IEA Technology Collaboration Programme
Energy Efficient End-Use Equipment

Energy Efficiency in Future Electricity Systems

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4E

IEA Technology Collaboration Programme
Energy Efficient End-Use Equipment

www.iea-4e.org

4E at a glance

- 4E provides an **international forum for governments** and other stakeholders to:
  - Share expertise and develop understanding of end-use equipment and efficiency policies
  - Co-ordinate international approaches in the area of efficient end-use equipment
- Launched in March 2008, 4E now has **12 member countries** actively participating in collaborative projects.
- 4E seeks to meet the **challenges** for policy makers **to maximize energy efficiency** on all types of non-transport appliances and equipment.
- Over **430** publications freely available.

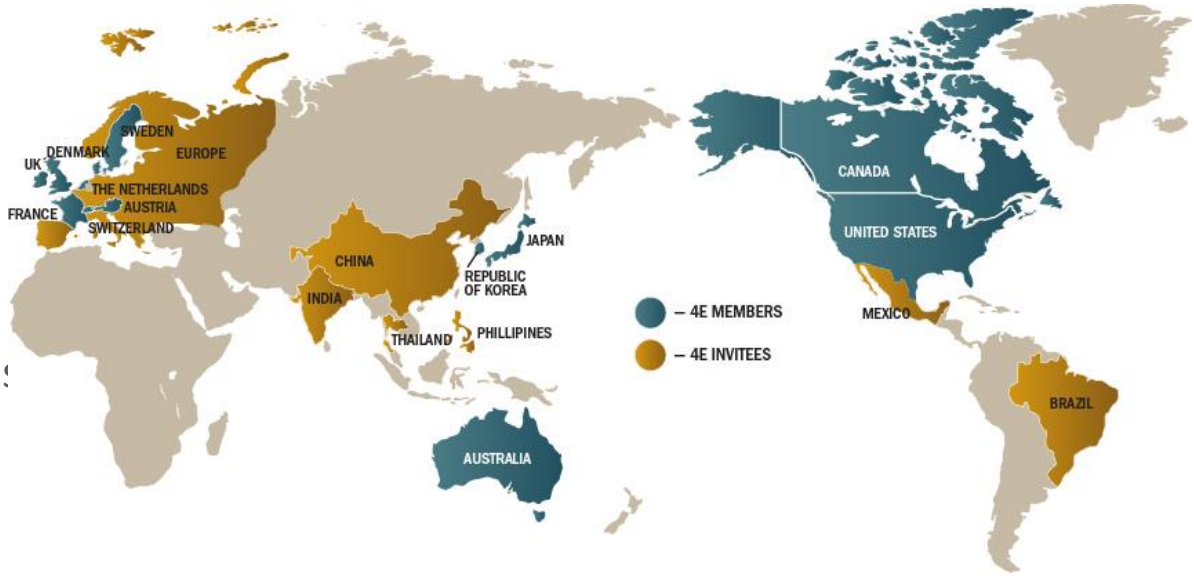
The need for international co-operation

- Through collaboration, 4E enables national energy efficiency programmes to be consistently evaluated and improved so that they are ambitious, internationally aligned and effective.
- The 4E platform provides the means to achieve this at least cost to member governments through the pooling of resources.
- 4E's international comparisons of appliance performance levels are used by policy makers to set national thresholds which enable their citizens to access the best performing products, now and into the future.
- Working together through 4E, governments can grow the impact of energy efficiency policies substantially, through:
  - Setting policies that reflect changes in technology and market conditions.
  - Expanding the scope of policies to cover more appliances and equipment.
  - Improving implementation and compliance through learning from the experience of others.

