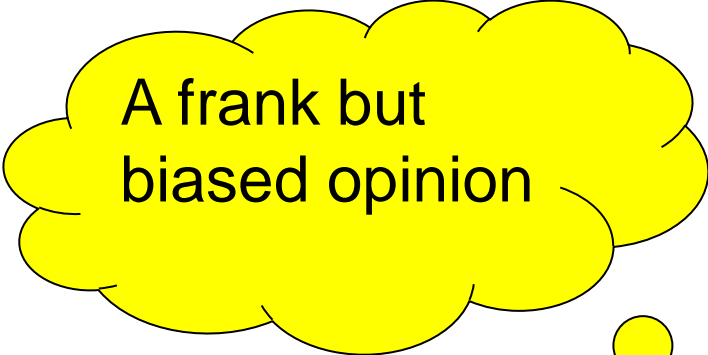



# It's all about money, ownership and political will !

International Conference on  
Institutionalization of  
Energy Efficiency

26-27 November 2015  
Kathmandu Nepal




A frank but  
biased opinion



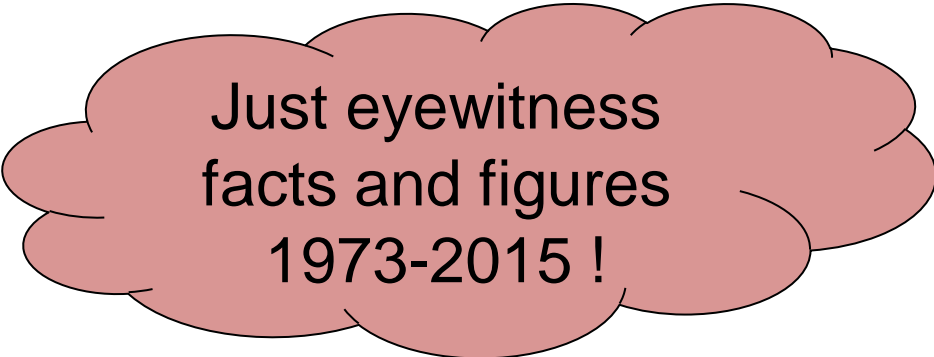
No best  
practices exists



# **Institutionalizing Energy Efficiency the international dimension**



Decide for  
yourself what  
fits Nepal!



Just eyewitness  
facts and figures  
1973-2015 !

## Lot's of distinctively different reasons why national energy efficiency programs are pursued by Governments

- ❑ Declaring it a **new source of energy** that can be commercially sold and bought like any other source of energy such as gas, oil, wood, electricity. (EU, USA, South Africa, etc.)
- ❑ Whenever there is a chronic demand and supply gap in energy, particularly electricity, a cost effective strategy is to promote EE
- ❑ In support of a socially fair energy distribution in cases where a rural population experiences constraint access to energy because the urban population and industry unnecessarily wastes energy.
- ❑ EE became a matter of national security because EE decouples economic growth from growth of energy consumption
- ❑ Treasury is concerned about high electricity subsidies and instructs Utilities to introduce EE with customers below supply cost tariffs

The first oil crises (OPEC embargo) Sunday 25 November 1973. Empty tanks and empty highways. Germany discovered and experienced „**energy efficiency and its conservation**“ on the first auto-free Sunday converting the German highway system nationwide into a pedestrian area. Penalty 500 DM = 250 USD if you got caught with your car on a highway. 25% less car sales. 350% more bicycle sales. Unemployment almost doubled from 2.4% to 4.4%. Fuel prices went up and stayed up by 400% .



Declaring it a **new source of energy** that can be commercially sold and bought like any other source of energy such as gas, oil, wood, electricity. (EU, USA, South Africa, etc.)

First declare it a source and think about the price and implementation strategy later

Preferred  
Strategy in the  
USA

Whenever there is a chronic demand and supply gap in energy, particularly electricity, or energy prices go up dramatically a cost effective strategy is to improve on energy efficiency and start first with the “wasters”.



