Energy Efficiency Training Week
Appliances & Equipment Course

Introduction
Kevin Lane and Emily McQualter, IEA - Bangkok, 1 April 2019

#energyefficientworld
Your trainers for the week

Kevin Lane  Emily McQualter
International Energy Agency
Who is in the room?

- Hands up:
  - National government staff
  - Regional government staff
  - Industry
  - NGO
  - 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 would prefer to be in their office?
Who is in the room?

1. Name & Organisation

2. Describe one key challenge that you face in your work

3. What do you want out of this week?
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
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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. Use the opportunity to network!
E. 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**
  - Cocktail & Networking Event
  - Energy Efficiency Innovation
  - Colour the poster & Network
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
- A few slides from EEMR 2018 follow
The impacts of energy efficiency are already significant

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

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 has grown rapidly, as a result of warming climates and growing populations. Forces pushing space cooling energy demand will continue to grow, but efficiency can limit the impact.
Energy efficiency and renewables account for 80% of the cumulative CO₂ emissions reductions in the SDS.
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