&D) should be pursued as part of a broader suite of energy technology investment, including nuclear and fossil energy. This approach is consistent with that followed by Energy Secretary Rick Perry. During his tenure as Governor of Texas, Perry expanded the oil and gas industry in the state while also presiding over its transformation into a wind energy leader.

At the same time, overall federal funding for clean energy R&D is likely to stall or even see a drop with Mick Mulvaney as head of the White House Office of Management and Budget (OMB) – the executive arm that defines federal funding priorities and prepares the President’s annual Budget Request to Congress. Mulvaney, a proponent of small government, is unlikely to make new spending driven by international commitments (i.e., Mission Innovation) a priority for the Trump administration.

Nevertheless, several areas of opportunity are ripe for U.S.-German cooperation in the coming years. These include:

5. **Establishing incentives to boost private sector R&D investment**: Both the United States and Germany have shown a commitment to boosting public clean energy R&D investment. Still, private spending on clean energy R&D vastly outpaces its public counterpart in both nations.\(^{20}\) Given the multiple demands on relatively limited government resources, the United States and Germany can explore opportunities to strategically use public finance to encourage greater private sector investment in R&D. These include the design of optimized R&D tax incentives – none currently exist in Germany or the United States. The R&D tax credits can potentially be expanded – as well as joint investment in lab-to-market initiatives such as the U.S. Advanced Projects Research Agency-Energy (ARPA-E) program. The United States and Germany can create a working group on how to most effectively leverage private sector investment for clean technologies, including through tax incentives, competitions, public purchasing agreements and other approaches.

6. **Sharing best practices on renewable energy deployment**: While the first offshore wind farm in the United States went online only at the end of 2016, Germany has become a global leader in advancing offshore wind technology. At the same time, U.S. offshore wind potential is among the highest globally, vastly outpacing that of landlocked Germany. Given the technological advancements made by both nations that facilitate renewable energy deployment, there is great scope for the start of a formal dialogue, including exchanges of best practices and lessons learned, not solely on more advanced technologies such as wind and solar, but also on renewable resources such as water, bioenergy, hydrogen fuel cells and others.

7. **Promoting joint research on carbon capture, utilization and storage (CCUS)**: On the campaign trail, Trump embraced the continued expansion of domestic fossil energy, including

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increased oil and gas production and further development of the nascent ‘clean coal’ industry. Meanwhile, Germany is also examining the future of coal within the energy system in the context of ambitious renewable energy targets, pressures to maintain employment for from coal workers and the need to replace the generation capacity of closed nuclear plants. To that end, the United States and Germany have an inherent interest in developing cost-effective, reliable and flexible CCUS technology, one that can be adapted for use in natural gas plants as well as within the industrial sector. Coordinated research, for example, can amplify the impact of limited federal funding and build on the progress already made in both nations’ laboratories and demonstration plants. A bilateral policy dialogue can help both nations identify areas of collaboration such as the adoption of CCUS technology outside of coal power.

Manufacturing Jobs

A key goal during President Trump’s election campaign was to increase employment and wages in the U.S manufacturing sector. Trade negotiations are the main tool President Trump envisions manifesting manufacturing growth. In a trade context, the president has declared his intention to renegotiate the North American Free Trade Agreement (NAFTA), the World Trade Organisation (WTO) and the bilateral relationship between the United States and China. In addition, he has voiced opposition to prospective trade deals such as the Trans-Pacific Partnership (TPP) and Transatlantic Trade and Investment Partnership (TTIP), the latter being negotiated with the European Union.

Germany and the United States have a significant bilateral trade relationship. Both countries are global leaders in manufacturing output, and there is also robust trading between them in the energy sector. Maintaining and building upon the similar economic structure and close bilateral relationship should be a priority for Germany and the United States in any renegotiation of international trade. This relationship yields several important opportunities for future collaboration in the area of manufacturing and trade.

