“Energy Efficiency and Renewables in the Transition Process”

Report developed together with the Energy Charter Secretariat

Conclusions and recommendations

Objective and scope

Identify success factors for development and implementation of EE&RE policies during economic restructuring and energy market liberalization

- **Aimed to assist energy policy makers in the EITs**
- **Steps for overcoming legal, institutional and financial barriers**
- **Illustrated by good practice examples or case studies**

Institutional capacity

Success factors:

- Clear ministerial responsibility for developing EE&RE policy
- National institution(s) in place to implement the EE&RE policy (EEA)
- Clear responsibilities of the different institutions involved
- Good coordination and communication between the different institutions
- Regional and local representations and activities

Financial sources

Success factors:

- **Grant schemes should aim to raise awareness and create a market, but should not be permanent**
- **Soft financing is a step to sustainable financing**
- **Funding for loan schemes may combine a variety of sources**
- **Grant and loan schemes should be accompanied by appropriate and relevant technical know-how and assistance**
- **ESCOs are an efficient mechanism to address the barriers in traditional financing**
- **Revolving funds may play a major role at an early stage in creating an energy efficiency industry in economies in transition**

Successful instruments and measures

Prerequisites:

- Successful implementation of EE&RE policy depends on development of effective programmes
- Combine:
  - mandatory measures (e.g. energy audits)
  - financial & fiscal incentives (e.g. subsidies)
  - information and awareness raising
- Regulations have a role to play in all countries

Financial incentives & Awareness raising

Legislative & regulatory measures

Residential Sector

Successful instruments and measures:

- Payment according to energy meters for heating and hot water
- Regularly revised, country specific building codes and norms for new buildings and reconstruction of existing buildings
- Energy certification for new and existing buildings
- Energy labelling of household appliances
- Financial and fiscal incentives to adopt energy efficiency measures
- Tailored information and awareness raising activities
- Education and training of professionals, enabling them to provide professional advisory services to the building owners
- Information and advisory services at the regional and local level
- Legislation in place enabling housing associations to invest in energy efficiency measures

Residential Sector

Good practice case studies:

- *Mandatory individual metering in Bulgaria*
- *Energy efficiency ordinances and acts in Germany*
- *Denmark's energy-labelling programme for buildings*
- *Subsidies for the housing sector in the Czech Republic*
- *Housing Crediting Fund in Lithuania*
- *Information and awareness initiatives from Germany*
- *Advisory services in the Czech Republic*
- *Homeowners associations in Lithuania*

Public and commercial services

Successful instruments and measures:

- Payment according to energy meters for heating and hot water
- Regularly revised, country specific building codes and norms for new buildings and reconstruction of existing buildings
- Energy certification for new and existing buildings
- Well functioning routines for operation and maintenance and energy monitoring
- Financial and fiscal incentives to adopt energy efficiency measures
- Tailored information and awareness raising activities
- Education and training of buildings owners and managers, consultants, designers, operation and maintenance personnel, etc.
- Information and advisory services at the regional and local level.

Industrial Sector

Successful instruments and measures:

- Energy auditing of large industrial energy users leading to energy conservation plans and programmes
- Sector specific benchmarking of industrial energy use leading to guidelines for energy consumption
- Financial and fiscal incentives to adopt energy efficiency measures
- Voluntary agreements between government representatives and industrial associations, allowing a more participative approach
- Tailored information and awareness raising activities, with particular focus on company management and decision makers
- Education and training of industrial energy managers
- Information and advisory services at the regional and local level
- Use of the Internet

Transport Sector

Successful instruments and measures:

- Adoption of relevant EU directives, specifically on energy-labelling of cars and promotion of biofuels
- Introduction of road taxes, preferably differentiated according to engine size and/or fuel efficiency
- Regular mandatory diagnostic testing of road vehicles to determine fuel efficiency
- Tailored information and awareness raising activities
- Availability of information and advisory services at the regional and local level
- Financial and fiscal incentives to improve transport infrastructure and promote energy conservation measures.

