



Energy Efficiency Training Week

Appliances & Equipment Course

Introduction

Kevin Lane, IEA; Peter Bennich, SEA

Who are we?

- The **International Energy Agency** works to ensure reliable, affordable and clean energy for its 30 member countries and beyond.
- Focus:
 - energy security
 - economic development
 - environmental awareness
 - engagement worldwide.



The 2018 Energy Efficiency Training Week held in Paris (Photo: IEA)

Your trainers for the week



Kevin Lane



Peter Bennich

Who is in the room?

- Hands up:
 - National government staff (DOE)
 - Regional government staff (EEACREE, SACREE)
 - Industry
 - NGO
 - EELA project
 - Other
- Who is working directly on energy efficiency?
- Who works on Ozone Depleting Substances?
- Who's work is more broadly involved in the environment?



Who is in the room?

- Name & Organisation



What is the biggest energy efficiency challenge that you are facing?



What to expect?

Aim of the course is to develop skills and knowledge to design, implement, and evaluate appliance and equipment energy efficiency policy

Training philosophy

- A. Where to start: we discuss the basic principles
- B. Toolkit: we discuss what can be done, what are the solutions
- C. What are the steps: how you can implement what you have learnt

Overview of the appliance and equipment training sessions

Monday 14 October 2019		
0	Introduction and roundtable	<input type="checkbox"/>
1	Planning energy efficiency programmes	<input type="checkbox"/>
2	Selecting products for MEPS and Labelling programmes	<input type="checkbox"/>
Tuesday 15 October 2019		
3	Assessing efficiency performance and setting MEPS	<input type="checkbox"/>
	Special - Regional harmonisation	<input type="checkbox"/>
4	Industry transformation	<input type="checkbox"/>
5	Stakeholder involvement and communication	<input type="checkbox"/>
6	The relationship between product efficiency and price	<input type="checkbox"/>
7	Modernising energy efficiency through digitalisation	<input type="checkbox"/>
Wednesday 16 October 2019		
8	Insights into energy labels	<input type="checkbox"/>
9	Monitoring, verification and enforcement	<input type="checkbox"/>
10	Evaluating policies and programmes	<input type="checkbox"/>
	Special - Available resources U4E	<input type="checkbox"/>
11	Roundtable discussion, review and report back	<input type="checkbox"/>

What to expect?

Plenty of activities all aimed to increase your understanding

- A. Actively participate and share experiences
- B. Ask questions
- C. Learn from others
- D. Guest Speakers
- E. Use the opportunity to network!
- F. Group Activity and Presentation



What to expect?

Slides will be uploaded to the IEA's website at the end of the training week.

- Plenty of additional references and links (end of presentations)
- USB

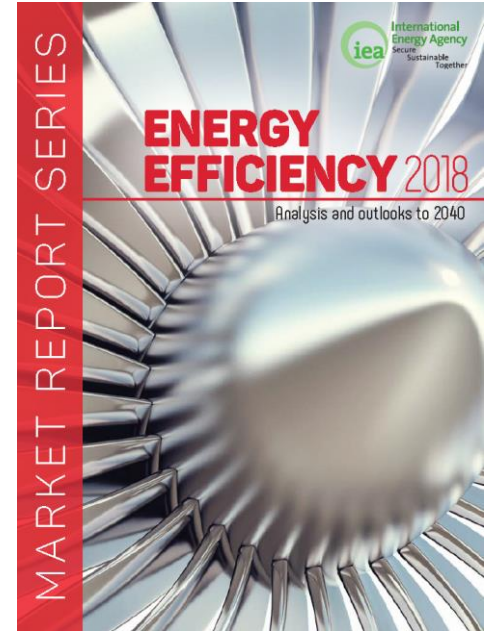
Logistics and Rules

- **Plan for the next few days**
 - Informal
- **Logistics**
 - Meals
 - Wifi
 - Mobile phones & computers
- **Fun Stuff**
 - Networking Event

