


UNECE Work on Energy Efficiency in UNECE/OSCE member States

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What is at stake? The crucial role of energy for sustainable development

7 AFFORDABLE AND CLEAN ENERGY



Ensure access to affordable,
reliable, sustainable and
modern energy for all.





Energy underpins all areas of development

Affordable, reliable, sustainable, and modern energy for all



Urges the development of national sustainable energy action plans aligned with future energy needs, the 2030 Agenda for Sustainable Development and the Paris Agreement

MINISTERIAL STATEMENT

Access to affordable, reliable, sustainable, and modern energy



Affordable and clean energy

Why it matters?

One in five 
people still lacks access to modern electricity



3 billion

people rely on wood, coal, charcoal or animal waste for cooking and heating

60%

Energy is the dominant contributor to climate change, accounting for around 60 per cent of total global greenhouse gas emissions



Reducing the carbon intensity of energy is a key objective in long-term climate goals.

Carbon intensity





The cost? The switch to sustainable energy



THE CHALLENGE



THE WORLD NEEDS TO TRIPLE
ITS INVESTMENT IN
SUSTAINABLE ENERGY
INFRASTRUCTURE
PER YEAR, FROM
AROUND \$400 BILLION NOW
TO \$1.25 TRILLION BY 2030.



This includes pushing
harder to find clean, efficient,
and affordable
alternatives



Sustainable Energy Division Flagship Projects

- Pathways to Sustainable Energy
- Global Tracking Framework
- Renewable Energy
- Cleaner Electricity Production
- Energy Efficiency
- United Nations Framework
Classification for Resources
- Coal Mine Methane
- Gas Production and Supply
- Methane Management in Extractive
Activities

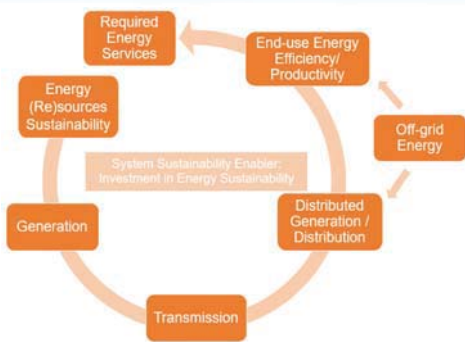




Tracking Energy for Sustainable Development

Indicators and Perspectives Across the Sustainable Energy System

A System Perspective on Energy for Sustainable Development



SE4ALL / SDG7 Indicators: UNECE Region

Access

- 100% Electricity; 98% Clean cooking fuels
- **Share of RE in TFEC** (Total final energy consumption)
 - From 5.9% (1990) to 11.5% (2014)

Energy Efficiency

- 8MJ/USD in 1990 to 5.1MJ/USD in 2014 (2011ppp) of TPES
- 3.9EJ avoided TFEC between 2012 -2014

Additional indicators

- **Share of RE in TPES**
- **Share of Fossil Fuels in TPES**
- **Carbon intensity of energy**
- Among others



Pathways to Sustainable Energy





REN 21 report



The UNECE Renewable Energy and Energy Efficiency Status Report 2017 provides a comprehensive overview of the current status of renewable energy and energy efficiency trends in the following 17 selected countries:

Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Montenegro, Russian Federation, Serbia, Tajikistan, the former Yugoslav Republic of Macedonia, Turkmenistan, Ukraine and Uzbekistan.



Energy Efficiency in Sustainable Energy Programme

1. Publication Best Policy Practices for Promoting Energy Efficiency

<http://www.unece.org/index.php?id=41058>

2. Energy Efficiency Standards in Buildings:

- Joint Task Force with the Committee on Housing and Land Management
- Framework guidelines for energy efficiency standards in buildings

3. Workshops on Industrial Energy Efficiency:

- Policy Maker Meets Engineer
- Creating the Business Case for Energy Efficiency: Engaging Governments with Industry

4. Study Overcoming barriers to investing in energy efficiency

<http://www.unece.org/energyefficiency.html>





Best Practices in Policies to Promote Energy Efficiency for Climate Change Mitigation and Sustainable Development



This report sets forth a suite of existing energy efficiency policies that stand out as best practices. The policies identified in this report include exemplars of best practices in energy efficiency policies from around the globe, drawn from respected and objective policy evaluations and databases.