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“Municipal Energy Efficiency Planning, Building Sector”

Programmes in
Kazakhstan, Kyrgyzstan, Macedonia, Georgia and Russia

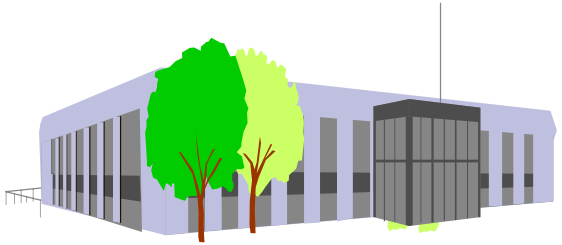
Managed by ENSI - Energy Saving International AS

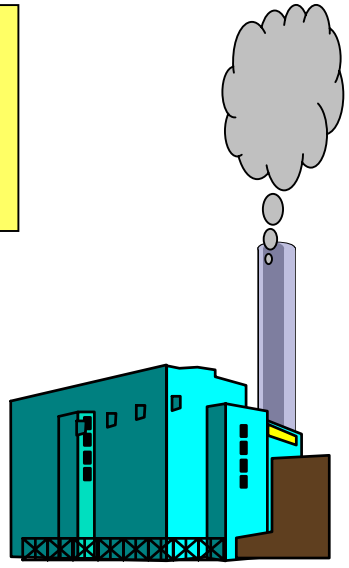
Financed by the Norwegian Ministry of Foreign Affairs

Municipalities owning/managing several energy consuming objects

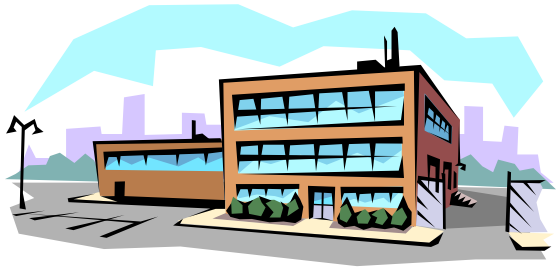
- ✓ Utilities (District heating, water supply, sewage, waste)
- ✓ Buildings (Hospitals, schools, kindergartens, offices, etc.)
- ✓ Street lighting

Norwegian programme starting with the Buildings;
MEEP Buildings





Increasing utilities costs

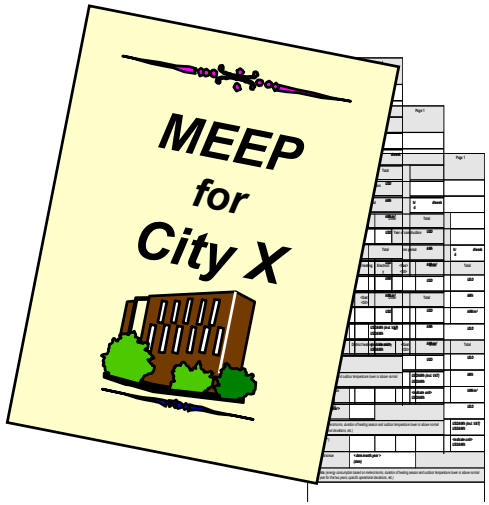


What is a Municipal Energy Efficiency Plan

A tool for municipal decision makers and experts dealing with energy management in municipalities.

The plan describes:

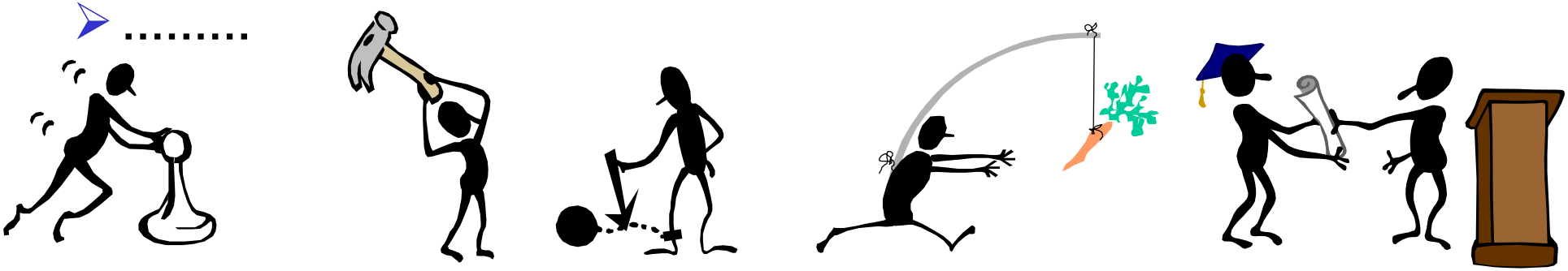
- **The municipality's policy on energy efficiency**
- **Objectives / targets for energy efficiency**
- **Status and present situation**
- **Organizing the work**
- **Action plan and budget**
- **Financial plan**



Barriers to energy efficiency in Municipalities

In many countries there are several barriers for energy efficiency in Municipal buildings:

- **Low/subsidised energy tariffs;**
- **Lack of appropriate metering;**
- **Lack of mechanisms allowing savings from energy efficiency investments to be reinvested or used to repay loans;**
- **Lack of specific capacities and skills on identification, development, financing and implementation of energy efficiency projects;**
- **……**

