

Energy Agencies for the Promotion of Energy Efficiency and RES

Best Practice Berlin

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Energy Agencies in Europe

Purpose of Energy Agencies

Why Energy Agencies?

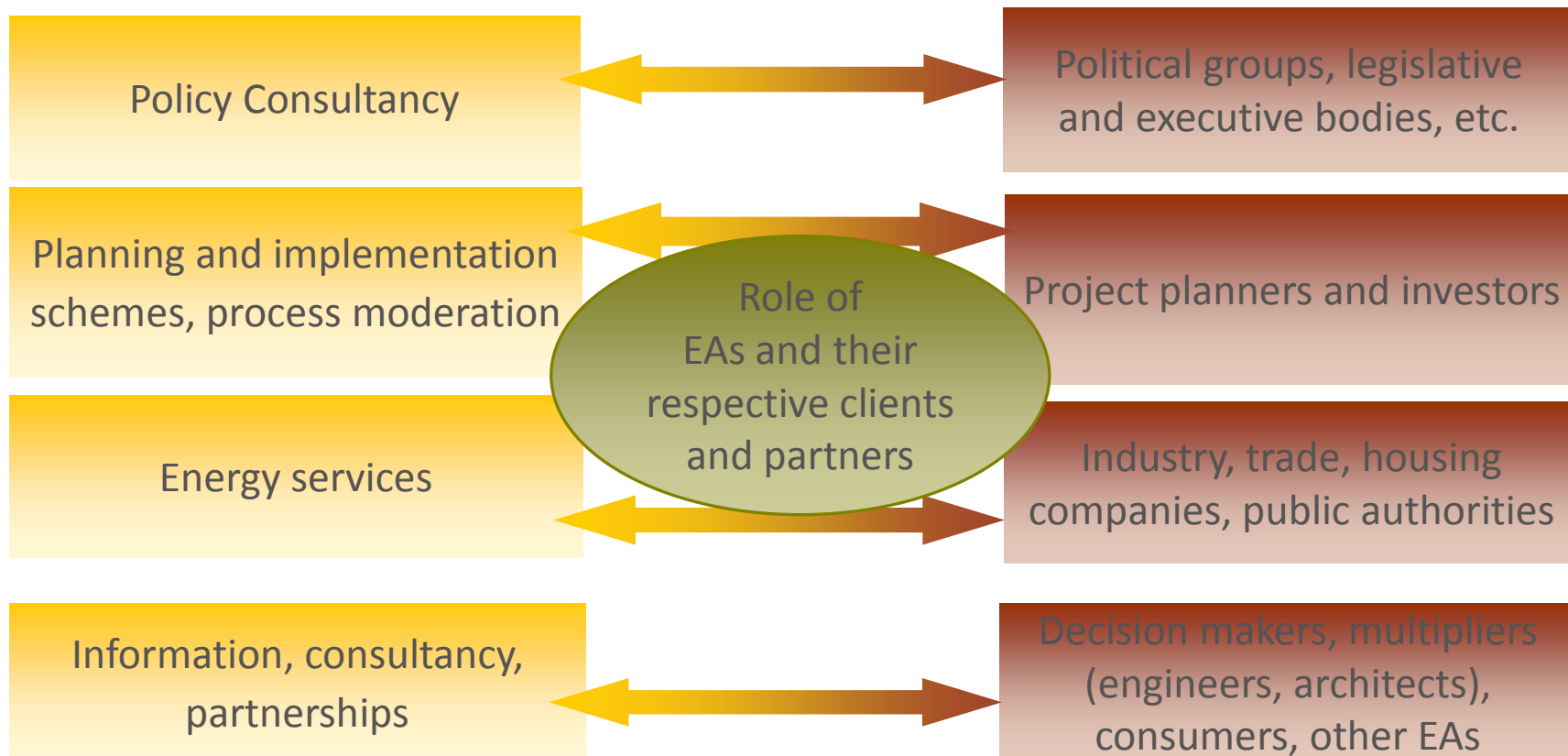
Challenges: Lack of

- ▶ **Information**
- ▶ **Motivation**
- ▶ **Financing**

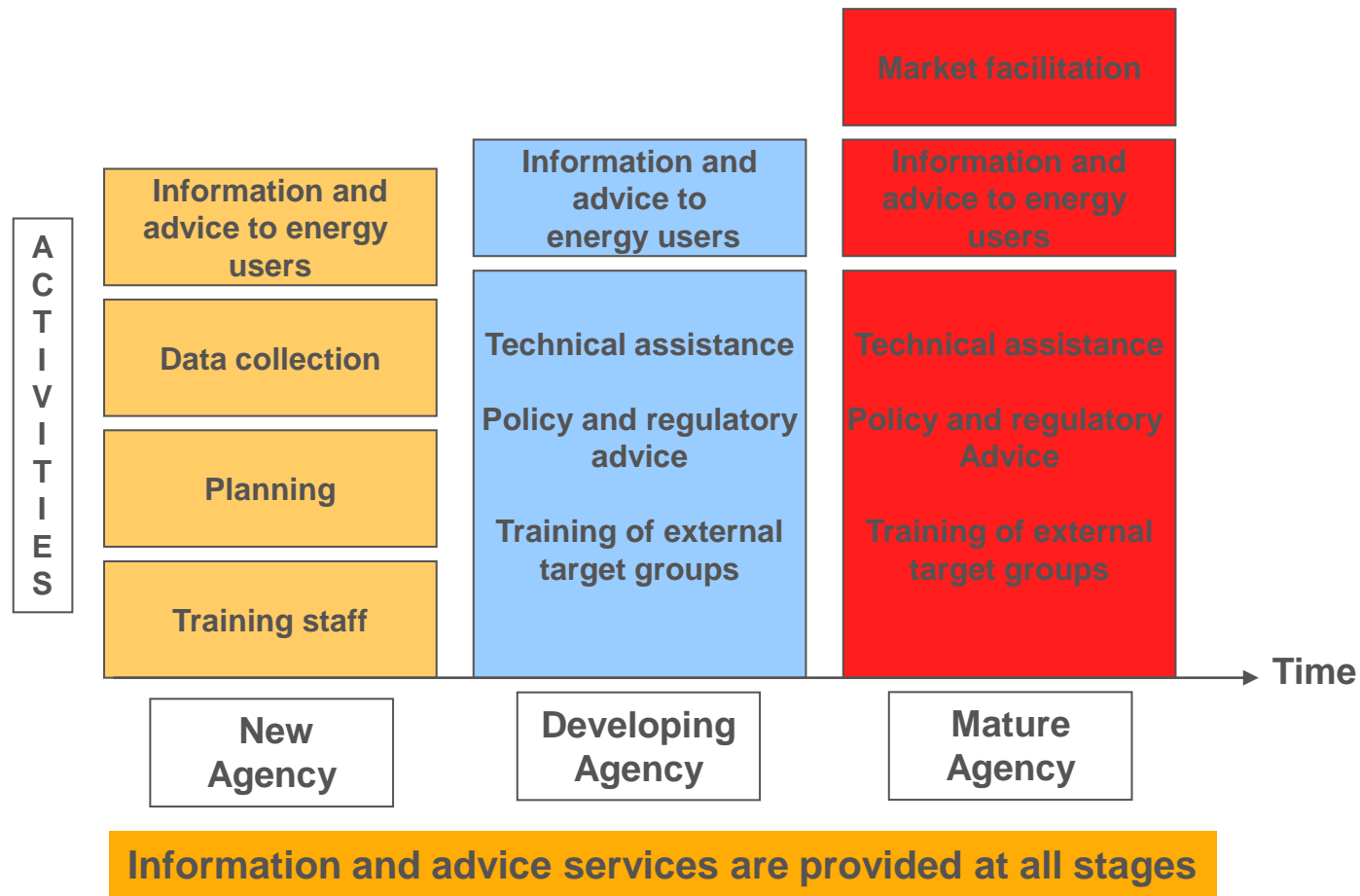


for Energy Efficiency and Renewable Energies (RES)

