B20 Energy, Climate & Resource Efficiency Taskforce

The effects of climate change have made action inevitable. Continued economic growth and a growing world population are also increasing the stress on ecosystems and on natural resources that are already scarce today, such as agricultural land, terrestrial and marine wildlife, water, and minerals. Managing the transformation towards a sustainable world economy will require increased and timely deployment of resource efficient and climate-friendly technologies and infrastructure. Accelerating innovation is transforming most industry sectors and is offering opportunities and solutions to master this challenge.

The Paris Agreement lays out important goals, but these need to be followed by action. Going forward, the G20 governments should continue their commitment to the Paris Agreement in order to retain business confidence in the set direction. As many investments in sustainable technologies can have economic life times of several decades, businesses need unambiguous, consistent, and predictable policies. An effective Paris rulebook, carbon pricing and the phase-out of inefficient fossil-fuel subsidies represent key opportunities for the G20 governments to demonstrate their willingness to curtail climate change.

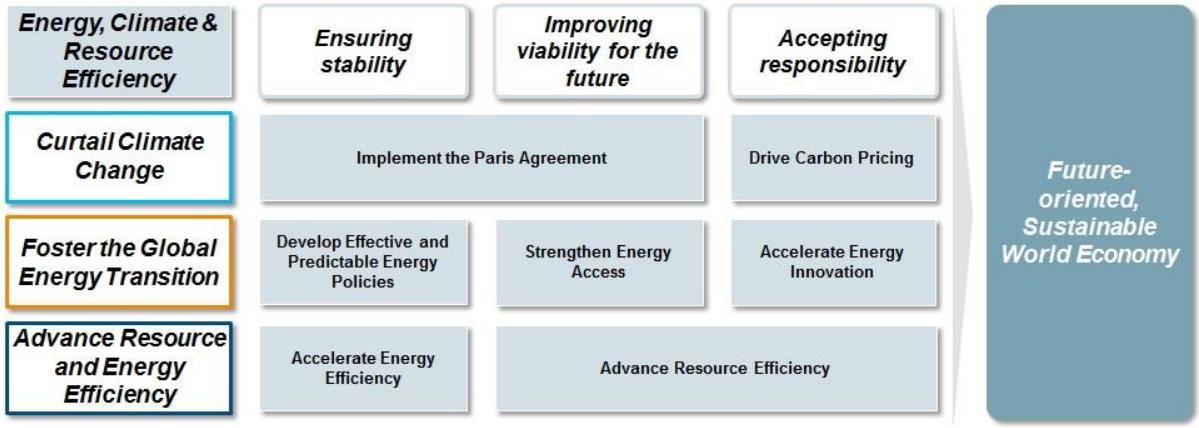
The transformation of the main energy-using sectors (power, transport, buildings, industry, and agriculture) is the centerpiece of global climate mitigation efforts. Policy-makers can foster this development by providing market oriented and cost-effective frameworks that facilitate the deployment of all economically available low-carbon and energy efficient technologies. On that journey, ensuring universal access to clean, affordable, and secure energy to a growing world population is a continued priority.

International cooperation will help managing better long-term, higher-risk R&D and innovation activities that are needed to tackle the global challenge of climate change. Digital technologies and solutions will also play a key enabling role in an increasingly complex and decentralized energy landscape. The energy transition can be used as the basis for capitalizing on low-carbon development as one of the big economic opportunities as well as to create jobs and secure the competiveness of businesses.

Natural resources, especially raw materials, are key production factors and therefore at the heart of human prosperity. In the last 20 years, the resource efficiency of the world economy has decreased: the exploitation of primary materials and the generation of emissions and waste are increasing faster than the economic benefits gained.

Increased resource efficiency can significantly contribute to a sustainable world development and reduce environmental impacts such as climate change and reduced ecosystem health. The world economy needs to move away from the current "extract, make, use, and dispose" model. Rather, they need to embrace "recover and regenerate" economic life cycles that keep resources and materials in use for as long as possible. It is a good time for the G20 to put resource efficiency and circular economy thinking on its agenda, discuss its potential and initiate formats of best practice exchanges.

Relevance of Taskforce Recommendations for the G20 focusses "Ensuring stability", "Improving viability for the future", and "Accepting responsibility"



Recommendations

Curtail Climate Change

Recommendation 1: The G20 should curtail climate change by implementing the Paris Agreement and developing consistent and robust carbon pricing.

Policy Action 1.1: Implement the Paris Agreement – The G20 governments should support the UNFCCC in developing an effective Paris rulebook with close business participation, submit NDCs with high and comparable ambition levels, and develop transparent national long-term low GHG emission development strategies.

