Energy Efficiency Policies
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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.**

Rebates, Rebates, Rebates

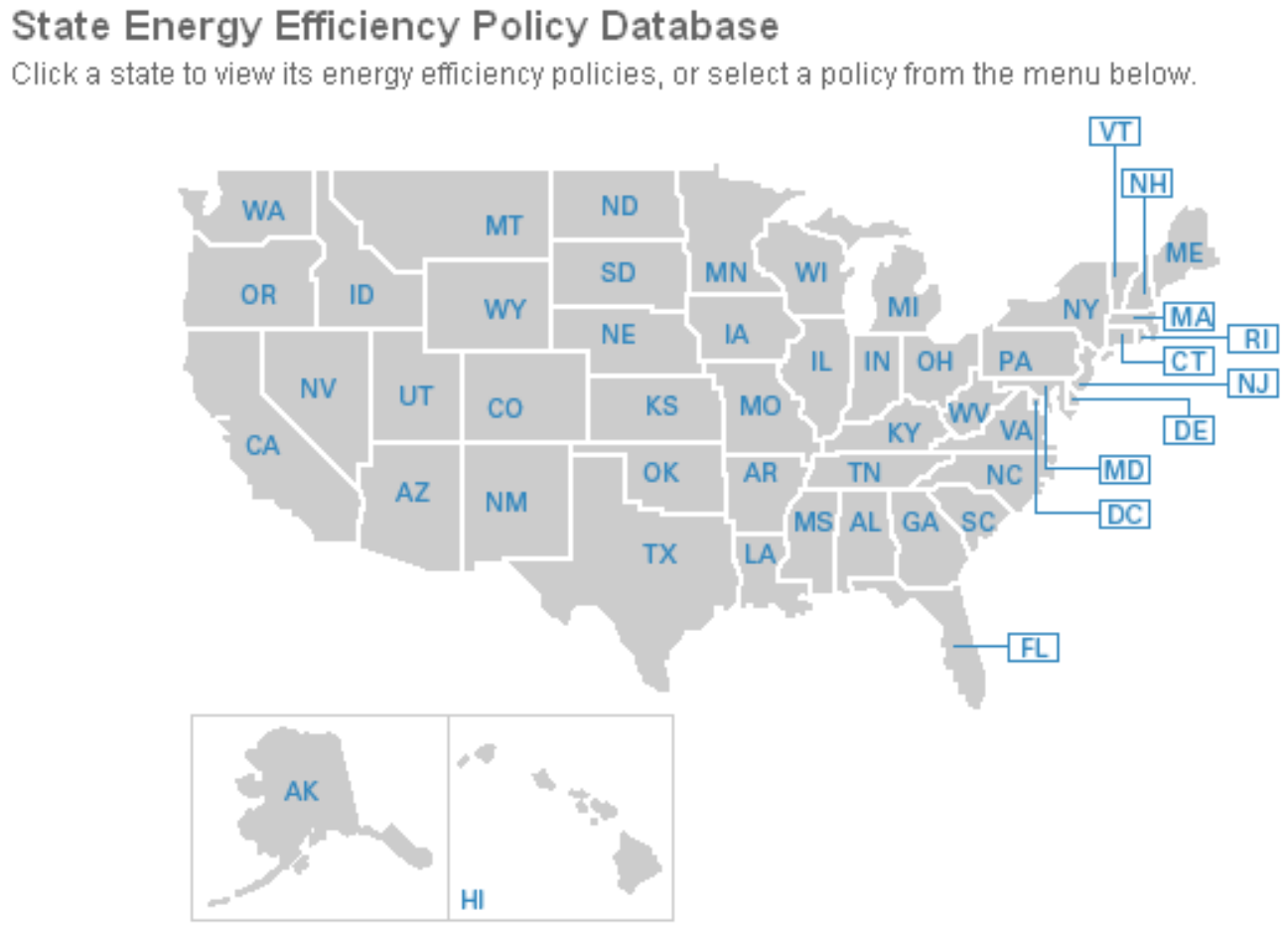
- **Eligible Efficiency: Air conditioners, heat recovery, duct/air sealing, building insulation,**
- **Applicable Sectors: Residential**
- **Incentive Amount:**

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.

Good example to present and analyze “State-of-Play” of an EE policy



http://www.aceee.org/sector/state-policy

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.**

Power deficiency map MENA

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

A mix of the best of all worlds

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**

Debated policy issue

Should the policy include them also as "designated" consumer ?