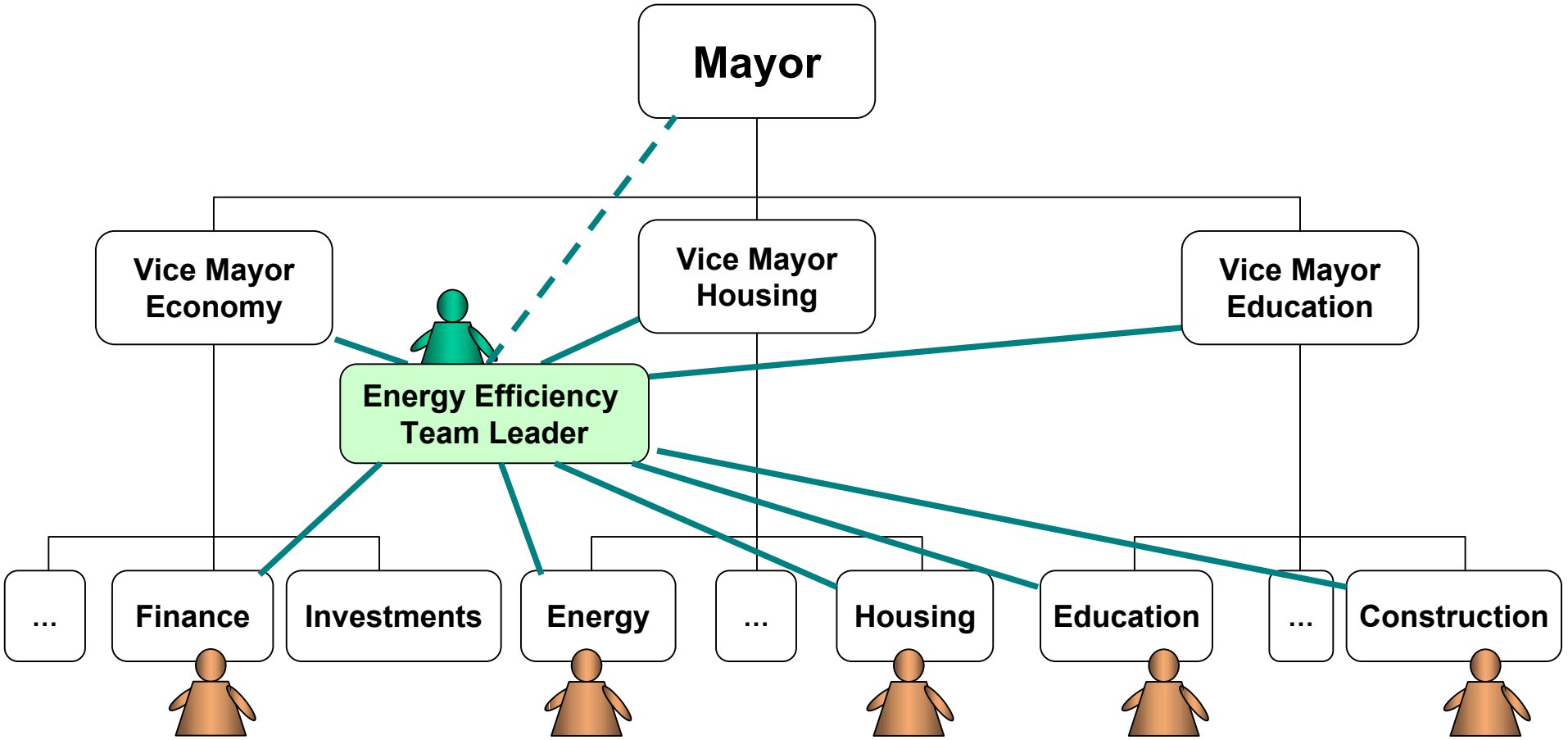


changes of regulations *liberation* *motivation* *education*

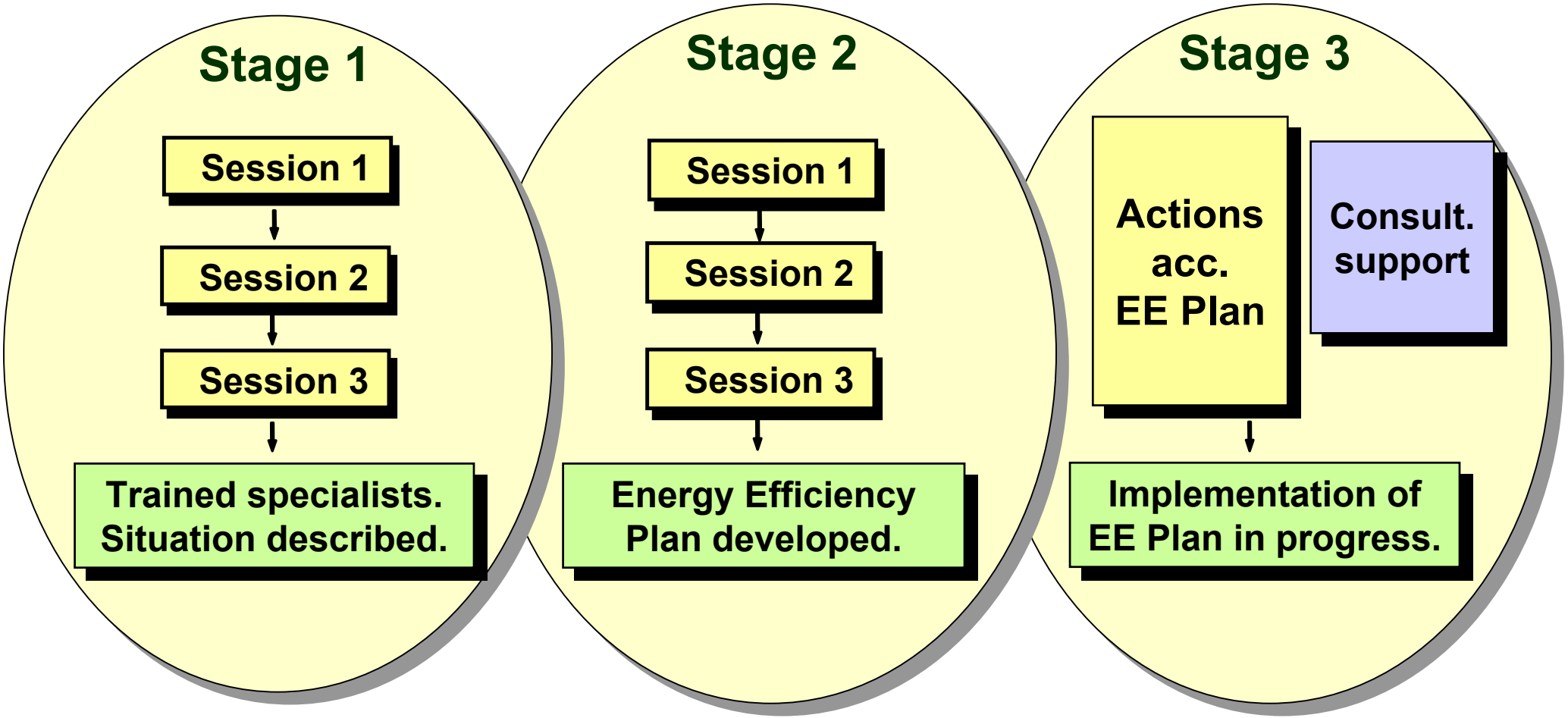
There are different approaches to reduce/overcome/remove the different types of barriers

Energy Efficiency Team

to be established, integrated in the City Administration structure



Norwegian Programme in three stages



Energy Saving Programme
(For establishment of Revolving Funds)

25 projects developed together with the local Centres (Capacity Building):

- 4 mill. USD investment, average 25 % savings and 2,4 years payback

Kirovsk City	Actual consumption		
	1999	2003	Reduction %
Heat energy (Gcal)	45 000	31 000	31
Electric energy (kWh)	5 700 000	4 200 000	26
Water & effluents (m^3)	237 000	167 000	30

New Energy Saving Credit Facility
(Municipal, social projects Northwest Russia)

Financial Engineering Programmes

Combined capacity building and development of Business Plans

- Energy efficiency and renewables projects in Croatia (ongoing)
- Small hydro power stations Kyrgyzstan (ongoing)
- (Small) hydro power, energy, energy efficiency, renewables Georgia (discussed with USAID and EBRD)
- …… and some other ideas and plans ☺ ☺ ☺

EE 21 Project: possible coordination/add on to the Norwegian Programmes ?

(MEEP: Almaty, Bishkek, Tbilisi, Murmansk and 4 small in Macedonia, and the Financial Engineering programmes)

- A network of energy efficiency managers (in selected municipalities);
- Trained experts in project development, finance and business planning;
- Investment project pipeline;
- Policy reforms;
- Energy efficiency seminars
- Investment project development standards;
- Investment project pipeline inventory.