

Beyond kWh

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WEO 2012 and Energy Efficiency

The world is still failing to put energy systems on a more sustainable path

- **Global demand grows by 30% to 2035 in NPS**
- **FF subsidies of USD523Bn (up 30% on 2010)**
- **Long term; 3.6°C global temp rise.... but**

Significant reversals are possible with EE.

New fuel effy measures, new domestic production could see US fuel independence.



Efficient World Scenario; a blueprint for energy efficiency

- **China; a further 16% reduction in EI to 2015**
- **US; new Café stds in 2012**
- **EU 20% reduction in energy demand by 2020**
- **Japan 10% cut in electricity consumption by 2030....**

**But 80% of buildings and 50% of Industry EE still untapped.
EWS seeks to implement all EE measures that are economically viable by removing barriers.**

- **Halve the growth in global TPED to 2035**
- **Lower oil demand by 13mb/d (Ru + No) by 2035**
- **USD11.8Tn investment more than offset by reduced fuel**
- **Re-orientation of global economy give USD18Tn increased output by 2035, CO₂ peaks in 2020, 3°C path.**



The Market for Energy Efficiency

- How ready are markets to deliver the necessary EE services and products?
- What are the current investments in EE?
- Do we have the right portfolio of EE investments? targeted at priorities?
- What are the med-term projections for EE markets?
- Is EE an attractive investment?
- ACEEE; US a \$72 -100Bn EE market, Ge \$50Bn (largely buildings)....

Multiple Benefits of Energy Efficiency



Multiple Benefits Work Programme

1. Impacts roundtables

a) Upcoming

a) Economic impacts (Paris, January 2013)

b) Health and well-being (Copenhagen, April 2013)

b) Being planned

a) Industrial productivity and competitiveness (Sydney?, July 2013)

b) Energy provider and consumer benefits (San Francisco?, September 2013)

c) Asset valuation and fiscal impacts (TBD, late 2013)

2. Collect and develop estimation methods

3. Multiple Benefits Evaluation Guidebook

a key issue: Rebound

- Driven by consumer reaction to an intervention
- Consumers maximise utility on new indifference curves will trade energy demand reductions for higher value outcomes; Very situation contextual
- Naïve to;
 - ignore rebound,
 - use 'rebound factors' to reduce value of energy demand reductions

Need to measure the outcomes that consumer choose to rebound EE to.

- Rebound may be highly desirable; backfire in developing countries



Energy Efficiency can keep the door to 2°C open just a bit longer

Successive WEOs show that a 2°C limit is getting more costly each year.

- 80% of 'allowable' emissions by 2035 are already locked in by existing power plants, buildings, industry etc. Door closes in 2017.
- Can only consume 1/3 of proven FF reserves by 2050 if the world is to achieve a 2°C goal.
- EWS postpones lock-in till 2022, but concerted effort and investment are urgently required.
- Need to understand what we are currently doing (market report) and better account for ROI on EE outcomes (multiple benefits).