Government entities

- Lead by example
- Admin Directive
- Tender procedures

Power utilities

- System improvement charge
- Tariff decoupling
- Integrated Resource Planning
- Regulator plays a central role
- Utility manages DSM program

Penalty issues

Should an energy conservation Law include strong penalties for noncompliance ?

YES

…because otherwise the Law will not be respected

No

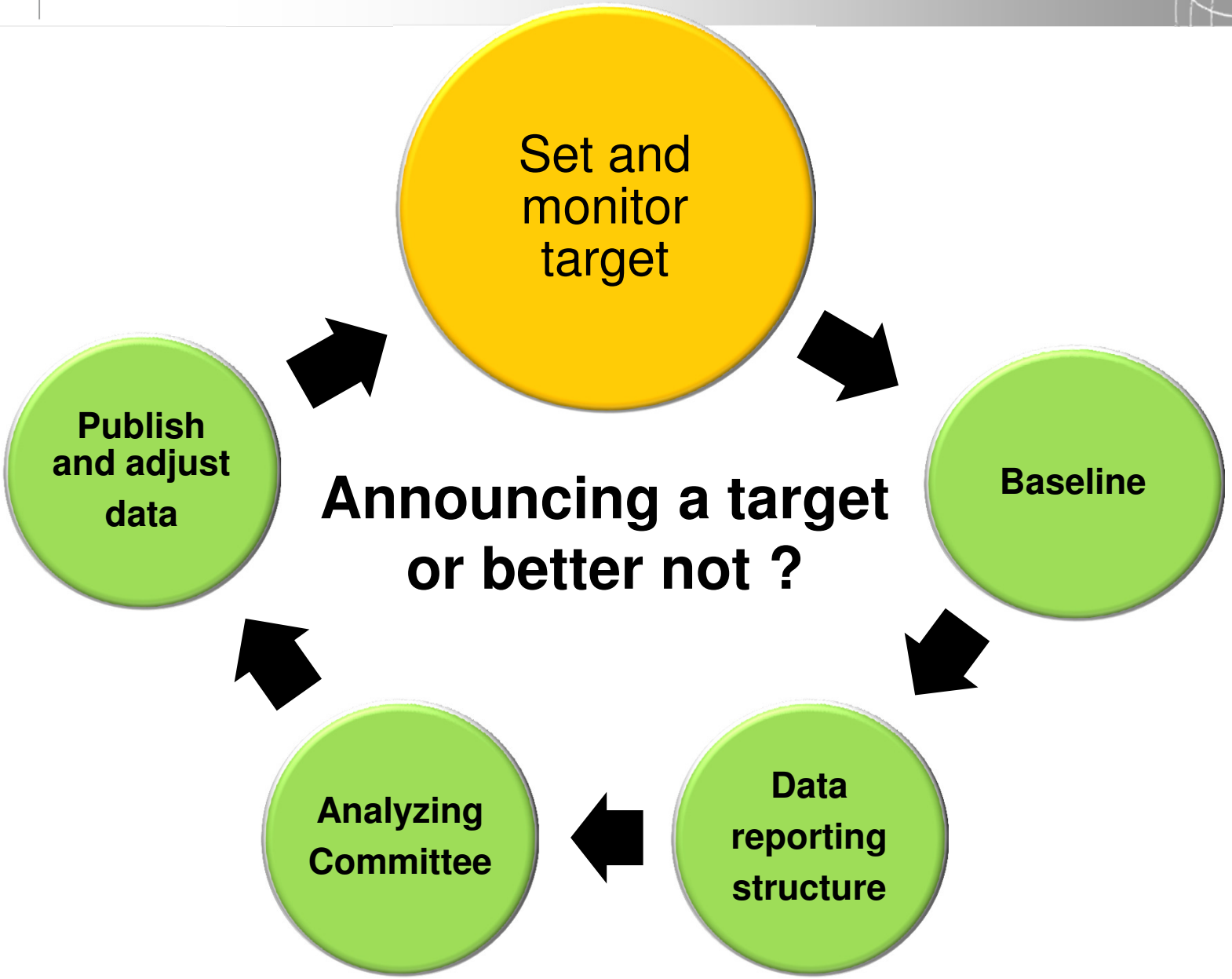
..Because an Energy conservation Law is about the only law to force an industry to make more profit !