8. Promoting Clean Energy Jobs: Employment in the clean energy sector has risen over the past decade, as market conditions have shifted the electricity sectors in both Germany and the United States. In 2015, U.S. renewable energy employment increased 6 percent to reach 769,000 jobs, which is greater than employment in fossil fuel extraction.21 The governments can cooperate to safeguard and enhance employment in clean energy if they decide to open negotiations on existing trade relationships. A ministerial meeting between the U.S. Department of Energy and the German Federal Ministry for Economic and Energy Affairs focused on how to increase employment in these new industries would be a fruitful area of government cooperation.

9. Bolstering Manufacturing Competitiveness: Germany and the United States are leaders in the development of clean energy technologies. Within the trade sphere, a priority for both countries is for strong protection for intellectual property rights (IPR) that enhance domestic innovation while spreading clean technologies. Currently, the Patent Cooperation Treaty (PCT) provides a unified process for patent application that will apply in all contracting states (including the U.S and Germany). Both countries could push to reform the treaty, which was last modified in 2001, to strengthen the international regime for intellectual property. The United States and European Union represent around 70 percent of global patents, meaning they are the most significant places for filing intellectual property. Cooperation in this area could also include working with partner countries to address intellectual property theft. A common strategy on improving IPR

enforcement should be discussed through an inter-agency consultation between German and U.S. trade officials.

10. Enhancing Energy Efficient Processes: In addition to trade, Germany achieves the top international ranking for industrial energy efficiency.\(^{22}\) Achieving greater energy efficiency in manufacturing and industrial processes drives higher productivity and competitiveness, and there is an opportunity for increased cooperation between Germany the United States focused on improving energy efficiency that would provide economic and environmental gains. The governments can host a dialogue with businesses to share experiences and best practices that yield greater efficiency.

Tax Reform

President Trump has made tax reform one of the top priorities of his administration. His plan would lower the corporate tax rate, eliminate the estate tax, cut personal income taxes and remove many traditional deductions and loopholes. Unlikely to be eliminated, however, are the recently approved extensions of two key tax incentives that have facilitated the growth of renewable energy in the United States: the Production Tax Credit (PTC) for wind and the Investment Tax Credit (ITC) for solar. The incentives are largely popular, having helped create thousands of jobs in the clean energy industry, and Trump’s transition team has previously stated that his administration will not move to revoke them before they are scheduled to expire—2020 for wind and 2024 for solar. While tax policy is by and large a domestic issue, the United States and Germany can collaborate on the following areas:

11. Sharing lessons learned on appropriate incentives for renewables: At the same time that the United States is discussing the future of its federal tax incentives for wind and solar, Germany is readying to eliminate its successful feed-in tariff for renewables, instead replacing it with an auction system that would allow the market to drive electricity prices. As both nations approach an inflection point on federally supported deployment of renewables, policymakers could benefit from a joint dialogue on responsible implementation and phase-out of federal renewable energy incentives.

12. Beginning exchange on effective carbon pricing: President Trump has ambitious plans to expand and strengthen U.S. infrastructure, calling for an investment of at least $1 trillion in everything from roads, bridges and transit networks to electricity delivery systems and water treatments and sanitation plants.\(^{23}\) Meanwhile, independent tax experts predict that Trump’s fiscal reforms could reduce U.S. tax revenues by $6.2 trillion over the next decade.\(^{24}\) Fiscal conservatives in Congress are likely to ask Trump to propose spending cuts and/or new sources of revenue to pay for his new tax and infrastructure policies. Implementing a price on carbon in the form of a pollution tax could be an effective way to address both priorities without massively increasing the federal budget deficit. Moreover, because infrastructure projects are largely developed at the state level, returning the majority of


the revenue to states would allow them to increase investment in these and other priorities. Designing such a scheme, however, is challenging. Given Germany’s own domestic infrastructure challenges and long history with carbon pricing, the two nations can benefit from a constructive dialogue, both at the federal and sub-national levels, on best practices in carbon pricing design and implementation.