**The most common approach since the first and second oil crisis**

# Which “Technology” is most efficient ?

	Eff	Losses
Electricity Transformer	96%	4%
Power grid	81%	19%
Cogeneration plant	80%	20%
Combined Cycle Gas Turbine	50%	50%
Coal fired power plant	40%	60%
Improved cooking stove	30 %	70%
Solar Power Plant	28%	72%
<b>Human Beings</b>	<b>12%</b>	<b>88%</b>



# Where does the international EE community stand ?

- ☐ Over 40 Years of **institutionalized** Energy Efficiency since 1974 triggered by Japan and the USA !
- ☐ Many **verifiable** success stories published !
- ☐ Many window dressing success stories published as well !
- ☐ Find your own way. Best practices do not exist. Lessons learned may not apply to your situation.

# Some Issues Common to EE Policies and Strategies

- ☐ M&V plans and baselines are pretty poor or missing
- ☐ Subsidies or penalties that is the question ?
- ☐ How much Government intervention does the trick ?
- ☐ Who owns the national energy efficiency action plan
- ☐ NEEAP as a sales catalogue to find sponsors

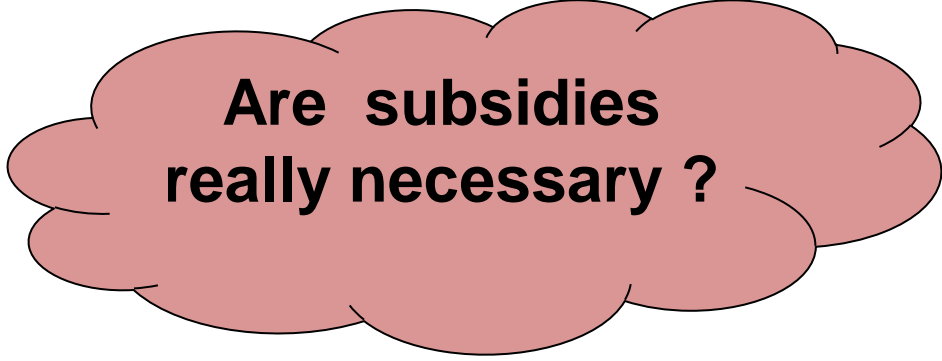


**How much  
enforcement ?**



**Monitoring and  
quantification of  
progress !**

## **Four issues central to institutionalization**



**Are subsidies  
really necessary ?**



**How much  
Government  
intervention**

# **The Chicken and Egg Question: Which one was first ?**

A national energy efficiency action plan (NEEAP)

**OR**

A set of legislative, regulatory or administrative instruments and actions (LRA) to write the NEEAP

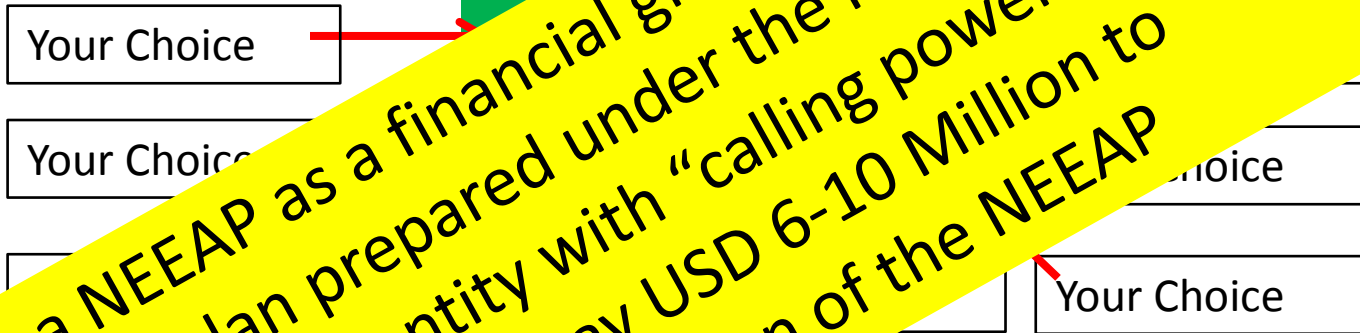
- % GWh bench mark
- Target year

Adjustment of  
trajectory or NEEAP



M&V “watchdog” prepares  
annual progress report

## A NEEAP Preparation Steps



View a NEEAP as a financial grade bankable business plan prepared under the leadership of a Government entity with “calling power” to get a start up capital of say USD 6-10 Million to commence implementation of the NEEAP