Characteristics: Clients and Partners



Characteristics: Evolution of an Energy Agency



Energy Agencies in Europe



- ▶ by 2011 more than 475 energy agencies in Europe

Examples of Local and Regional Energy Agencies in some European countries:

France	Finland	UK	Spain	Germany
10 regional	6 regional	17 regional	14 regional	25 regional
19 local	2 local	16 local	19 local	34 local

Possible fields of activities:

- ▶ Information and motivation services
- ▶ Entrepreneurial activities
- ▶ Government tasks

Characteristics: Types of Operational and Financial Structure

Legal Form	<ul style="list-style-type: none"> ▶ public ▶ public-private ▶ private
Structure	<ul style="list-style-type: none"> ▶ department within the government ▶ subordinated agency ▶ state-funded private company ▶ private company ▶ non-profit organization
Funding	<ul style="list-style-type: none"> ▶ public funding (state budget, energy tax) ▶ (initial) funding through members ▶ cost-effective consulting and energy services

Energy Agencies: Examples

	NL Agency	Energy Agency NRW	BFE Switzerland	Austrian Energy Agency	ADENE	Berlin Energy Agency
Country's or region's GDP in billion\$(2008)	868.9	803.4	492.6	415.3	244.5	113.4
Legal form	Part of the Ministry of Economics	State agency	Part of the Ministry of the Environment	Non-profit association	Non-profit LLC	LLC
Shareholders	Netherlands	North Rhine-Westphalia	Switzerland	Austria, 8 federal states, enterprises, trade org., banks, etc.	69.66 % Ministry of Economics, 22 % EDP and Galp Energia	25 % Berlin, 25 % Vattenfall, 25 % GASAG, 25 % KfW
Activities	I&M + GovT	I&M	I&M + GovT	I&M	I&M	I&M + EntrA
Employees	1,250	67	185	91	35	55
Turnover in million € (2008)	139.3		76.1	6.4	3.2	8.2

Success factors

- ▶ strong **political commitment and support**
- ▶ financial stability and flexibility through partnerships with business (e.g. financial institutions and energy companies)
- ▶ **access to knowledge** (good working cooperation with research institutions, set-up of internal databases, access to external expertise, transfer of know-how through participation in networks)
- ▶ **assistance** in the set-up phase
- ▶ favorable legislative and regulatory environment
- ▶ **professional management**
- ▶ **highly skilled and motivated staff**

Berlin Energy Agency (BEA)

BEA – Facts and Figures

Established

- ▶ in 1992 as Public-Private Partnership

Shareholders

- ▶ Federal State of Berlin
- ▶ Vattenfall Europe
- ▶ GASAG
- ▶ KfW Banking Group

Disposes of

- ▶ 2.5 m € of capital stock

Annual Turnover

- ▶ 9.3 m €
- ▶ 526 k € Company earnings (EBIT)

Know-how

- ▶ 55 members of staff

Energy Services

- ▶ Contracting
- ▶ Consulting
- ▶ International Know-How Transfer

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Good Practice in Berlin – CHP



CHP Vivantes
48 kW_{el} / 97 kW_{th}

CHP Bethel Hospital
48 kW_{el} / 97 kW_{th}

CHP Ostseeplatz
34 kW_{el} / 78 kW_{th}

CHP Schwendyweg
48 kW_{el} / 97 kW_{th}



CHP BVG
50 kW_{el} / 110 kW_{th}

CHP Stadt & Land
50 kW_{el} / 95 kW_{th}

CHP BIM
48 kW_{el} / 97 kW_{th}

CHP Lindenhof
20 kW_{el} / 47 kW_{th}

Good Practice in Berlin – Photovoltaics



Picture: Berliner Energieagentur GmbH

State of Berlin – City Hall

Area: 263 m² with 160 polycrystalline solar panels

Installed capacity: 38 kWp

Electricity feed-in: 36 MWh/a

CO₂ reduction: 24 t/a

Start of supply: 06/2010

Duration of contract: 20 years

Berliner Immobilienmanagement GmbH – Mitte

BEA – Consulting Services:

