



Work of the Technology Executive Committee of the UNFCCC

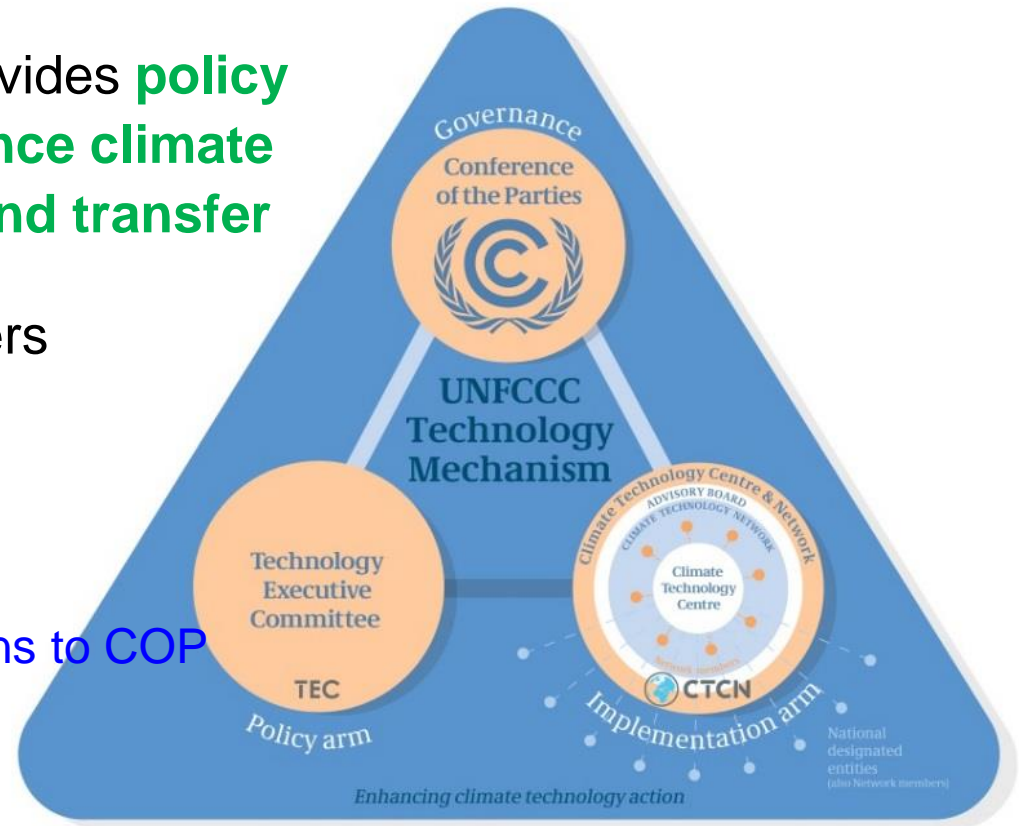
3rd TFTEI Annual Meeting – Rome, 20 Oct 2017



Shigeyuki Kimura
UNFCCC Secretariat

What is the Technology Executive Committee ?

- The “**Policy**” component of the Technology Mechanism of the UNFCCC, established 2010
- Undertakes analysis and provides **policy recommendations to enhance climate technology development and transfer**
- Comprises 20 expert members
- Maximize impact through:
 - TEC Briefs
 - Key messages & recommendations to COP
 - Guidance
 - Working with key partners (CTCN, Green Climate Fund, etc.)



Rolling workplan of the TEC for 2016-2018

6 Thematic Areas:

- Adaptation technologies
- Climate technology financing
- Emerging and cross-cutting issues
- Innovation, research, development and demonstration
- Mitigation technologies
- Technology needs assessment



Work on industrial energy efficiency in 2017

Thematic dialogue on industrial energy efficiency and material substitution (March 2017)

- Provided an opportunity for participants to deepen their understanding of measures and technologies for industrial energy efficiency, its potential and limitations



Work on industrial energy efficiency in 2017

TEC Brief on industrial energy and material efficiency in emission-intensive sectors (To be published on the website in October)

- Deliver the key findings of the thematic dialogue to policy makers and other stakeholders including industrial actors and financial institutions



TEC Brief #11

TECHNOLOGY
EXECUTIVE
COMMITTEE



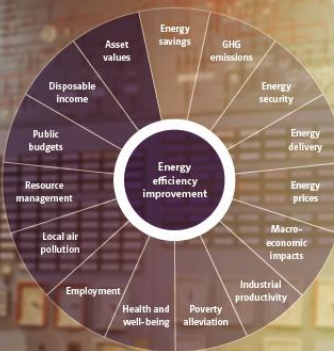
Industrial Energy and Material Efficiency in Emission-Intensive Sectors

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Figure 2: Multiple benefits of energy efficiency
Source: OECD/IEA, 2014



1

Benefits of Industrial Energy Efficiency

CO-BENEFITS

Economic benefits and climate change mitigation are put forward as the key decision factors when it comes to implementing energy efficiency measures in industry. But there are also other significant impacts beyond cost savings and climate protection that are gaining increasing importance in relation to the selection, design and acceptability of policies. Investing in energy efficiency has multiple benefits for both companies and their employees.

POTENTIAL AND BENEFITS FOR ENTERPRISES

By investing in energy efficiency, companies can benefit from increased energy security and reduced risks related to volatile fuel prices by being less reliant on non-renewable fossil fuels. Other benefits of energy efficiency include more cost-efficient production, increased productivity, reduced material losses and higher product quality. Also, more eco-friendly operation and production processes lead to better environmental compliance and a better reputation for companies. Furthermore, adapting and developing future technologies for energy efficiency and thereby strengthening their competitiveness can be a great motivation for enterprises. Small and medium-sized enterprises (SMEs) account for a large share of industry worldwide and, especially in developing countries, they play an important role in the context of energy-intensive industries. Although their individual energy consumption is rather low, their collective use is considerable. Simple measures could reduce their consumption significantly. Especially for SMEs, the benefits of energy efficiency play an important role since they can contribute to greater competitiveness and better technological innovation capabilities.

