



Das UmweltEntlastungsProgramm (UEP) Berlin's Environmental Relief Programme (ERP)

financing of energy-efficient refurbishment of public buildings through ERDF

Christian Borchard

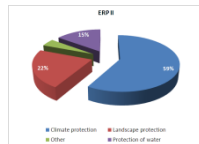
B.&S.U. Beratungs- und Service Gesellschaft Umwelt mbH

20.April 2010 – WP 5 Seminar Lübeck

Focus of ERP presentation



- ✓ present 10 years of experience of a regional/local funding programme, part financed by ERDF. One priority- energy efficient refurbishment of **non-residential public buildings**
- ✓ part of Berlin's (regional) Operational Programme 2007-2013



- explain the background & strategic focus the ERP (UEP)



- show some examples and results

ERP presentation during EUSEW/Brussels in March 2010



Ms. Connie Hedegaard,
Commissioner, Directorate-General Climate Action,

Dr. Armand Dütz
CEO, B.&S.U. mbH

Ms. Danuta Hübner,
European Parliament, Chair of the Regional Development
Committee

European Union 22-26 March 2010
Sustainable Energy Week



Lessons learnt from Structural Fund period

1. EU Funds sometimes not fully or adequately used, due to complexity and low margins for flexibilities for managing authorities
2. Set up strategic focus well in advance in due time before next Operational Programme is drafted
3. Communicate importance of energy efficient refurbishment to Managing Authorities

Comissioner Connie Heedegard:



“I think that the amount of funding available for climate-related investment should be higher than today. For 2007 to 2013, investment in energy efficiency and renewables totals 9 billion euros, which is **less than 3% of the Structural Funds budget**. Additionally, **only a small proportion** of the funding available for energy efficiency, or environmental infrastructure or rail investments **has been used by now**. This is really not sufficient to kick-start the shift to a low-carbon economy and should be changed.”

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Background of Berlin ERDF Operational Programme 2007-2013

Purpose and aim of EU investment

- to improve international competitiveness of the city and its enterprises
- to reinforce the capacity for innovation and adaptability and the productivity of private industry, and thus create jobs
- in addition, knowledge and creativity will be used as the engine for economic and social development
- the development strategy of the Land of Berlin with regard to the use of ERDF funds reflects the goals of Lisbon and Göteborg
- **support sustainable development**

Background of Berlin ERDF Operational Programme 2007-2013

- Approved on 9 November 2007
- programme involves Community support for Berlin under the 'Regional Competitiveness and Employment' objective (2)
- Total public budget around EUR 1,701 million
- EU budget by ERDF around EUR 876 million
- approximately 3.4 % of the total EU Structural Funds available for Germany in 2007-2013 under the cohesion policy

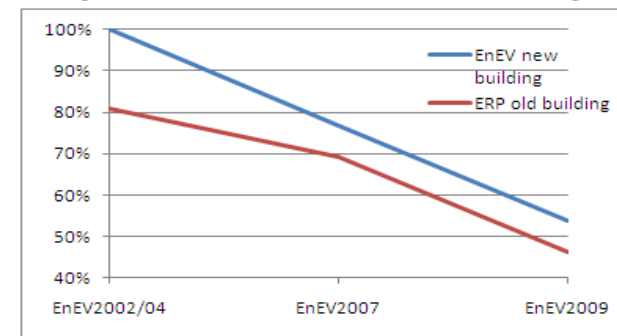
Breakdown of priority axes in EUR

Priority Axis	EU Contribution	National Public Contribution	Total Public Contribution
Promotion of business competitiveness and start-ups	293,010,000	275,429,400	568,439,400
Innovation and knowledge-based economy	284,520,810	267,449,560	551,970,370
Integrated urban development	182,657,000	171,697,580	354,354,580
Environment	80,402,000	75,577,880	155,979,880
Technical assistance	35,000,000	35,000,000	70,000,000
Total	875,589,810	825,154,420	1,700,744,230

EU co-financed Environmental Funding in Berlin



- From 2002 focus on energy-efficient refurbishment of non-residential old buildings
- ERP-standard for old buildings better than minimum legal requirements of the Energy Conservation Regulation for new buildings



Budget for the ERP/UEP

Programme Authority: Senate Department for Health, Environment and Consumer Protection, Berlin