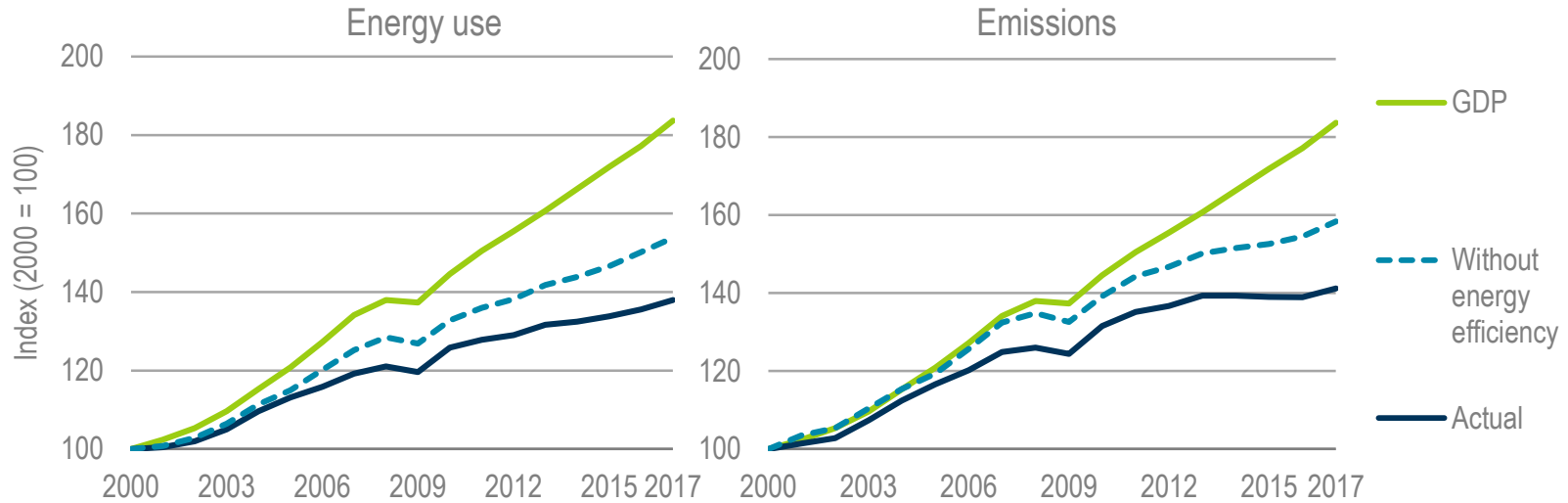
Context: Why is energy efficiency important?

- Energy efficiency means energy consumption is lower than would otherwise have been
- Multiple other benefits
- Future efficiency essential for sustainable development