Principles  
Engagement

- Whatever **ACTION** is in the Plan should....
- a) ...show a realistic budget estimate
  - b) ...name an owner that implements
  - c) ...be technically viable
  - d) ...pass a benefit/cost test
  - e) ...state the source of financing
  - f) ...report on progress on each **ACTION**

# Sponsors whom have triggered NEEAPs

- ☐ Parliament
- ☐ Ruler, Prime Minister, or President
- ☐ Council of Ministers (Cabinet)
- ☐ Treasury (Ministry of Finance)
- ☐ A Federal Ministry with an energy mandate
- ☐ A State Ministry with an energy mandate
- ☐ An independent Energy Regulator (“can sue and be sued”)

**Quantifiable  
EE Actions**

- MW “reduced” of energy
- MWh “saved” of energy

**LRA**

- Legislative actions
- Regulatory actions
- Administrative actions

**Capacity  
Development**

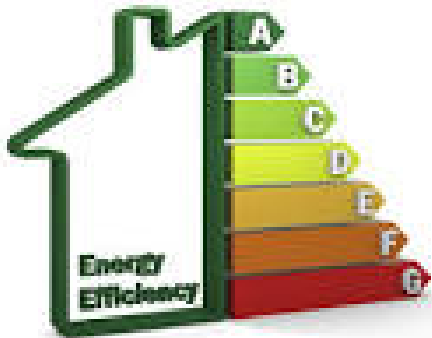
- Public sector
- Private sector (EM, EA)

**Public  
Relations**

- Awareness campaigns
- Media strategy paper

**NEEAP**

**Non Quantifiable Actions**



## A healthy mixture of quantifiable Actions

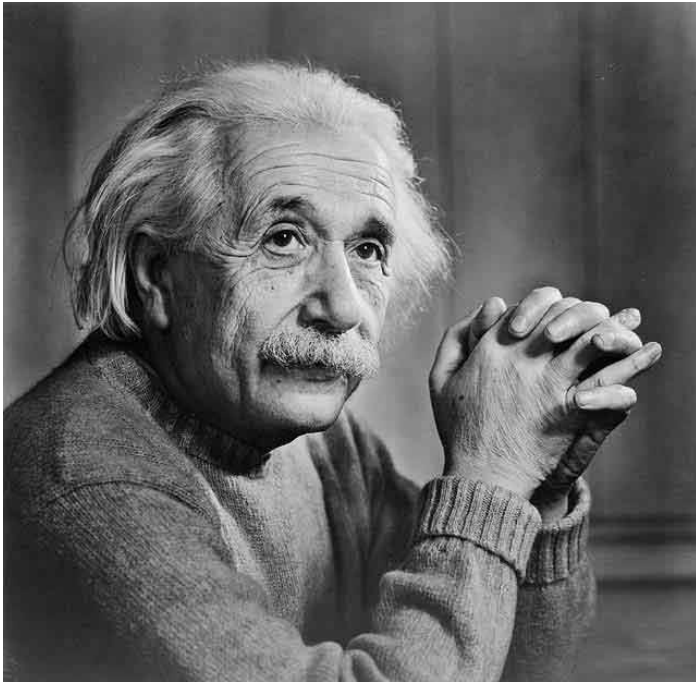


A lean, mean, committed and innovative  
“EE” entity is needed to push the agenda



A political heavy weight is  
needed to pave the way

**“Everything should be made as simple as possible, but not simpler”**



**(ALBERT EINSTEIN)**

$$E = m \times c^2$$

## EE target and NEEAP essentials

- ❑ An announced **target** helps to describe the dimension of the NEEAP to be completed within a prescribed number of years
- ❑ The purpose of a Plan (NEEAP) is to either adjust the Plan if it becomes obvious that despite all efforts the Plan was too ambitious, or to increase financial and human resources to meet the Plan target.
- ❑ Monitoring and verification of the Plan is essential and progress should be appraised and documented by an independent entity (“Watchdog function”)
- ❑ A Plan **without** actions that result in substantial quantifiable energy savings is difficult to justify in public and with Sponsor

# EE institutionalization generic approach

First of all we need a Sponsor whom triggers....