Implementing Body: B.&S.U. mbH

	ERP I	ERP II
Period:	2000 - 2006 (2008)	2007-2013 (2015)
Funding:	€ 127 m	€ 160.8 m
EU-Funding (ERDF):	€ 81 m (68%)	€ 80.4 m (50%)

thereof energy-efficient Refurbishment

Number of projects	113	90
Total expenditures	€ 67.6 m	€ ~ 110 m
EU-Funding (ERDF)	€ 38.3 m	€ ~ 55 m

Environmental Relief Programme Berlin

- ERP financed through the European Regional Development Fund (50%; ERDF) and a share of the Federal State of Berlin
- Berlin Ministry (Senate State Department for Health, Environment and Consumer Protection) = Programme Authority
- B.&S.U. mbH = Implementing Body (Programmträger)

Link ERDF and Environmental Relief Programme Berlin

EG-VO 1080: Priorities for Funding

ERDF Operational Programme Berlin: Priority 4 - Environment

Environmental Relief Programme (ERP) for Berlin

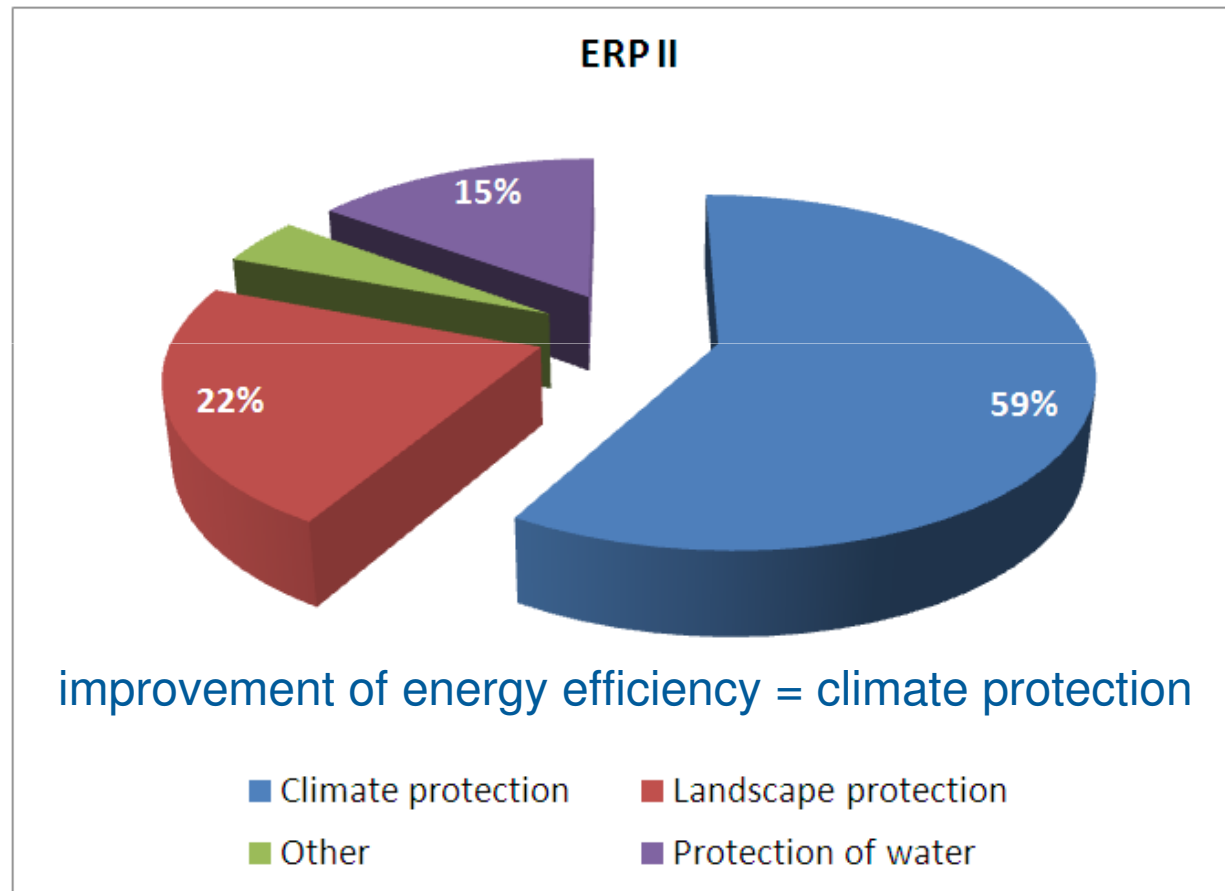
7 different types of key activities

Objectives in each key activity

Environmental Relief Programme Berlin Priorities of the ERP II (2007-2013)