Participating Countries

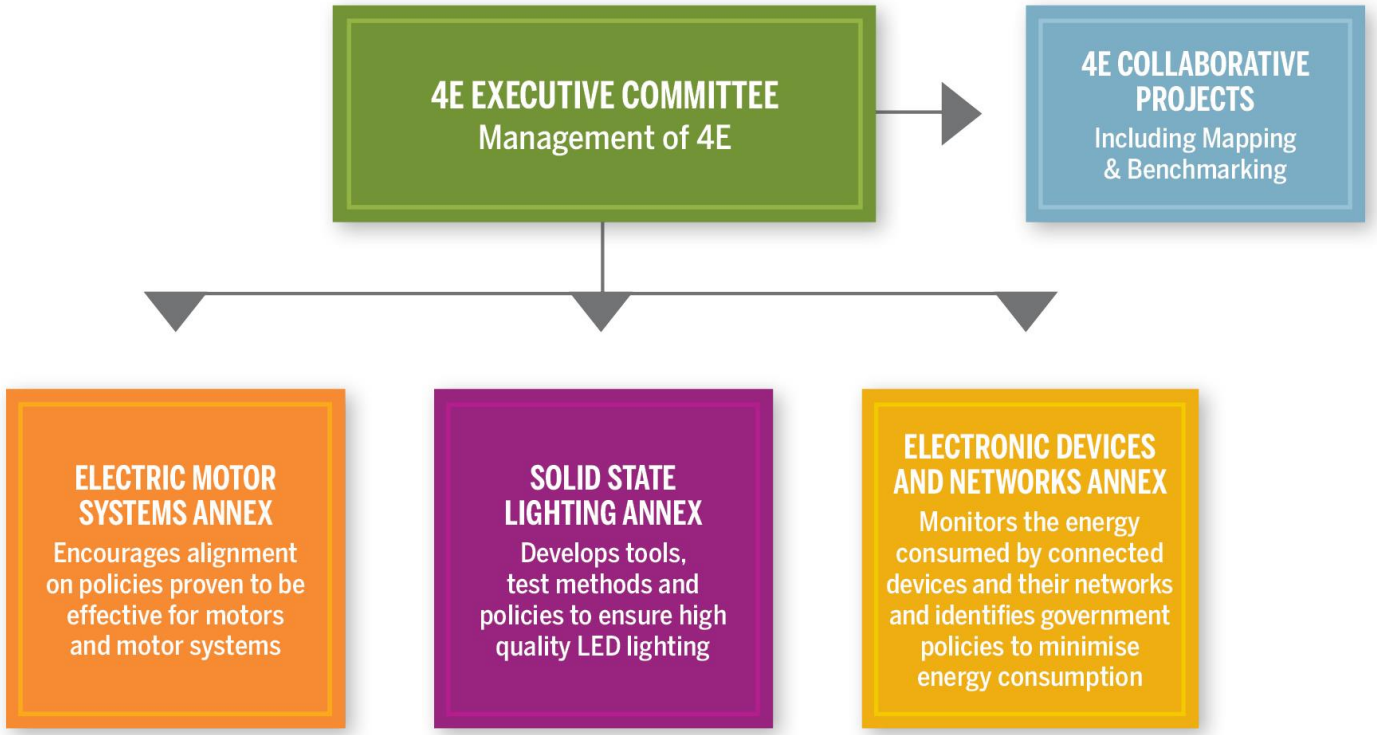
MEMBERS

Australia
Austria
Canada
Denmark
France
Japan
Korea
The Netherlands
Switzerland
Sweden
UK
USA



ExCo participants comprise senior representatives of government energy efficiency policy departments, ministries or agencies

4E structure



Core activities

- **4E Annexes:**
  - Electric Motor Systems Annex (EMSA)
  - Solid State Lighting (SSL) Annex
  - Electronic Devices and Networks Annex (EDNA)
- Secretariat for **G20 Networked Devices Task Group** (Connected Devices Alliance)
- **4E ExCo projects:**
  - Mapping & Benchmarking (many products)
  - Global Achievements of Energy Efficiency Programs
  - Monitoring Verification & Enforcement (MV&E)
  - Impact of Voluntary Agreements (new)