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

How serious is an announced policy

Energy Efficiency policy 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 do not 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

Quantification of EE Policy impact ?



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**

Reference Web Pages

www.energystar.org (Label Reference page)

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

www.cee1.org (efficiency programme administrators)

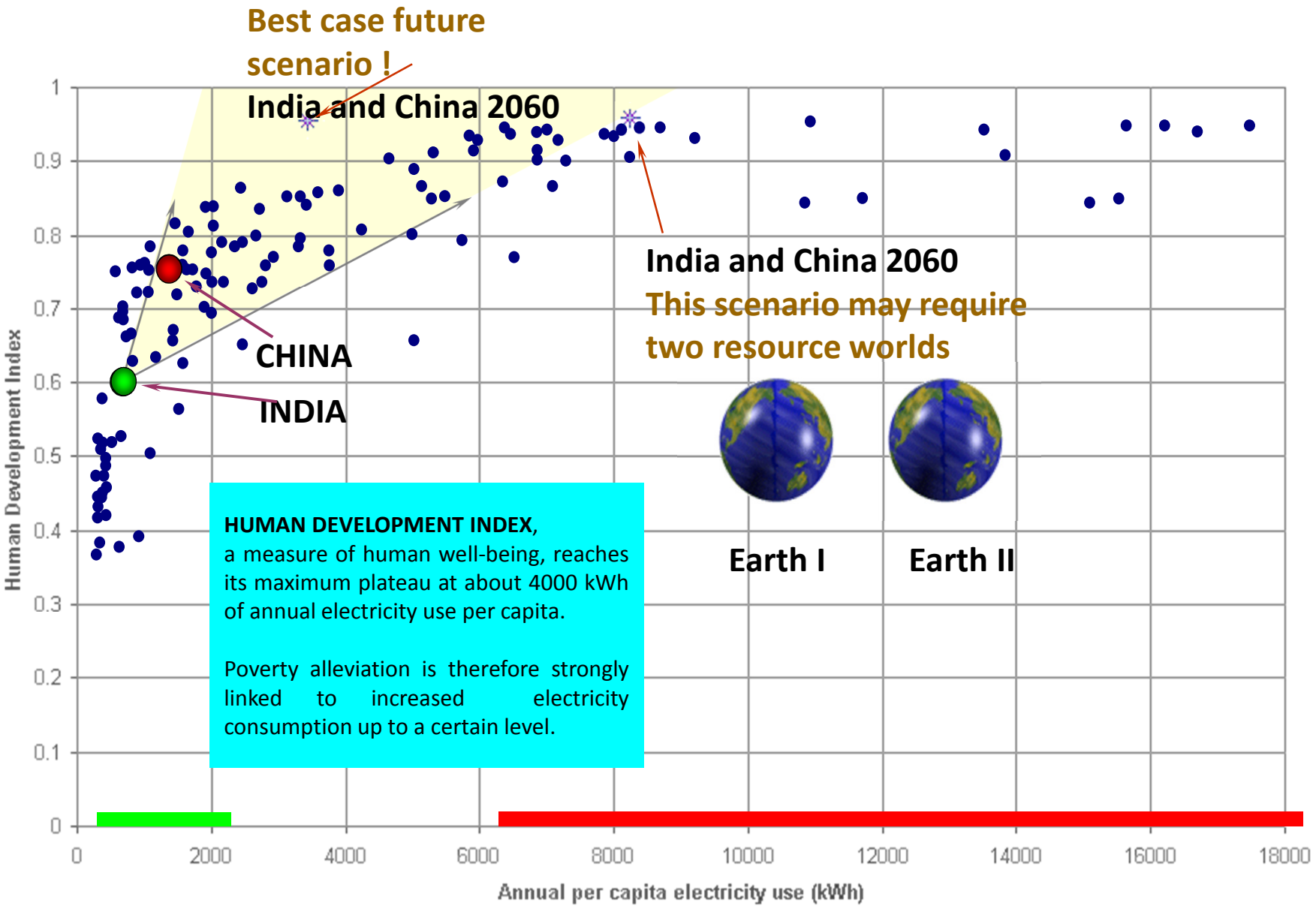
http://www.medemip.eu/WebPages/Common/showpage.aspx?pageid=36

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