**Partnerships with Business for Clean Energy**

The Trump administration has signaled that strengthening the conditions for business is a goal of the presidency. The priority given to economic competitiveness offers a significant opportunity to engage the business community in both Germany and the United States on how to reduce emissions and strengthen industry. Germany has considerable public-private partnerships and engagement in place, including instruments for mobilizing private capital for clean energy and energy efficiency finance.25

13. **Promoting public-private partnerships on smart infrastructure:** Economic modernization in Germany and the United States will require mobilizing investors from the private sector through investment incentives and opportunities. Both governments could jointly host a conference of investors, industry and the public sector to find potential partnerships and financing opportunities to drive private investment to furthering smart infrastructure in each country.

14. **Establishing a dialogue with the private sector on clean energy:** As already mentioned, both the United States and Germany are leading manufacturers in the global economy. This includes a significant presence of German company production facilities in the United States, and vice versa. The United States and Germany should establish a sustained dialogue with the business community dedicated to improving the policy environment for businesses to make efficient, resilient investments that create jobs. Establishing a dialogue process between the respective governments and industry can generate areas of common interest for the economy and the environment.

**International Opportunities**

Opportunities for U.S.-German collaboration on industrial and energy policies include working through the G20 to achieve multilateral gains, diplomacy on clean energy through various initiatives and engaging with multilateral development banks.

**G20 Outcomes**

The 2017 G20 Hamburg Summit in July will be the first time President Trump meets with the world’s most powerful leaders as a group. The G20 Summit presents an important opportunity for the Trump administration to consolidate its allies on key topics at the global level and to demonstrate its willingness to engage in multilateral cooperation when doing so advances the interests of the United States. Possible multilateral priorities for the Trump administration include addressing trade and competitiveness concerns and protecting American jobs.

As the host of the 2017 G20, Germany has laid out its agenda for the Summit entitled “Shaping an Interconnected World.”26 Germany hopes to safeguard multilateral cooperation on global economic policy through several aims: building resilience, improving sustainability and assuming responsibility.

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This means improving the stability and resilience of the global economy, linking climate and energy policies with sustainable development objectives, and addressing critical development concerns like displacement and migration in low-income countries.

U.S. and German interests in multilateral cooperation overlap considerably, and the challenge is to shape the G20 agenda in this area to mutual advantage. Two possible G20 initiatives stand out as potentially promising at this time.

15. **Accelerating job creation in the clean energy economy:** Continued and sustained investments in clean energy over the past decade have contributed significantly to growth in clean energy jobs in both the United States and Germany. This trend in investments, combined with falling prices of renewable energies and recent policies like federal tax incentives in the United States and feed-in tariffs in Germany, all suggest that job growth in the clean energy sector will continue. The G20 has played a role in helping to galvanize investments in clean energy and spurring policy dialogues on job creation as separate initiatives.

The United States and Germany could work together to combine these strands to create a major new G20 initiative entitled “Creating the 21st Century Clean Energy Economy.” The centerpiece of the initiative would be new G20 goals in the areas of employment, training and investment. Importantly, the G20 initiative would leave each country with flexibility to adopt nationally appropriate implementation policies to advance the shared G20 clean energy goals.

What would these goals look like? A G20 employment goal could be doubling job growth in the clean energy sector by a date certain. A G20 training and education goal could include increasing vocational programs to facilitate the transition of workers into the clean energy sector, and designing and increasing enrollment in academic programs that educate the next generation clean energy workforce. A G20 investment goal could include mobilizing a concrete dollar amount of new private sector investments for clean energy manufacturing and deployment. In addition to announcing these shared G20 goals, the Hamburg Summit could create a G20 task force made up of the existing employment, green finance and trade and investment working groups of the G20, to develop a flexible roadmap for achieving these goals.