General activities: most products

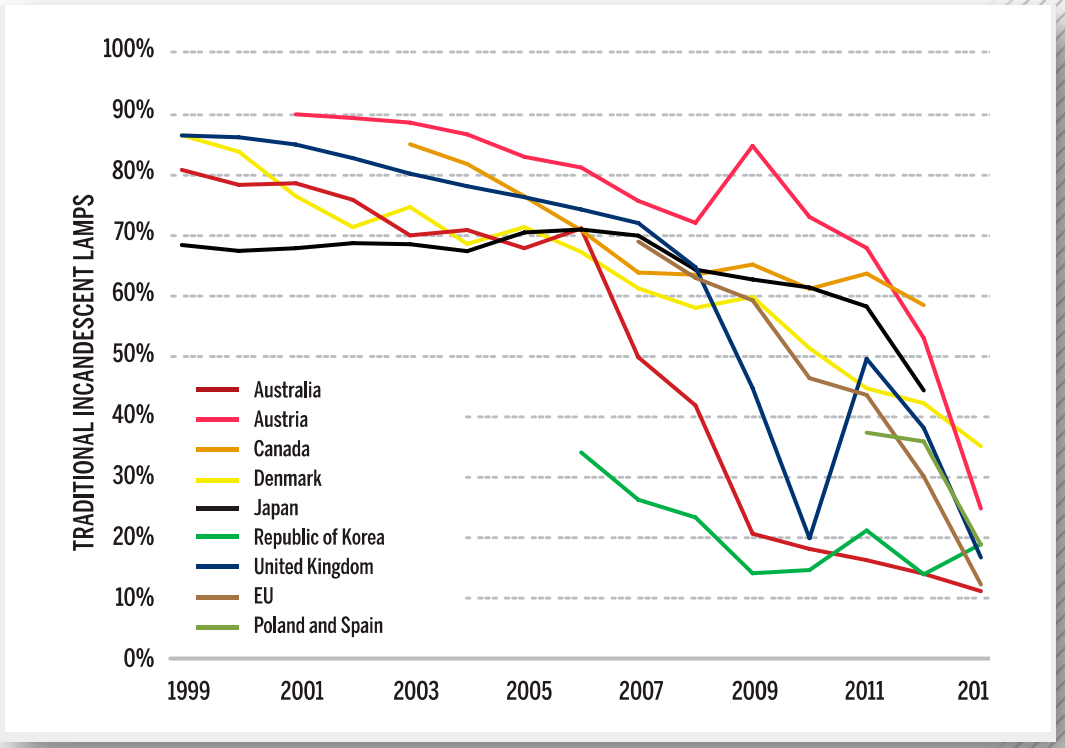
The scope of work within 4E Annexes vary considerably, but typically include:

- International benchmarking of product performance between countries/regions
- Examination of performance trends globally
- Comparison of national policies and their effectiveness
- Establishing networks of test labs to share knowledge & understanding, undertake round-robin tests
- Making representations to improve international technical and performance standards
- Examining opportunities for international alignment of policy approaches and technical standards
- Events, industry engagement, publishing findings, policy recommendations

Mapping & Benchmarking

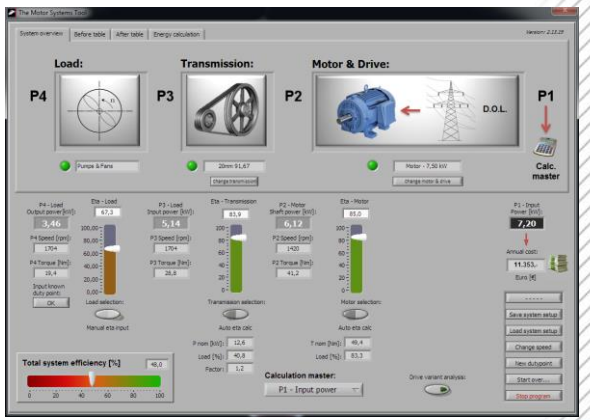
- 4E's unique access to data and information through our member governments enables us to track and compare product performance in great detail and different markets

