



Energy Efficiency Policies

Albrecht Kaupp

International Seminar on Energy Efficiency

Kathmandu, Nepal

18-19 April 2010



Content

- 1. International policy strategy**
- 2. Government and utilities role**
- 3. A policy rating score card**
- 4. Issues of verifying the impact**
- 5. Penalties or incentives ?**
- 5. Convergence and contraction.**



Five continents, four DSM strategies

USA

About 4000 voluntary incentive driven EE programs, implemented by power and gas utilities and paid by all consumers through a tax of 3%-6% since 1976.



- **Eligible Efficiency:** Air conditioners, heat recovery, duct/air sealing, building insulation,
- **Applicable Sectors:** Residential
- **Incentive Amount:**

HE central air conditioner	\$ 550
HE room air conditioner replacement	\$ 150
Central air conditioner maintenance	\$ 55
Duct leak repair up to	\$ 375
Heat recovery unit:	\$155
Reflective roof coating:	\$ 70
Insulation: \$ 1.5 per sqm up to	\$ 375
Refrigerator buy back+ recycling:	\$ 75

Equipment requirement: EnergyStar or better

Installation requirement: All work done by state licensed co.



INDIA DSM strategies

INDIA

Has Energy Conservation Act since 2001 with no incentives but very strong emphasis on mandatory energy manager and energy audit.

About 500 Million US\$ a year are invested in EE measures documented through extensive surveys



EUROPE DSM strategies

EUROPE

Under a 2006 “Directive” all 27 countries had to prepare their National energy efficiency action plan (NEEAP) and a target of 9 % savings until 2016 was set. Rare national incentives and power sector hardly involved.

Extremely diversified approach seen



Japan DSM strategies

Japan

The Japan energy conservation strategy is essentially built on a very strong and highly disciplined internal energy management group activities in industry. Japan is also the country that has decoupled most its economic activities from use of energy.



Middle East, North Africa MENA

MENA

The EU Directive and strategy has been introduced in 2009 and adapted in 2010 by 21 Arab countries. The reason are increased rotational load shedding in 12 out of 21 countries due to unsustainable annual growth in peak electricity demand of 5% -12%. Two countries are also supplied through Europe.

