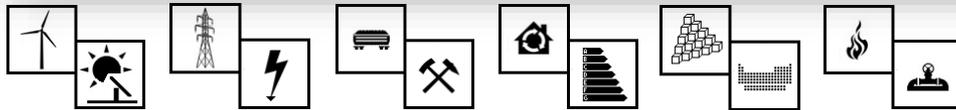


Modernization of the Energy Sector

a pathway towards low-carbon energy and green economy



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Workshop on CMM and AMM
in the context of Sustainable
Energy

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Introduction

The Committee provides member States' governments and the industry a platform to work together on achieving agreed sustainable energy outcomes.

Current areas of work cover energy efficiency, cleaner electricity production from fossil fuels, renewable energy, coal mine methane, resource classification, and natural gas.

There are several current and potential future issues that cut across interests and activities of all UNECE Groups of Experts (GoEs) and other sectoral programmes.

Collaboration among GoEs is the most effective and efficient way to address emerging and cross-cutting issues.

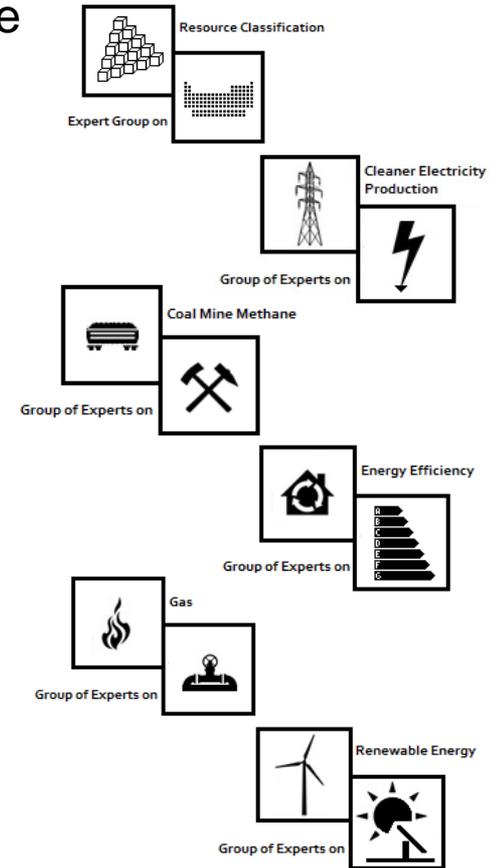




Expert Groups

The 6 Groups of Experts under the Committee on Sustainable Energy:

- Expert Group on Resource Classification (EGRC)
- Group of Experts on Cleaner Electricity Production (CEP)
- Group of Experts on Coal Mine Methane (CMM)
- Group of Experts on Energy Efficiency (GEEE)
- Group of Experts on Gas (GEG)
- Group of Experts on Renewable Energy (GERE)





Existing cross-cutting issues (1)

Examples of the **existing** projects that cut across interests of various GoEs:

- Integration of renewable energy in the future sustainable energy systems in the UNECE region
 - *GERE, EGRC, CEP, GEG, GEEE*
- Decreasing emissions and increasing efficiency from new and existing coal power generation using best practices across the ECE region and globally
 - *CEP, GEEE, CMM*
- Application of UNFC for classification and management of gassy coal mines and extraction and use or abatement of CMM
 - *EGRC, CMM*





Existing cross-cutting issues (3)

CSE should also be engaged – not only its subsidiary bodies

CSE has a number of activities that GoEs could get involved in:

- Pathways Project



- Methane Management



- Global Tracking Framework / Energy Indicators



- International Forum on Energy for Sustainable Development





New Cross-cutting issues (2)

- Distributed generation
 - *GEEE, GERE, CEP, CMM*

- Combined heat and power
 - *GEEE, GEG, CEP, CMM*

- Applicability of UNFC to assessing energy recovery from wastes
 - *GEEE, EGRC, CMM*

- Urban air quality
 - *GEEE, GERE, GEG, CEP*

- Economic and social transformation of old industrial centres
 - *GEEE, GERE, GEG, CEP, CMM*





Modernization of the energy sector (1)

- Modernization of the energy sector is inevitable—can be accomplished efficiently and cost-effectively
- UNECE proposes to develop a tool to help member states plan the transition to a lower-carbon energy sector and green economy
- Initially the tool will be a plan that will lead to greening the economy through modernization of mining and energy sectors





Modernization of the energy sector (2)

- Upon the request of a member state and a specific industrial site operator, the UNECE, building on experience and expertise of its subsidiary bodies, will develop case-specific recommendations aiming for:
 - Increasing cost-effectiveness and productivity of the site, and thus improving its competitiveness and diminishing relative resource use;
 - Decreasing emissions and other site-related environmental damage;
 - Maintaining, to the greatest extent possible, the current employment level;
 - Diversifying, where possible, the mode of production and resource base.
- In final stage the UNECE will produce robust and flexible business model that can be replicated
- Project outcomes will be innovation-led socially and environmentally responsible national energy strategy





Example: Timertau, Kazakhstan

- Largest integrated mining and metallurgical complex in Kazakhstan
- Located in Karaganda Region owned and operated by JSC ArcelorMittal
- Products from the complex:
 - Zinc
 - Aluminum
 - Iron ore and coal concentrates
 - Sinter (pre-smelting mix iron ore fines, coke fines and lime stone)
 - Coke
 - Steel—slabs, long sheets, electric-welded pipe, and other related flat and long rolled products
 - Blast furnace and coke-chemical production
 - Polyester





History of Timertau (Iron Mountain)

- 1933 – conduit was built to transport water from the Nura River to Karaganda coalfield
- 1939 – the Nura River was dammed to supply water until 1961
- 1942-- First power facility produced electricity in Karaganda basin
- 1944 – First steel produced Kazakh Steel Mill
- 1960 – Blast furnace produced first pig iron
- Complex grew around coal mines and steel mills. The coal is supplied to seven coke ovens and four blast furnaces

The town and complex continued to grow and by 2001 the mill employed 27,000 people and provides essential services to 160,000 people.

The ownership of the complex changed through the last two decades and ArcelorMittal is the present owner producing over 4 Mtpa of steel





Where can the expert groups assist?

- Coal mining modernization
 - Methane emissions– capture and use of CMM and AMM could be greatly increased with modern high capacity drilling systems, utilization could be power generation and/or CHP
- Modernization of energy production
 - Renewable energy– standalone or could be combined with CMM and AMM to levelize electricity production
 - Energy efficiency– many of the production facilities are old and are not energy efficient





Modus Operandi (1)

Framework of collaboration:

- Not an additional Task Force
- One GoE is a leader in a given subject and other Groups join its efforts

Modus Operandi:

- STAGE 1: Find what resonates with targeted recipients
 - Determine states'/business'/industry's needs
 - A questionnaire will be sent to prospective member states
- STAGE 2: Define the “project”
 - Assess an added value of planned work for the targeted recipients





Modus Operandi (2)

- STAGE 3: Develop a business model that can be translated into business policies
 - Provide targeted recipients with a business model that will deliver on its needs
 - Offer business models as products
- STAGE 4: Refine project
- STAGE 5: Involve the Committee on Sustainable Energy