- This reveals insights into what policy approaches work and how to design and implement better energy efficiency policies
- 4E has established itself as a source of comprehensive information and analysis, which is enabling governments to make better informed decisions



Motors

- EMSA has expanded coverage to cover motor systems – initially pumps, fans and compressors – as governments seek to develop new energy efficiency policies.
  - Policy guidelines for Motor Driven Units – analysis of standards and regulations for pumps, fans and compressors
  - Energy Efficiency Roadmap for electric motors and motor systems.
  - Motor system tool: design software



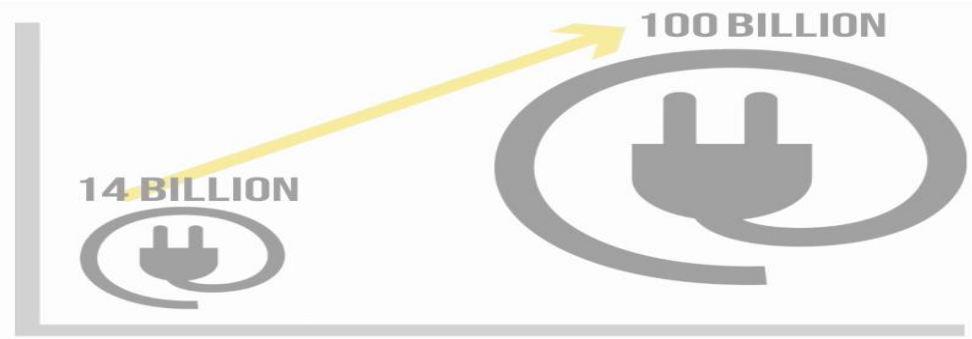
Lamps

- The SSL Annex publishes performance tiers for LED luminaires.
  - V**oluntary quality and performance tiers to address product attributes such as colour, lifetime, power, and efficacy for common SSL applications.**

  - Undertakes research into the efficacy of smart lamps (i.e. connected to communication network).

Networked Devices

- EDNA focuses on networked devices and their networks.
  - Almost all appliances and equipment will become connected to the internet.
  - Energy increasing at 2x rate of total electricity.
  - Greater than Canada's total electricity in 2011.
  - Forecast to use 6% of current global electricity by 2030.



4E & systems

G20 Connected Devices Alliance

- Informal alliance between governments and industry
  - 350+ representatives
- **Centre of Excellence**
  - Publish papers which increase understanding of connected device energy use & inform policy development
- **CDA Design & Policy Principles**
  - Guide to efficient design & operation of networks and devices