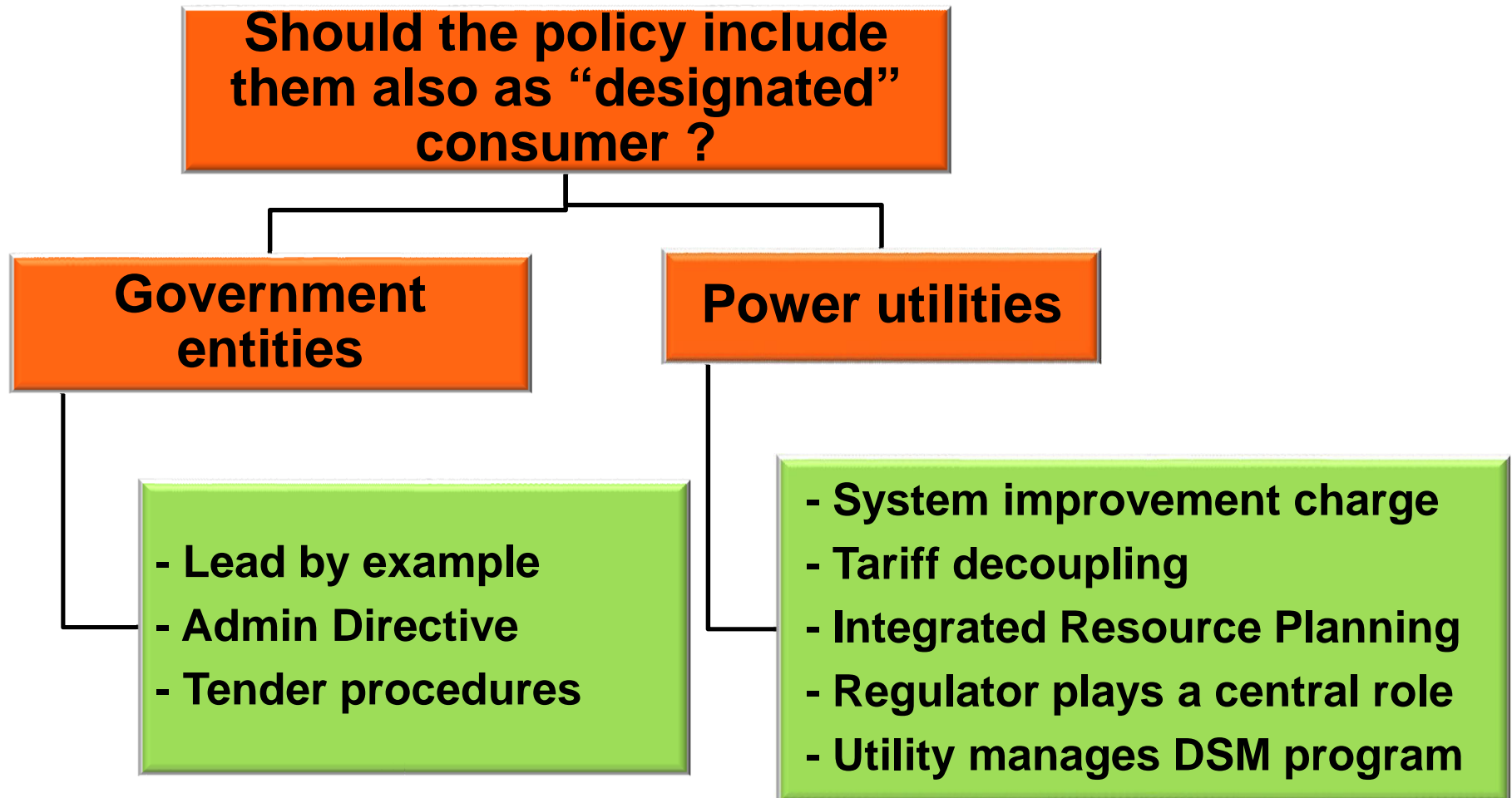


Major problem: Not enough transmission capacity to exchange larger amounts of electricity and frequency synchronization problems between North and South



Perfect Mix

- Internal energy management system for larger industries of Japan
- The Indian energy manager and audit system through certified professionals
- The EU setting and monitoring a target
- The USA involvement of the regulator





Should an energy conservation Law include strong penalties for noncompliance ?