16. **Promoting a smart infrastructure initiative:** Infrastructure is an area that President Trump has signaled interest in and is potentially an area for positive multilateral cooperation at the G20. Smart infrastructure investments can create new robust systems that guard against financial risks and stand the test of time – high carbon infrastructure projects can pose economic risks as global markets favor clean energy alternatives, and weak infrastructure may be vulnerable to extreme weather events with associated economic losses. Such projects should be avoided in favor of more resilient infrastructure alternatives to promote G20 aims of bolstering the resilience and stability of the global economy.27

Infrastructure initiatives at the G20 could focus on promoting smart infrastructure that is pro-growth, resilient and cyber-secure. In past years the G20 has promoted investment in infrastructure across four areas: energy, transport, water and information and communications technology. Introducing a smart infrastructure initiative at the G20 would integrate and build on the four core pillars of the G20 infrastructure agenda. Joint collaboration could focus on creating a new working group on smart infrastructure, with various outputs including the commissioning

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of studies from the Organisation for economic Co-operation and Development (OECD), International Energy Agency (IEA) and International Renewable Energy Agency (IRENA) on the benefits of investments in this areas by G20 countries.

**Clean Energy Diplomacy**

President Trump has stated his openness to promoting all forms of energy, including renewables and technologies of the future, in particular wind and solar. This provides a platform for a positive agenda to engage with the international community on clean energy, and one that Germany can help to promote with its extensive expertise in this sector.

17. **Reinventing the Clean Energy Ministerial to focus on job creation:** The Clean Energy Ministerial (CEM) has played the role of linking government and private sector actors to accelerate the pace of the market transformation of clean energy and energy efficient technologies, policies and measures, with the aim of promoting the transition to a global clean energy economy. Outcomes tend to focus on policy dialogues, sharing best practices and research initiatives on broad areas including energy access, energy efficiency and clean energy supply. While the CEM has had a great deal of success in galvanizing political support for clean energy initiatives at the global level, it has not focused on enhancing the economic benefits of clean energy deployment in areas like employment. Germany and the United States can work together to preserve the key functions of the CEM, but also jointly propose an expansion of its mandate to prioritize job creation and economic growth components of the clean energy economy.

This could include holding a high-level conference on CEM principles to prioritize economic growth and job creation in the clean technology sector, and designing a clean energy jobs working group under the formal CEM agenda. With joint collaboration from the United States and German governments, the CEM could become a platform to share best practices on a broader mandate that places an emphasis on job creation.

**Multilateral Development Banks**

The United States and Germany are influential members of many of the world’s largest multilateral development banks (MDBs), including the World Bank Group, Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD) and others. Germany is also the largest European shareholder of the newly formed Asian Infrastructure Investment Bank (AIIB). Although the United States has thus far abstained from joining, President Trump has called Obama’s decision to do so an error in judgment and insinuated that his administration would be open to applying for membership. As large shareholders and voting members of these institutions, the United States and Germany can collectively ensure that public development financing is used to support the dissemination of the cleanest and most efficient technologies around the world – leading the global transition to smart and sustainable growth. One particular area of opportunity is energy efficiency finance.

18. **Co-leading the ‘mainstreaming’ of energy efficiency into all bank operations:** Mainstreaming energy efficiency involves the integration of efficiency considerations into banks’ everyday lending practices. Unlike the more common model of funding specific energy efficiency projects, elevating efficiency considerations in the project design phase across sectors allows developers to more fully harvest efficiency improvement opportunities and eliminates the need for costly retrofits down the road.
As significant sources of capital for energy-intensive projects, MDBs can play an important role in spurring large-scale adoption of best practice technologies globally. By treating energy efficiency as a safeguard applicable to all projects, rather than a select few specific “energy efficiency” initiatives, MDBs can help maximize the economic, development and environmental impact of their lending and ensure that they are truly contributing to sustainable and green growth. For countries with substantial clean energy technology expertise such as the United States and Germany, an integrated approach to energy efficiency at leading development finance institutions expands and creates new markets for exports of environmental-beneficial products and services.