(1) Market and Project Development in Energy Services

Good Practice in Berlin – Energy Saving Partnership

Since 1996 Energy Saving Partnerships for public buildings in Berlin:

Total number of Pools:
25 more than 1,400 buildings

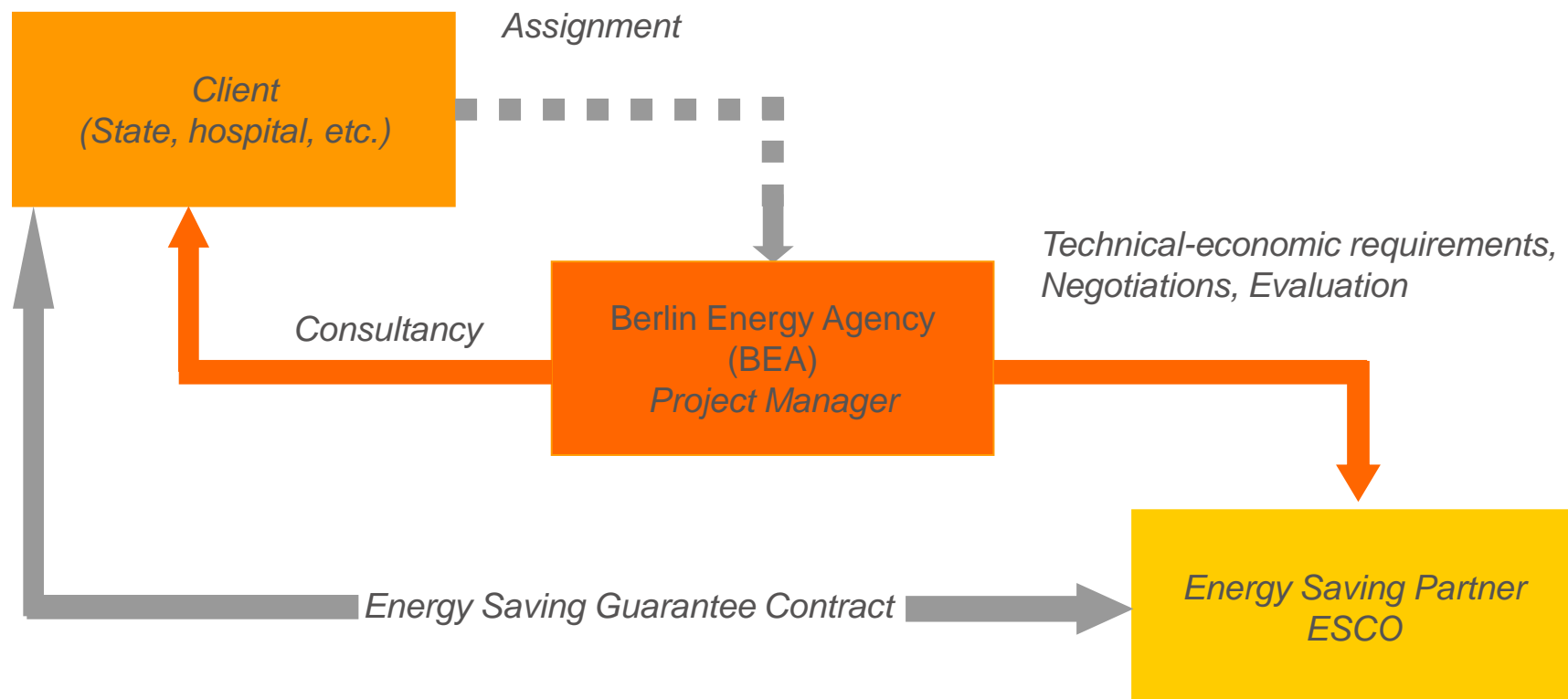
Guaranteed savings in total:
€ 11.66 million (26 %)
Annual plus to the public household:
€ 2.7 million