http://cda.iea-4e.org

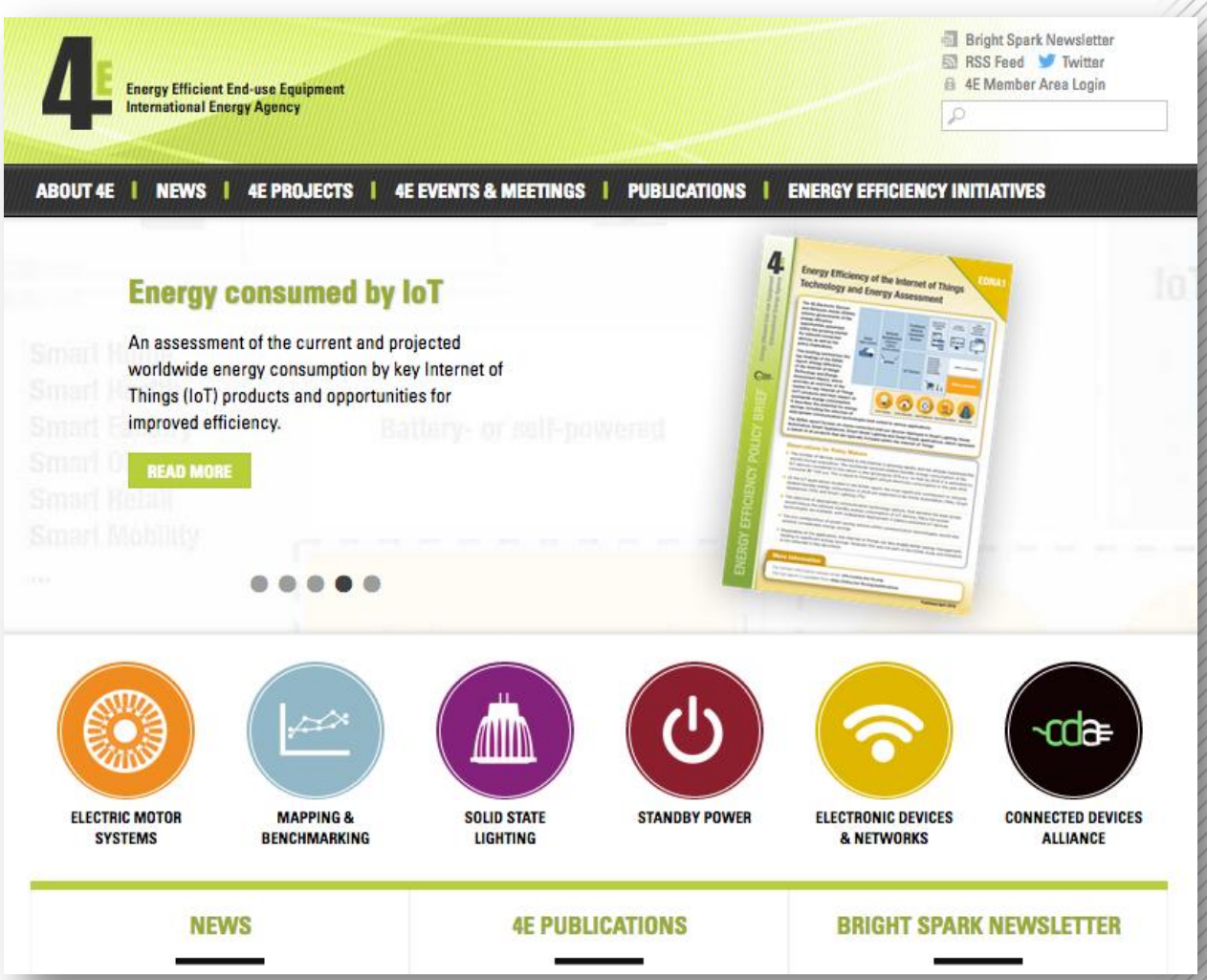
Access

4E website provides the central hub for information

Over 430 publications freely available

Plus 260 workshops, events, etc

www.iea-4e.org



Newsletters

Providing up-to-date information on product policies around the globe and 4E work in progress

4E newsletter “Bright Spark”

EMSA newsletter

Published in five languages

Distributed to 3,300

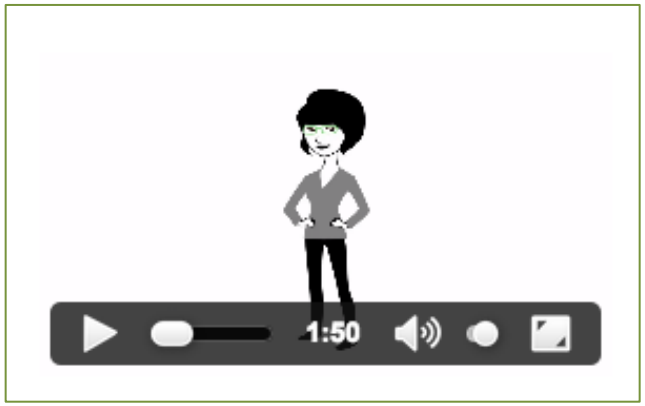
Policy Briefs

- High level summaries of 4E Reports
- Recommendations for policy makers
- Available in English, French, German, Japanese, Korean

Videos

Connected Devices Alliance

www.youtube.com/watch?v=H9grCy3bltc



The SSL Annex

www.ssl.iea-4e.org/about

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