YES

...because otherwise the Law will not be respected

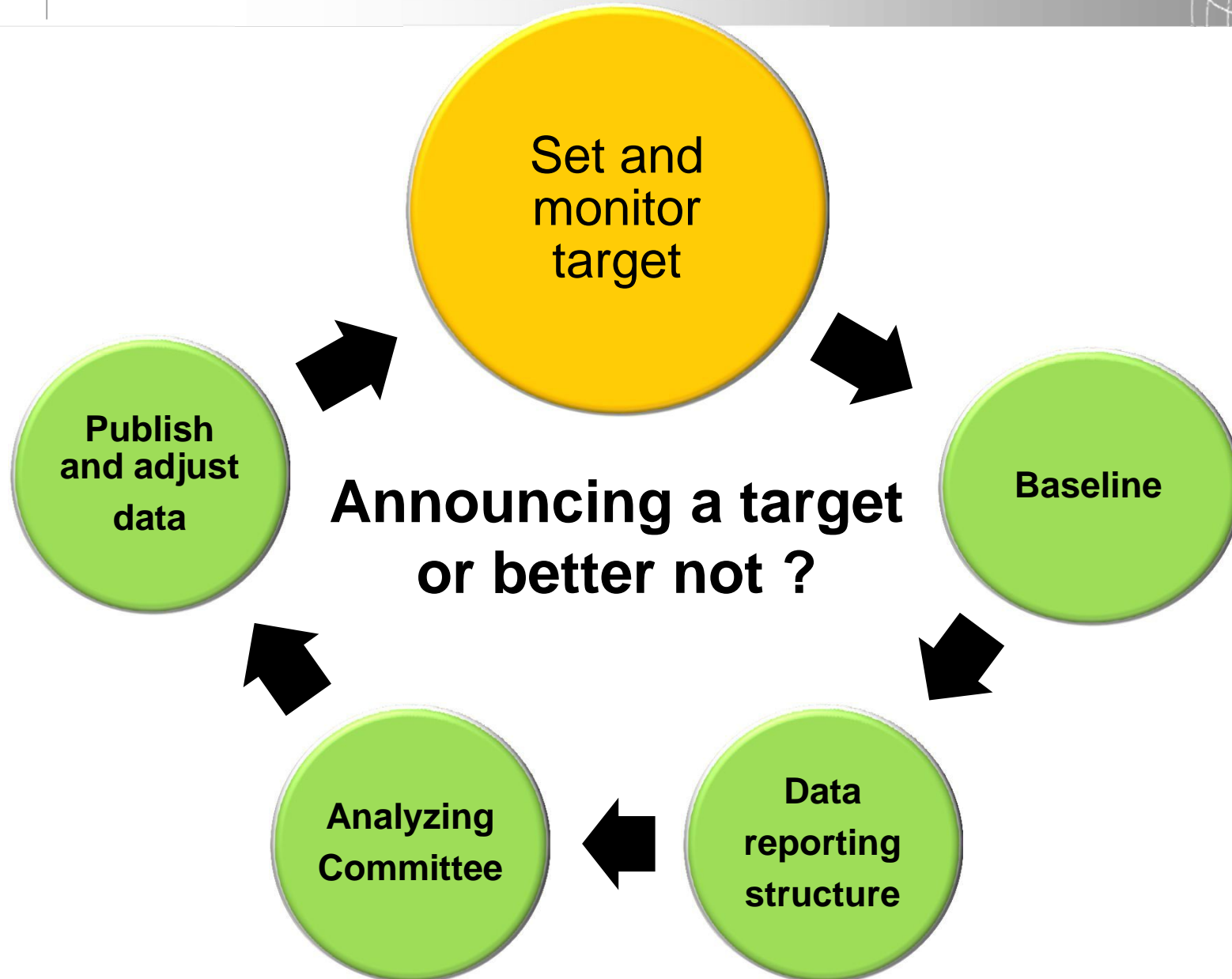
No

..Because an Energy conservation Law is about the only law to force an industry to make more profit !

The Law needs to be well marketed and not poorly enforced !



Energy Efficiency <u>policy</u> announced
Special agency designated to implement the policy and functioning
Designated consumers notified and informed
A five year action plan prepared and widely discussed
Budget and infrastructure available to implement the plan
Energy utilities <u>do not</u> derail the plan, they are involved in a program management and promotion capacity and are given due consideration
Energy conservation law passed (takes 2-3 years)
Rules and regulations framed (takes 2-5 years)
The impact of the plan is well quantified and widely published
The regulator authority is behind the plan and actively involved





How to quantify the impact

Top

- **Energy intensity**
- ...easy to get indicator but can be misleading if not properly applied

Gap

- Very large numerical differences
- Interpretation issues

Bottom

- Costly individual **project based accounting**



www.energystar.org

(Label Reference page)

www.aceee.org/energy/state/ (State Rating. Excellent example)

www.cee1.org (efficiency programme administrators)