Total CO₂ reduction (1996-2010) :
approx. 500,000 t

Total net Investment: € 51.60 million



Energy Saving Partnership Berlin (ESP) – Project Management



Good Practice in Berlin – Wenckebach Hospital Berlin

- ▶ **Building:** public-owned hospital with 438 beds
- ▶ **Baseline:** 808,359 €/a
- ▶ **Guaranteed savings:** 39.6 % = 320,000 €/a
- ▶ **Invest:** 2.44 m €
- ▶ **CO2 reduction :** 1,789 t/a
- ▶ **Duration of contract:** 12 years (start in 2011)
- ▶ **Measures:** modernisation of heat distribution, cooling and ventilation system, installation of CHP unit, web based energy management system, user trainings
- ▶ **Special feature:** insulation of top storey ceilings

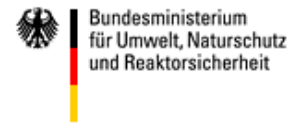


BEA – Consulting Services:

(2) Training and Capacity Building

Energy Savings Check for Low-Income Households

- ▶ since 2009, coordinated by eaD and the German Caritas Association
- ▶ funded by National Climate Initiative of the Federal Ministry for Environment
- ▶ training of long-term unemployed people to perform energy savings checks
- ▶ consultation services in about 100 cities and municipalities
- ▶ 70,000 energy savings checks in low-income households accomplished
- ▶ Reduction in energy consumption by €90 per household (average) and of 110,000 t CO₂ in total



BEA's role:

- ▶ Support of **federal coordination**
- ▶ Coordination of **North Rhine-Westphalia**
- ▶ Coordination of **Berlin, Brandenburg and Sachsen-Anhalt**



Energy Savings Check in Berlin

BEA – Consulting Services:

(3) Information and Motivation Awareness Campaigns

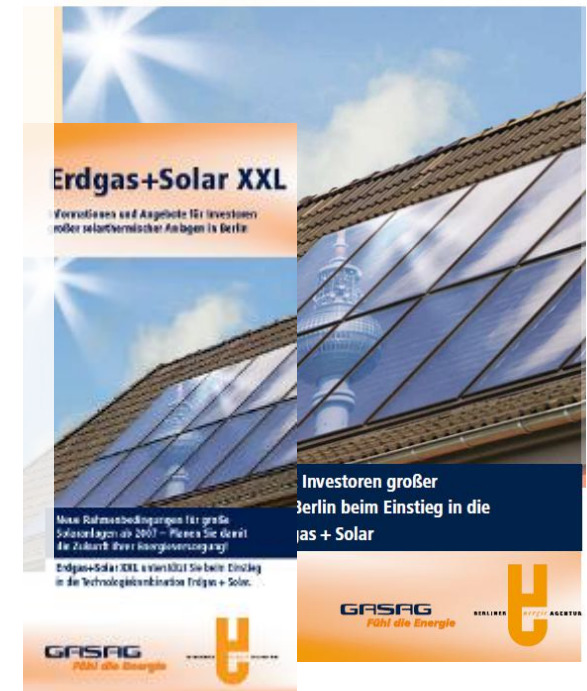
Information and Motivation – Campaign “Erdgas+Solar XXL”

What? Promotion of solar thermal systems in multi-family-houses



- **Information** and promotion of best practices
- **Trainings**
- **Funding** of feasibility studies and plants

Erdgas+Solar XXL Praxisleitfaden



Results:

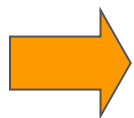
40 solar thermal plants, about **100** feasibility studies

ClubE



**Forum on energy and climate protection
policy in the frame of the Berlin program
ImpulsE**

- ▶ 4 major events and newsletters per year
- ▶ Lectures in cooperation with Technische Universität and Freie Universität Berlin
- ▶ Regular meetings of members for networking
- ▶ ClubE website
- ▶ Multipliers network and partnerships with media