- Restoration of damages caused to the environment (e.g. improvement of quality of water, accidents)
- R&D on climate change
- Research on effects of climate change in Berlin
- **Renewable energies and improvement of energy efficiency (e.g. energy efficient refurbishment of buildings)**
- Environmental management systems
- Mitigation of emissions caused by traffic
- Nature and landscape protection, recreational areas

Environmental Relief Programme Berlin Forecast on ERDF spending ERP II



ERP Programme Strategy

Eligible applicants:

- non-profit organisations and associations
- public institutions
- independent companies and firms (SMEs)

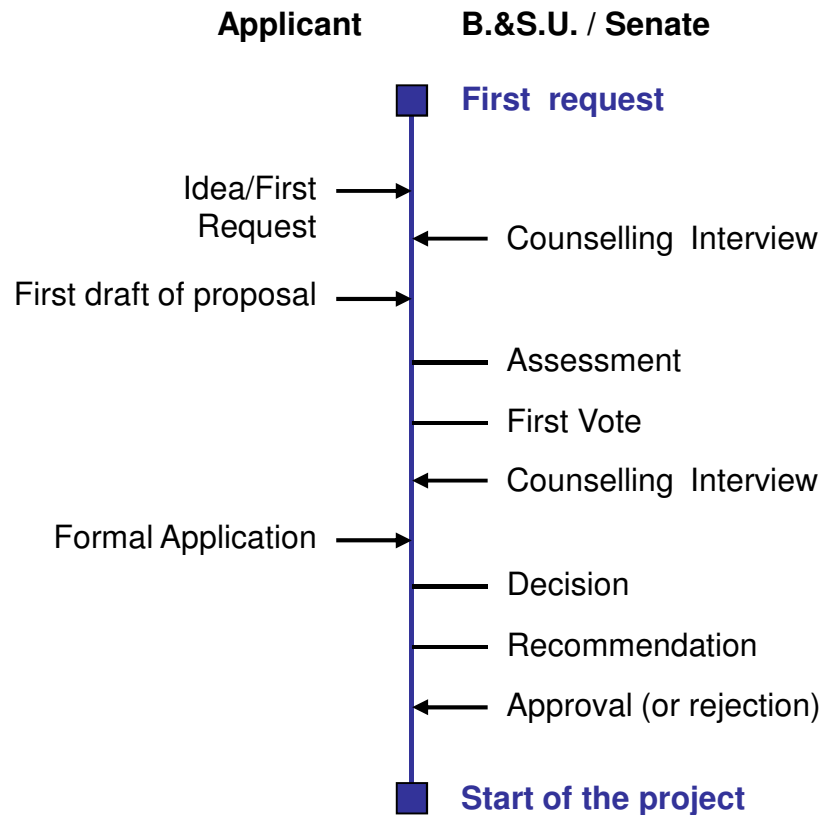
Political focus:

- CO₂ Reduction by energy efficient refurbishment
- Non profit applicants

Main applicant group:

- non-profit-operators of kindergarten and schools

ERP application procedure



ERP I 2000-2006: Climate protection effects of energy-efficient refurbishment

- Energy-efficient refurbishment of **113** non-residential buildings (mainly kindergartens, schools, sport facilities, indoor swimming pools, youth facilities and other properties)
- Reduction of **CO₂** in total: **6,280 t/a**
= annual per-capita-emissions of 937 Berliners
e.g. per school: ~ 40 t/a
- Savings of primary energy in total: **28,810 MWh/a**
e.g. per school: ~ 195 MWh/a
- Improvement of annual **primary energy demand: minus 40 – 80 %**
- Energy performance standard after ERP-refurbishment in average: 30 % better compared to minimum legal requirements of the Energy Conservation Regulations (EnEV) for new buildings!