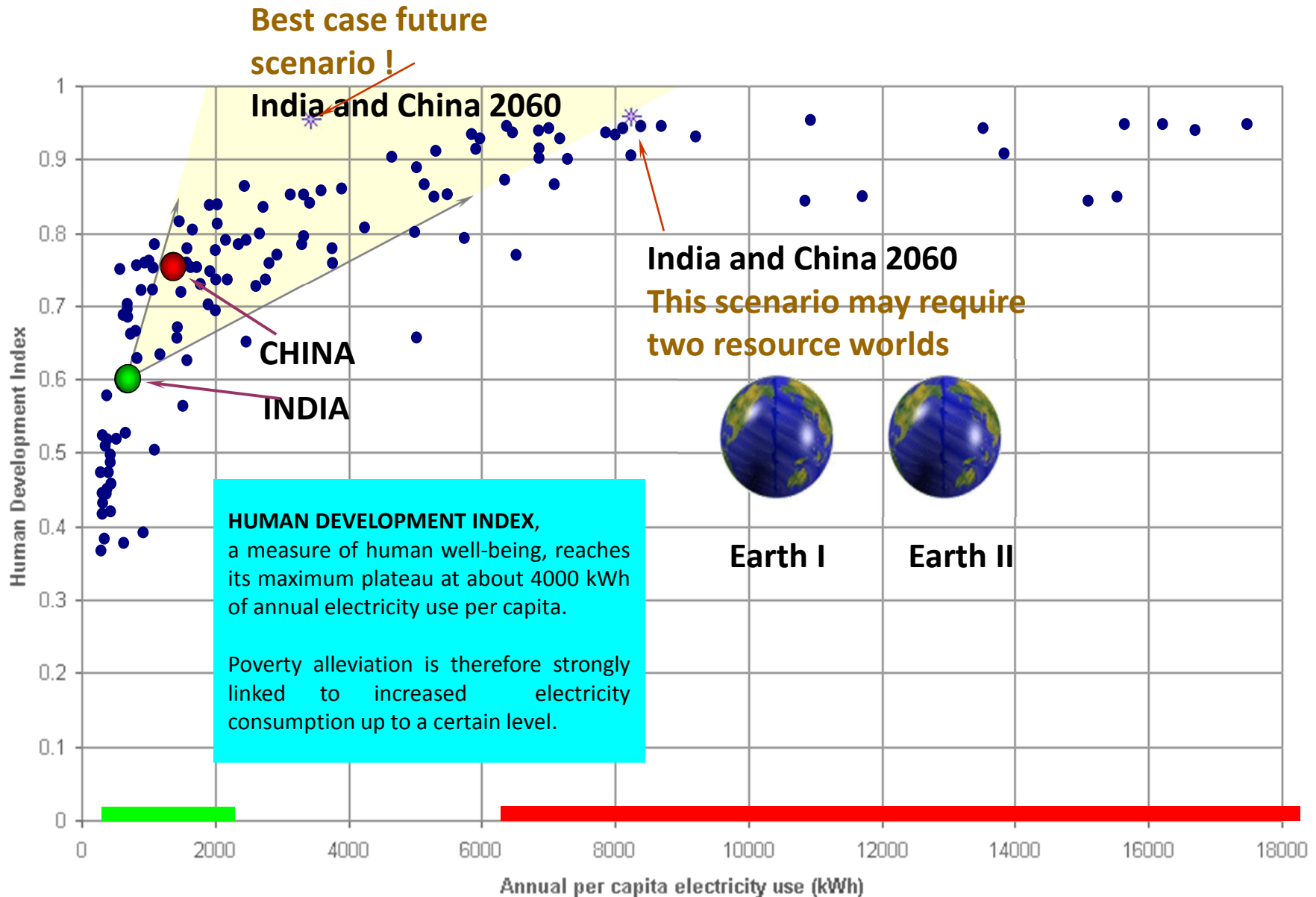
<http://www.medemip.eu/WebPages/Common/showpage.aspx?pageid=36>

<http://www.eceee.org/> (EU page)

<http://www.emt-india.net/eca2010/2010.htm>

http://www.energymanagertraining.com/new_index.php

Energy modesty as inconvenient truth



Convergence and Contraction by ALL