Framework guidelines for energy efficiency standards in buildings

The energy required by buildings can be reduced to a level that can be supplied largely, perhaps exclusively, by non-carbon-based energy.

The principles provide guidance for planners, builders, and the entire building delivery and management chain as elements of innovative sustainability strategy.

Strategic approach – Buildings must be:

- **Science-based:** design, construction, and management.
- **Financed** through policies recognizing the value of better buildings.
- **Service-oriented:** meet the sustainability demands of the populations served.
- **Integrated** with their built environment life-cycle to connect buildings as energy generators and consumers.
- **Cost effective** to mobilize private investment and entrepreneurs.
- **Performance-monitored** with feedback loops to operations and design tools.
- **Performance-based:** evaluated by system outcomes, not component prescriptions.





Main Outcomes of the Workshops on Industrial Energy Efficiency

- Need for industry engagement strategy that focuses on helping companies develop a proper understanding of energy efficiency internally within their own organization (from "shop floor to boardroom") and an exchange of experience and best practices between companies.
- Work with policy makers to orientate the driver of energy efficiency more towards business improvements rather than focusing primarily on climate change mitigation.
- Place the policy end user (the energy using company and the engineers on the ground) within the policy design cycle as a key input of information. The policy design cycle should also consider how government, industry, financial institutions and supporting organizations can share a common language on energy efficiency so that each can contribute in the most effective manner.



Study Overcoming barriers to investing in energy efficiency - Main Findings

- Low awareness about the multiple benefits of energy efficiency projects is viewed as the **main barrier** to increasing investment and financing flows to energy efficiency projects. Next important factors are lack of understanding of energy efficiency financing by banks and other financial institutions; administrative barriers and bureaucracy; and low energy prices.
- Tax incentives and low-interest loans for energy efficiency projects are viewed as the **most important factors that can lead to increasing energy efficiency project investment viability** in particular countries. They are followed by stricter energy efficiency standards; training and awareness programmes; improved legislation; and de-risking of investments through Government support programmes.





Zoom in: Energy Efficiency Southeast Europe (GTF sub-region of 8 countries)

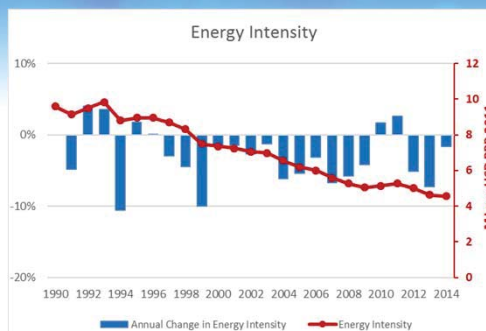
Review: Energy Intensity

1990 – 2010: - 3.1% CAGR (compound annual growth rate)

2010 – 2012: - 1.3% CAGR

2012 – 2014: - 4.5% CAGR

- Accelerated improvements in latest tracking period.
- 2014: **4.6 MJ/2011 PPP \$** (UNECE: 5.1 MJ/USD)
- Energy intensity is converging slowly towards levels in the rest of Europe (Western & Central Europe: 3.7 MJ/USD)
- Relatively high diversity of energy intensity from 3.3 MJ/USD (Albania) to 8.8 MJ/USD (Bosnia & Herzegovina)



Outlook

- Significant annual variations, the sub-region has yet to implement firm policies on cost-reflective energy prices and energy efficiency
- Scope for improvement: The sub-region's northern neighbours have more challenging climates but often have lower energy intensity



Energy security trough increasing the EE & RE (UNECE region – SEE region)

What does energy security means for the countries in the region ?

Two points of view to the same object:

- Is the country energy importer or exporter
- Is the country technology importer or exporter

Does the country structure their policy as a leader or as a follower

Can the increasing of EE & RE in the countries help the economy or the greening of the economy provides additional burden ?





Thank you for your attention!

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