- The G20 governments should support the UNFCCC in developing effective MRV standards that ensure transparent NDC setting and stocktaking and enable carbon pricing mechanisms as well as transparent tracking and reporting of climate finance and the verification of the results achieved.
- The NDCs of the G20 governments should aim to deliver on the agreed 2°C target and outline in a transparent way how the G20 governments intend to use voluntary cooperation and market-based instruments under the Paris Agreement.
- The G20 governments should back up their NDCs with national long-term low GHG emission development strategies, supported by technology needs assessments and transparent GHG abatement cost calculations and methodologies. The G20 governments should make use of the 2050 Pathways Platform and the NDC Partnership for knowledge exchange and capacity building in these fields.

Policy Action 1.2: Drive Carbon Pricing – The G20 should establish an intergovernmental G20 Carbon Pricing Platform as a forum for strategic dialogue to create a basis for global GHG emissions pricing mechanisms, and to phase-out inefficient fossil fuel subsidies, using its revenues to finance an energy transition that benefits all.

- The G20 should use the G20 Carbon Pricing Platform to coordinate the support for the UNFCCC work on Article 6 of the Paris Agreement, with the aim of establishing operational rules and modalities for international carbon pricing mechanisms by 2019.
- Within this platform, the G20 should coordinate the phase out of inefficient fossil fuel subsidies by agreeing on a time line and commissioning an international organization with rationalizing subsidy

data, monitoring and progress reporting.

- The G20 should use this platform to share best practices for the use of revenues from carbon pricing and for the redirection of fossil fuel subsidies. In such, they should address the risk of carbon leakage and aim to ensure an energy transition that benefits all.

Foster the Global Energy Transition

Recommendation 2: The G20 should accelerate the market readiness and deployment of low-carbon technologies through effective and predictable energy policies, a joint innovation agenda, and strengthened Energy Access Action Plans.

Policy Action 2.1: Develop Effective and Predictable Energy Policies – The G20 should promote effective and predictable energy policies for accelerated investments into low-carbon technologies by broadening the technology scope of the G20 Voluntary Action Plan for Renewable Energy and developing an energy policy toolkit.

- The energy policy toolkit should allow the G20 governments to develop power market designs that provide adequate long-term price signals to invest into low-carbon generation capacity, transmission and distribution assets. At the same time, the power market designs should adequately remunerate operational flexibility of power generation and enable residential and industrial consumers to actively participate in energy demand side management schemes. As a guiding principle energy policies should allow reliable and cost competitive power supply of all consumers.
- The toolkit should contain good practices to accelerate the deployment of a digital and interconnected energy infrastructure, including a suitable charging infrastructure for electric vehicles.
- The toolkit should also provide methodologies and good practices to increase the resilience of energy infrastructures towards climate change, cybercrime, and other distorting events.

Policy Action 2.2: Accelerate Energy Innovation – The G20 should develop a G20 Energy Innovation Action Plan to accelerate the market readiness of innovative technologies, business models, and digital solutions that can contribute to large GHG emissions reductions within the next decades.

- The G20 should develop an R&D innovation roadmap to facilitate collaborative and focused R&D on energy generation, energy storage, interconnection, distribution, and smart consumption technologies and applications that show a credible pathway to cost-efficient and rapid scaling.
- Within the Energy Innovation Action Plan, the G20 should develop good practices for efficient public-private partnerships as valuable elements to de-risk private sector R&D opportunities, accelerate the market readiness of the most promising technologies, and ensure continuous capacity build-up and retention in critical areas.
- The Action Plan should also define policies that the G20 may adopt to boost market driven innovation and the rollout of digital energy standards, technologies, business models, and solutions, while mitigating emerging risks for the energy infrastructure, with special focus on cyber-security.

Policy Action 2.3: Strengthen Energy Access – The G20 should strengthen the G20 Energy Access Action Plans for Sub-Saharan Africa and Asia and the Pacific by supporting the development of national, urban and rural action plans, and by mobilizing private sector participation in sustainable infrastructure development.

- The G20 Energy Access Action Plans should define policies to support the development of transparent urban and rural energy access plans by energy-poor countries, aiming to provide universal access to affordable, reliable and modern energy services according SDG7.

- The Action Plans should define measures aiming to mobilize private-sector investments in sustainable infrastructure development, such as by sharing good practices and cooperating with national governments to adopt policies towards appropriate market frameworks.

Advance Resource and Energy Efficiency

Recommendation 3: The G20 should advance resource and energy efficiency by establishing a Resource Efficiency Platform and translating the Voluntary Energy Efficiency Investment Principles into a policy toolkit.

Policy Action 3.1: Advance Resource Efficiency – The G20 should establish a G20 Resource Efficiency Platform as a forum for international collaboration with the goal of reducing the resource intensity of the world economy.

- G20 governments should use this platform to share best practices and knowledge to build a robust and consistent international understanding of and scientific basis for resource efficiency, and identify areas of further potential international collaboration.