<https://www.iea.org/efficiency2018/>



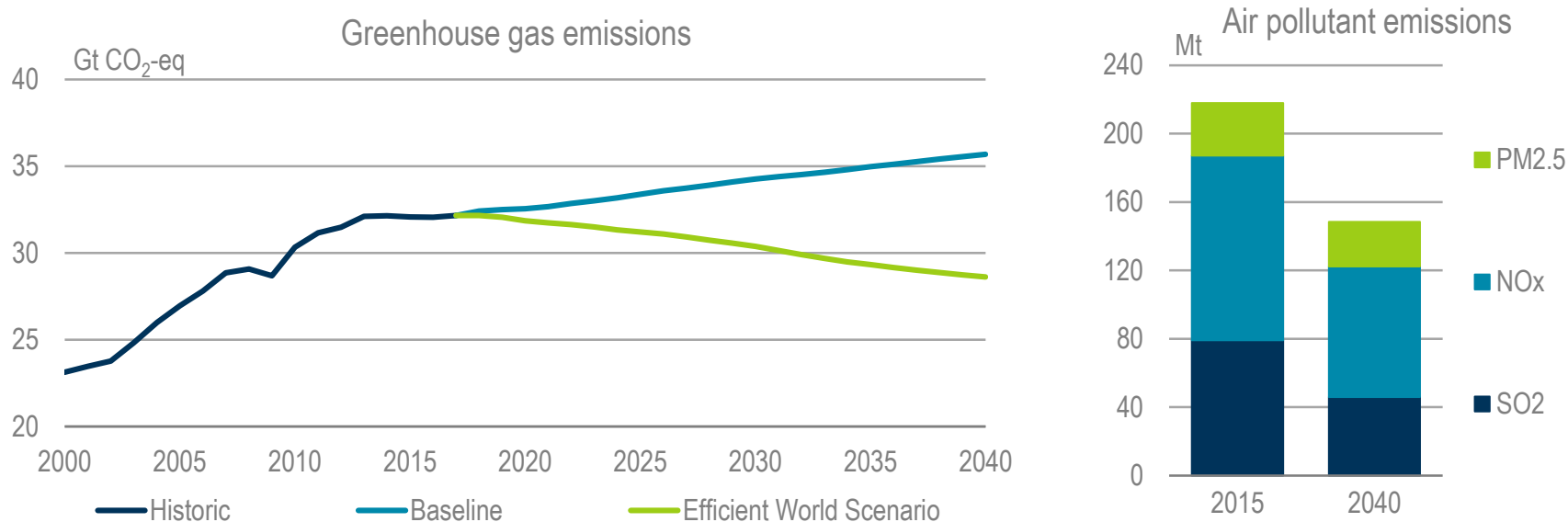
Global final energy use and emissions with and without energy efficiency improvements, 2000-17



- Energy efficiency improvements since 2000 prevented 12% more energy use and emissions in 2017.

Efficiency can deliver immediate environmental benefits

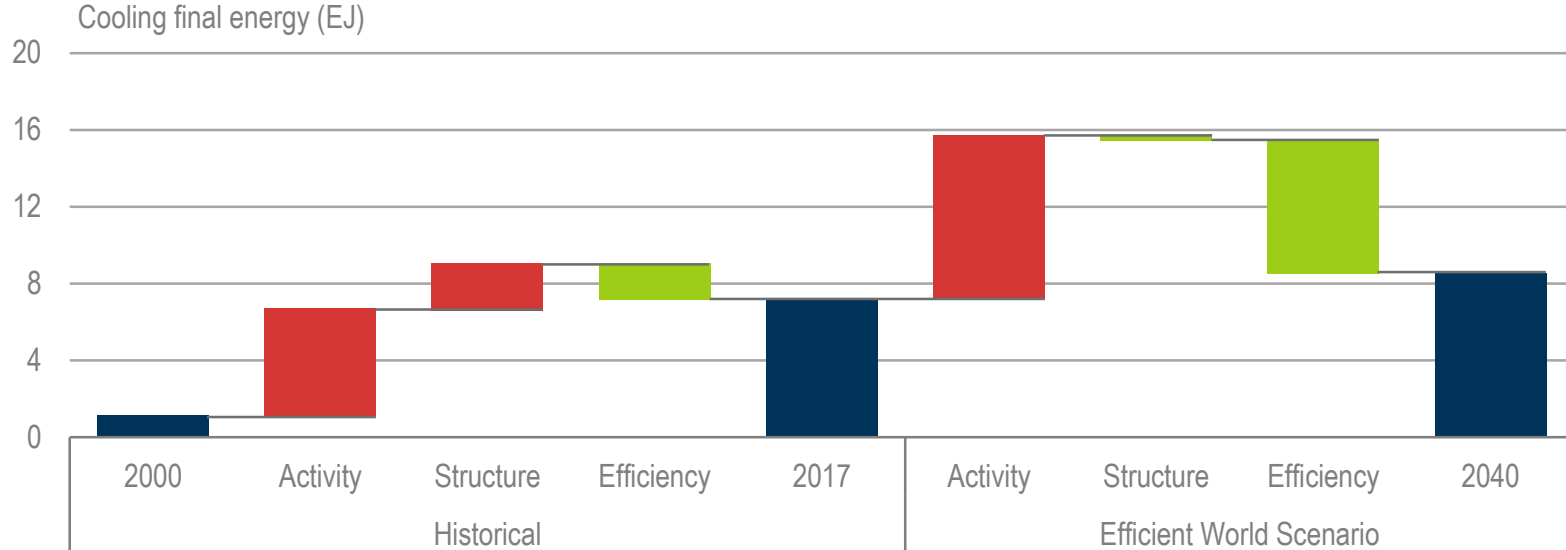
Greenhouse emissions in the NPS and EWS, 2000-40 (left) and air pollutant emissions in the EWS, 2015-40 (right)