A Policy, Law, Decree, Directive, Regulations, Rules (“Publication”) on the subject of “***energy efficiency and its conservation***”

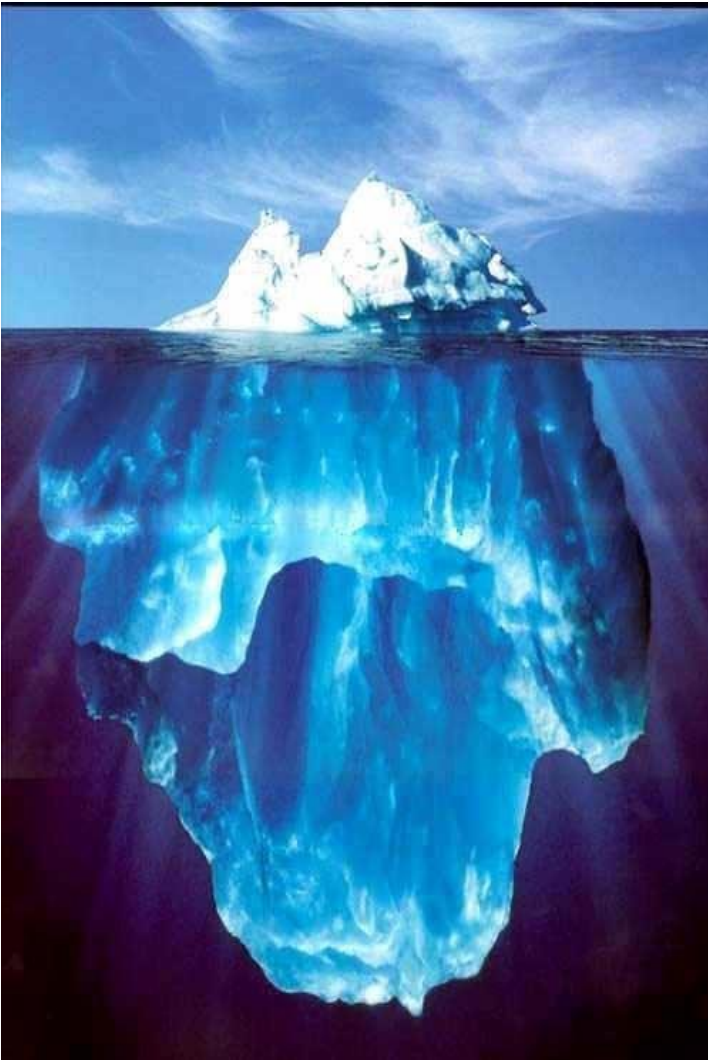
The Publication names in **its body** an existing institution or creates an institution in charge of implementing the **provisions** of the Publication. It does not keep silent about this important step.

The Document sets the framework of “***what should be done***” but not “***how it should be done***”. It further addresses the mandate and **powers** of the Institution in charge as well as its funding mechanism.

If the Document is a Policy, Law or Decree it requests the Institution to prepare within reasonable time the R&R documents

## **“Institution” arrangements**

- ❑ A “Governing council” overseeing the work of the Institution
- ❑ By laws from very simple to highly complex
- ❑ Statutory body
- ❑ Formed under a Civil Society Act
- ❑ “Think tank” institution docked to a Ministry
- ❑ Highly or poorly empowered institution to full fill its mandate
- ❑ Institution has also the mandate “to enforce”
- ❑ The regulated power industry is charged with implementation



A very persistent problem with national energy efficiency and its conservation campaigns is that we know very little about energy consumers and the technologies and gadgets used. Convincing concepts of cost effective data mining are asked for. It is a little bit like a swimming iceberg. About 12 % of its volume is visible above water the rest is hiding from us below the surface.

I wish you all a lively discussion  
paving “your way” and remember:

***“You have never learned anything  
from a person who agrees with you”***