ERP II 2007-2013: Climate protection effects of energy-efficient refurbishment

- Energy-efficient refurbishment of ~ **90** non-residential buildings (mainly kindergartens, schools, sport facilities, indoor swimming pools, youth facilities and other properties)
- Reduction of **CO₂: ~ 13,600 t/a**
= annual per-capita-emissions of 2,030 Berliners
e.g. per school: ~ 128 t/a
- Savings of primary energy in total: ~ **65,700 MWh/a**
e.g. per school: ~ 641 MWh/a
- Improvement of annual **primary energy demand: minus 35 – 90 %**
- Energy performance standard after refurbishment in average: **39 % better than minimum** legal requirements of the Energy Conservation Regulation (EnEV2007) for new buildings!

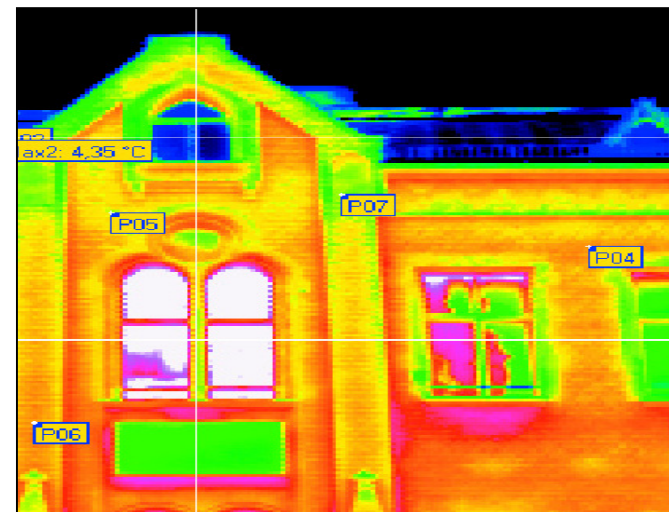
ERP II 2007-2013: Project selection under energy-efficient refurbishment applications

- Up to 2 calls per year, competition among application
- Specific criteria for selection: Climate protection= x3;
status of preparation= x2; social aspects & integrated approach= x2;
degree of innovation= x2; project risk= x0,5; specific bonus= x0,5
- 10 projects will be selected for further preparation
- Application of selected projects have to be finalised within 4 weeks

ERP II 2007-2013: Reasons for success

- **Competition**
only best projects receive funding, funding rates are flexible („flagship project funding“)
 - **Monitoring**
Projects are monitored during planning & implementation
 - **Definition of targets EUR/MWh**
„ERP-efficiency value“ = **max. 5.000 EUR to save 1 MWh per year** (total refurbishment costs). This value is a central selection criteria for the approval of projects
- applicants will be rewarded for maximum energy saving realisation with lowest investment sum.

Best practice: Energy efficient refurbishment of primary school in Berlin



Best practice: Energy efficient refurbishment of primary school



Beneficiary: Karuna e.V. (non-profit school supporting organisation)

Duration of Project: 04/2009 - 03/2011

- **Objective:** Innovative exemplary refurbishment with renewable energies
- **Initial situation of building:** No façade and window insulation, heat supply from gas-fired- and electric boilers, listed building
- **Energy concept:**
 - Use geothermal energy for heat supply
 - Insulate inner walls (vacuum isolation panels), bottom and windows (heat transfer coefficient $0.68 \text{ W/m}^2\text{K}$)
 - Install new ventilation system and energy-efficient lighting

Best practice: Energy efficient refurbishment of primary school

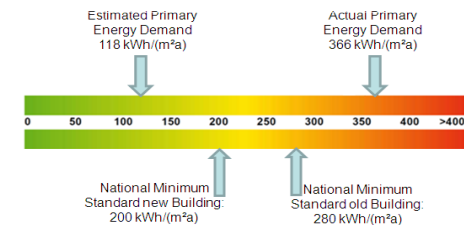


• Key Effects

- Primary energy reduction: 200 MWh/a (-68 %)
- Reduction of CO₂: 46 t/a (-69 %)
- 9 jobs safeguarded

• Financial Facts

- Total Expenditures: € 1 million
- Investment costs Karuna: € 0.1 million
- Funding (90 %): € 0.9 million (thereof € 0.5 m ERDF)
- Decrease in operating costs: 20,000 €/a



conclusion: success is possible

...for structural funds

- **be clear about your objective**
- **do the right steps in due time**

Thank you !