The EWS results in an early emissions peak and around 40% of the abatement required by 2040 to be in line with Paris targets. Energy efficiency is indispensable to achieving global climate targets.

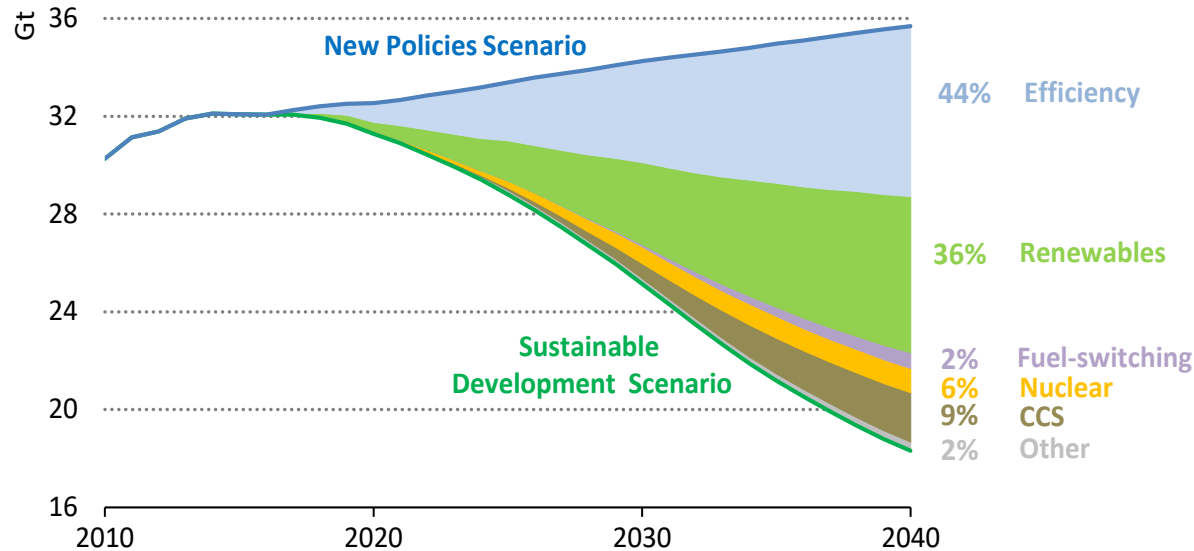
Space cooling energy use will grow rapidly

Buildings cooling energy use decomposition, global, 2000-40



The EWS is the efficiency of component of the IEA SDS

Global CO₂ emissions reductions in the New Policies and Sustainable Development Scenarios



Energy efficiency and renewables account for 80% of the cumulative CO₂ emissions reductions in the SDS.