SOCIAL AND ENVIRONMENTAL BENEFITS

Employees and citizens can also benefit from the positive effects of increased energy efficiency, such as better working conditions due to air quality improvements and resulting health benefits. Besides contributing to improved working conditions, energy efficiency can also play a crucial role in creating new employment. It can contribute to the generation of jobs directly, for example jobs in manufacturing, installation, maintenance and related services, such as energy audits, energy management and certification services, as well as indirectly, that is jobs resulting from effects in the supply chain. In addition to cutting down local and regional air pollution, energy efficiency can play a major role in reducing waste and the associated pollution of water and land, thereby also contributing to combating negative impacts on biodiversity. (See Figure 2)

Work on industrial energy efficiency in 2017

Executive summaries for target groups

(To be published on the website in October)

United Nations
Framework Convention on
Climate Change

Technology Executive Committee

EXECUTIVE SUMMARY FOR
DOMESTIC POLICY MAKERS

Industrial Energy and Material Efficiency in Emission- Intensive Sectors

Accounting for over one third of global final energy consumption, the worldwide industrial sector consumes more energy than any other end-use sector. Various energy and material efficiency measures can reduce energy consumption and related greenhouse gas emissions significantly thereby also offering great cost saving potential and a number of environmental and social co-benefits, such as reduced air pollution and improved working conditions. Despite the high potential for industrial energy efficiency, a number of challenges and unaddressed needs remain, among which lack of awareness of energy efficiency potential, limited access to financing and the need for capacity-building are the prime ones.

ROLE OF DOMESTIC POLICYMAKERS

Policymakers have a critical role to play in setting standards, policies and laws for energy efficiency, addressing barriers that restrict energy efficiency in industry using different approaches and incentivizing various actors in relation to energy efficiency. Approaches range from economic and fiscal instruments, through regulatory measures, to information, education and deployment-related approaches. The table below lists the main barriers to industrial energy efficiency and possible approaches that domestic policymakers can use to address them.

Multiple benefits of energy efficiency
Source: DECI/TEC 2014

Barrier	Possible approaches of domestic policymakers to address barrier
Lack of financial resources	Financial incentives and direct investment
Lack of awareness	Information campaigns, performance labels and demonstration projects
Lack of technical know-how	Improvement of training landscape and aid in implementation
Lack of momentum/low priority	Auditing, codes and standards, monitoring, obligation schemes and demonstration projects
Energy price subsidies	Fiscal instruments and phasing out of energy price subsidies
Structural barriers	Institutional creation and long-term strategic planning (including setting of targets)
Lack of access to technology	Research and development programmes
Equipment downtime/technology lock-in	Financial incentives, and codes and standards

POSSIBLE OPTIONS FOR ACTION

In order to promote industrial energy efficiency, an **adequate policy framework** is crucial. Policymakers can improve the framework for example by anchoring industrial energy efficiency in national energy policy, considering energy efficiency in relevant decisions, establishing a dedicated authority for energy efficiency and taking into account national and regional conditions.

To **stimulate demand for and encourage investment** in energy efficiency, it is important that clear and long-term investment signals are sent. Simplifying public support programmes and the processes for obtaining funding also plays an important role in this context. There is a need to provide new, tailored support programmes for small and medium-sized enterprises and start-ups that develop energy-saving technologies. This way knowledge-based employment can be created, which is crucial for the sustainable development of the country. Another option is to provide incentives, such as tax exemptions for specific voluntary actions of industry actors (e.g. for reaching certain energy reduction targets or for implementing an energy management system).

Energy management systems rank among the most important instruments for increasing industrial energy efficiency. It is therefore recommended to incentivize the broad application of the ISO 50001 standard, for instance through voluntary programmes, subsidies or integration into the regulatory framework. In order to support knowledge exchange and education of industrial actors, the establishment of **industrial energy efficiency networks** has proved to be an effective approach.

To **ensure regulatory compliance**, approaches range from setting incentives, providing information on potential, costs and benefits, and offering training measures. Awareness campaigns can be targeted at industry actors or financial institutions. Actions might focus on improving accessibility of data and knowledge, such as through the creation of databases or platforms. If necessary, enforcement mechanisms (e.g. sanctioning) can be considered, where compliance can be monitored, such as through minimum energy performance standards or energy efficiency performance labelling.

For more information, please read the **TEC Brief on energy and material efficiency in emission-intensive sectors**

The Technology Executive Committee may be contacted via the UNEFCC secretariat:
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Convey selected messages from the TEC Brief to tailored target groups:

- Domestic policy makers
- Industry actors
- Financial institutions
- International organizations

Possible action by industry, for example:

- Engage in **networks or clusters** dedicated to energy efficiency
- Take part in **capacity building** to be able to identify opportunities and use implemented measures sustainably



Climate Technology

The UNFCCC home for technology

www.unfccc.int/ttclear



TEC

Technology Executive Committee

Read the latest policy
recommendations that
accelerate innovation



Projects Pipeline

Fund promising climate tech
projects in developing countries



Technology Needs Assessment

See the assessments that open
tech opportunities for the
developing world



Support Spectrum

Explore the options that enable
climate change solutions



Thank you!

More information about the TEC at: www.unfccc.int/ttclear/tec