**Informing young people about causes
and consequences of climate change and
its consequences**

BERLINER
IMPULSE

International Transfer of Know-how

European Energy Service Initiative – EESI

► Objectives

- ▶ Promotion of Energy Performance Contracting (EPC) in 10 European member states (e.g. Germany, Belgium, France, Czech Republic)
- ▶ Targeted training for decision makers (e.g. municipalities, politicians, building owners, financial institutions)
- ▶ Develop advanced quality standard for EPC as well as promotion and implementation of pilot projects



► Role of BEA

- ▶ Coordination of the EU project
- ▶ Promotion of further developed EPC models
- ▶ European Energy Service Award 2009-2011

► Project duration: June 2009 – June 2012



Operational Plan for National Energy Efficiency Agency in South Africa

Consulting for GIZ in South Africa

► Overall objective:

- ▶ South African-German Energy Programme (SAGEN): GIZ to provide support to the establishment of the National Energy Efficiency Agency (NEEA) to facilitate the implementation of energy efficiency measures

giz

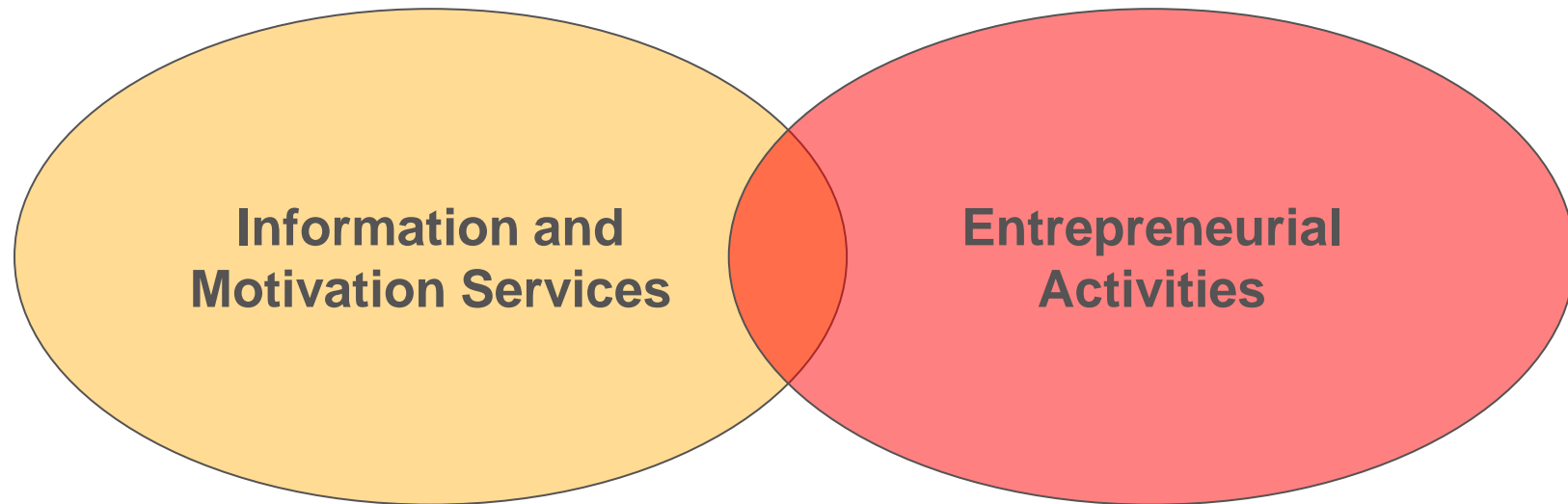
► Role of BEA: Consultant

- ▶ organize a study tour to Germany for a delegation including all relevant stakeholders
- ▶ develop an operational plan for NEEA's tasks and activities
- ▶ advise on selected activities for a start



► Project duration: September – November 2011

Conclusion



**BEA unites two successful types
of energy agencies**

Conclusion

BEA activities

- ▶ integrate information, motivation and training tasks
- ▶ are based on a multiple and independent owner structure
- ▶ are (mainly) financed through projects
- ▶ get continuity through own ESCO activities

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