Efficiency of appliances and equipment

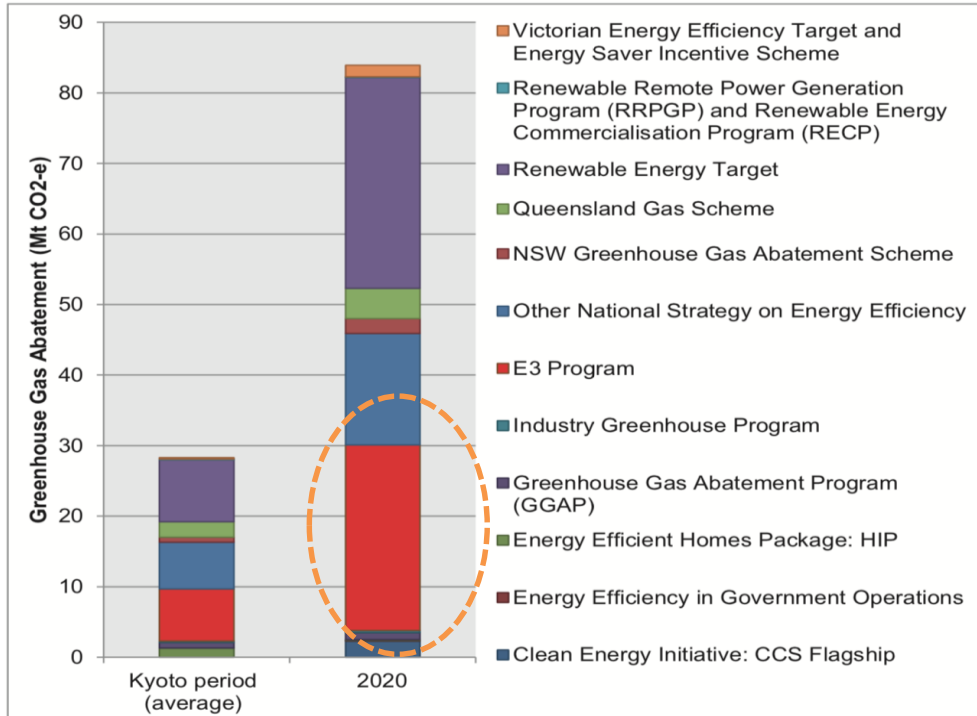
Appliances and Equipment – Why are these important?



Why are governments using Standards and labelling programmes?

GHG abatement: Standards and Labelling programmes

Figure ES1. Contribution from various programs to greenhouse gas abatement .



Why S&L programmes?

- A&E are homogenous traded goods, easy for governments to regulate
- Very cost-effective programme: low cost, high impact
- Reliable - substantial evidence S&L works
- Easy programme to engage with consumers/public
- Other...

Australia's emissions projections 2010, <http://www.climatechange.gov.au/publications/projections/australias-emissions-projections.aspx>

Context: Refrigerant, Montreal Protocol and the Kigali Amendment

- Refrigerants used in various applications (blowing agents, AC equipment, etc.)
- Refrigerants can be ozone depleting and contribute to global warming (AC)
 - Direct Emissions (approximately 20%) – Refrigerant leakage
 - Indirect Emissions (approximately 80%) – CO₂ emissions from fossil fuel-based electricity
- Montreal Protocol (MP) to address ozone depleting substances and efficiency
- The Kigali Amendment to the MP
 - Kigali Amendment – October 2016
 - The link between efficiency and refrigerants
 - Adds the phase-down of production and consumption of HFCs to the Montreal Protocols
 - Controls HFCs that have high Global Warming Potential

Context: South Africa Appliance programme [holding slide]

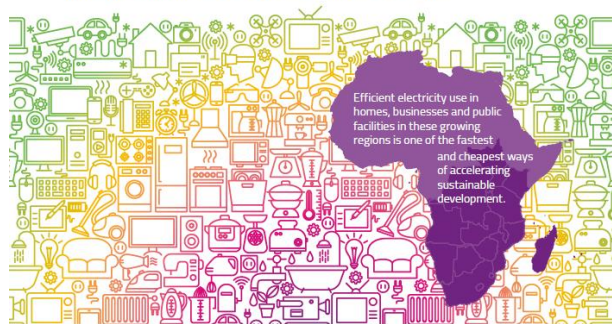


South Africa national appliance programme covers 12 product types

Energy Efficient Lighting and Appliances Project in Southern and East Africa - EELA



The Energy Efficient Lighting and Appliances (EELA) project aims to support the development of vibrant markets for energy efficient lighting and appliances across East and Southern Africa.



- The EELA approach to change
 - promoting a market transformation for energy efficient lighting and appliances in EAC and SADC
 - create market and institutional conditions to enable a transformation of the sector to stimulate increased diffusion of efficient lighting products and appliances across all sectors.

Agenda

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