The United States and Germany can work together to push for greater mainstreaming of energy efficiency within MDBs, building on the successful model developed by the EBRD. Specific opportunities to contribute to MDB strategy include the ADB’s Road to 2030 and AIIB’s Energy Sector Strategy, both now under development.

V. Conclusion and Path Forward

This paper shows that although the United States and Germany may decide to pursue very different policies on climate change, there are many opportunities to find common ground in the area of clean energy. Shared domestic and international priorities relating to economic growth, infrastructure, competitiveness manufacturing, jobs and security provide ample incentive for both nations to prioritize clean energy collaboration despite differences on climate change.

While the agenda is broad and complex, the path forward for both governments need not be arduous. They should keep things simple and organize their work around three concrete nodes.

First, the transatlantic partners should create a government-to-government working group to promote useful policy dialogue on the clean energy agenda. The mission of the working group should be to help each nation increase economic growth, enhance industrial competitiveness, create jobs, and speed innovation on clean energy. The working group, which would be made up of representatives from several agencies in each government, would be charged with increasing understanding, identifying points of common interest, sharing best practices regarding policies and developing recommendations for action.

Second, the United States and Germany should organize an annual clean energy conference designed to bring together U.S. and German companies, state and local policymakers and other key stakeholders in civil society. This objective of these conferences would be to catalyze public-private partnerships, increase private sector investment, promote transatlantic trade and spread best practices for business across the Atlantic and globally.

Third, Germany and the United States should launch a new clean energy research and investment initiative designed to pool the know-how and resources of these two leading powers to strengthen their clean energy economies through innovation and science.

In addition to these bilateral measures, the United States and Germany should work together as a time-sensitive priority to launch a major new multilateral initiative entitled Creating the 21st Century Clean Energy Economy at the 2017 Hamburg G20 Summit. The centerpiece of this initiative would be a new set of shared G20 goals on job creation, investment and education in the clean energy sector, backed by a G20 task force to help nations identify and implement nationally-appropriate solutions.
Annex 1 shows how the numerous policy recommendations outlined in this paper could be clustered within this framework.

Germany and the United States share a common focus on clean energy. The clean energy revolution is already underway and is likely to accelerate over this century. If managed well, it can create economic growth, employment and security, while controlling pollution. Those are priorities on both sides of the Atlantic, and they deserve a new political focus in this new political moment.
## Annex 1: Implementation Themes of U.S.-German Engagement on the Clean Energy Agenda

<table>
<thead>
<tr>
<th>Government to Government</th>
<th>Business, Civil Society and Local Government</th>
<th>Government to Government</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy Dialogues to Exchange Best Practices</strong></td>
<td><strong>Conferences and Exchanges</strong></td>
<td><strong>Research, Projects and Investment Programs</strong></td>
</tr>
<tr>
<td>Promoting smart infrastructure in the “Built Environment”</td>
<td>Promoting transport infrastructure investments to improve public health</td>
<td>Creating growth and jobs through greater energy efficiency</td>
</tr>
<tr>
<td>Establishing incentives to boost private sector R&amp;D investment</td>
<td>Enhancing energy efficient processes</td>
<td>Ensuring the transition to smart grids doesn’t compromise security</td>
</tr>
<tr>
<td>Sharing best practices on renewable energy deployment</td>
<td>Beginning exchange on effective carbon pricing</td>
<td>Promoting joint research on CCUS</td>
</tr>
<tr>
<td>Promoting clean energy jobs</td>
<td>Promoting public-private partnerships on smart infrastructure</td>
<td>Accelerating job creation in the clean energy economy</td>
</tr>
<tr>
<td>Bolstering manufacturing competitiveness</td>
<td>Establishing a dialogue with the private sector on clean energy</td>
<td>Promoting a smart infrastructure initiative</td>
</tr>
<tr>
<td>Sharing lessons learned on appropriate incentives for renewables</td>
<td></td>
<td>Reinventing the CEM to focus on job creation</td>
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<td></td>
<td></td>
<td>Co-leading the ‘mainstreaming’ of energy efficiency into all bank operations</td>
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