- The Resource Efficiency Platform should facilitate the assessment of concrete resource efficiency opportunities and the development of resource efficiency action plans by the G20 governments.
- Leveraging the Resource Efficiency Platform, the G20 should commission the UNDP and the OECD to establish Resource Efficiency as a new Sustainable Development Sector within the G20 Action Plan on the 2030 Agenda for Sustainable Development.

Policy Action 3.2: Accelerate Energy Efficiency – The G20 should accelerate the efforts within the G20 Energy Efficiency Leading Programme by translating the Voluntary Energy Efficiency Investment Principles for G20 into a policy toolkit.

- This energy efficiency investment toolkit should contain good practices that the G20 governments may adopt for the allocation of public funds to stimulate private-sector investments in energy efficiency and public procurement guidelines in favor of total cost of ownership approaches and life cycle assessments.
- The toolkit should provide methodologies and best practices for country-specific assessments and energy efficiency roadmaps to identify specific energy efficiency investment opportunities within the development and upgrade cycles of the infrastructure, resulting in financeable pipelines of energy efficiency investment opportunities.
- The toolkit should provide good practices to stimulate cost-effective energy efficiency spending, increase awareness on energy efficient consumption, and improve the capacity to manage energy as a valuable resource of consumers and small and medium sized enterprises (SMEs).
- Within the energy efficiency investment toolkit the G20 should also develop policies to remove barriers to supply and facilitate access to energy efficiency finance.

Business 20

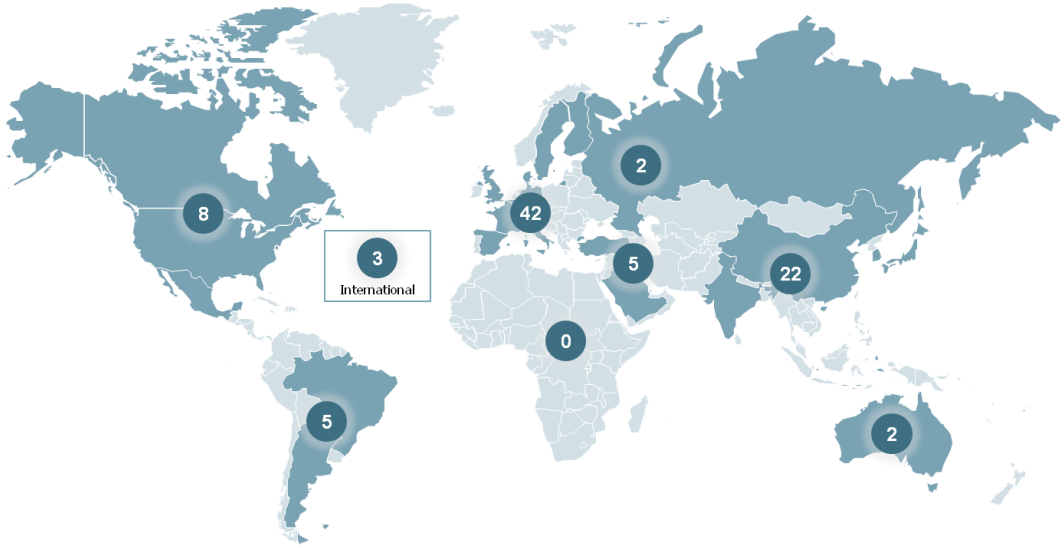
The Business 20 (B20) is the official G20 dialogue with the global business community. On September 4 2016, the leading German business associations BDI, BDA, and DIHK, mandated by the German Chancellery, assumed the B20 presidency. Chair of B20 Germany is Dr. Jürgen Heraeus.

Since September 2016, more than 700 representatives from companies and business association developed recommendations for the G20 on a consensual basis. B20 Germany is organized in seven working groups: Trade and Investment, Energy, Climate & Resource Efficiency, Financing Growth & Infrastructure, Digitalization and Employment & Education, Responsible Business Conduct & Anti-Corruption and SMEs. In February, the B20 Health Initiative was launched. Each group is headed by a chair and several co-chairs. The approximately 100 members of each group represent all G20 countries and sectors of the economy.

B20 Energy, Climate & Resource Efficiency Taskforce

Chair Kurt Bock, CEO, BASF	
Co-Chairs Elmar Degenhart, CEO, Continental Francesco Starace, CEO, Enel Xabier Etxeberria, CEO, Gamesa Dany Qian, Vice President, Jinko Solar	 Aldo Belloni, CEO, Linde Peder Holk Nielsen, President and CEO, Novozymes Joanne Farell, Group Executive Heat Health, Safety & Environment, Rio Tinto
Knowledge Partner Boston Consulting Group	**Network Partners** International Chamber of Commerce Global Business Coalition

The taskforce consists of 97 members from 23 countries (including the category "international").



B20 Germany

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