

ACHIEVING ENERGY EFFICIENCY: ENERGY MANAGEMENT SYSTEMS IN MUNICIPALITIES



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I. ENERGY MANAGEMENT SYSTEMS

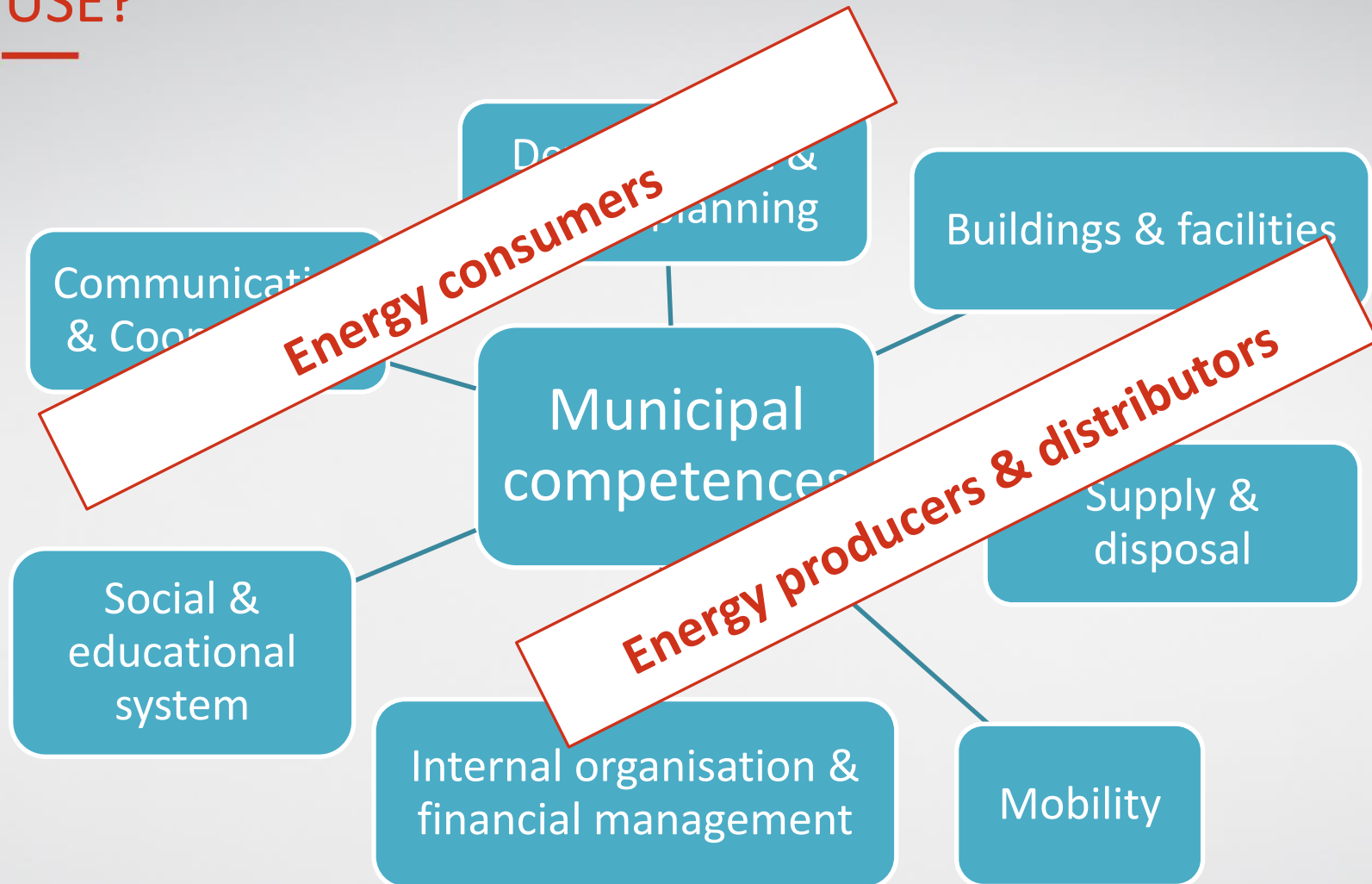
What is Energy Management?

- Organisational, technical and behavioural measures to minimise the consumption of energy and materials
- Effective instrument to continually improve energy efficiency
- Holistic approach focusing on concrete outcomes and impact

Why municipal EM?

- High potential to mitigate energy consumption
- Systematically document the urban/municipal energy system
- Gain insight into energy flows
 - Know the biggest users
 - Detect changes in energy consumption
 - Continuous monitoring and control
- Improve environmental performance
- Efficient use of resources
- Significant reduction of costs
- Spill-over effects

I. WHICH AREAS ARE RELEVANT FOR ENERGY USE?



II. History of the e5 Programme

- 1998:
 - **e5-Programme for energy efficient municipalities** was established and introduced in three federal provinces of Austria (Vorarlberg, Tirol, Salzburg)
- 2002:
 - Together with Germany, Switzerland and Poland, the e5-Programme was further developed to a harmonised European qualification programme for municipalities
 - The result was: the **European Energy Award®**
- 2004:
 - Overall coordination of the e5-Programme in AT through **klimaaktiv**, the climate protection initiative of the BMLFUW
 - Main tasks: a) strategy and coordination, b) further development of the programme, c) acquisition of further federal provinces to take part in the programme, d) quality assurance of the programme, e) participation in European Energy Award® meetings



klimaaktiv



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II. e5 AND THE EUROPEAN ENERGY AWARD® QUALITY MANAGEMENT SYSTEM FOR ENERGY-RELATED ACTIVITIES IN MUNICIPALITIES

European Energy Award®

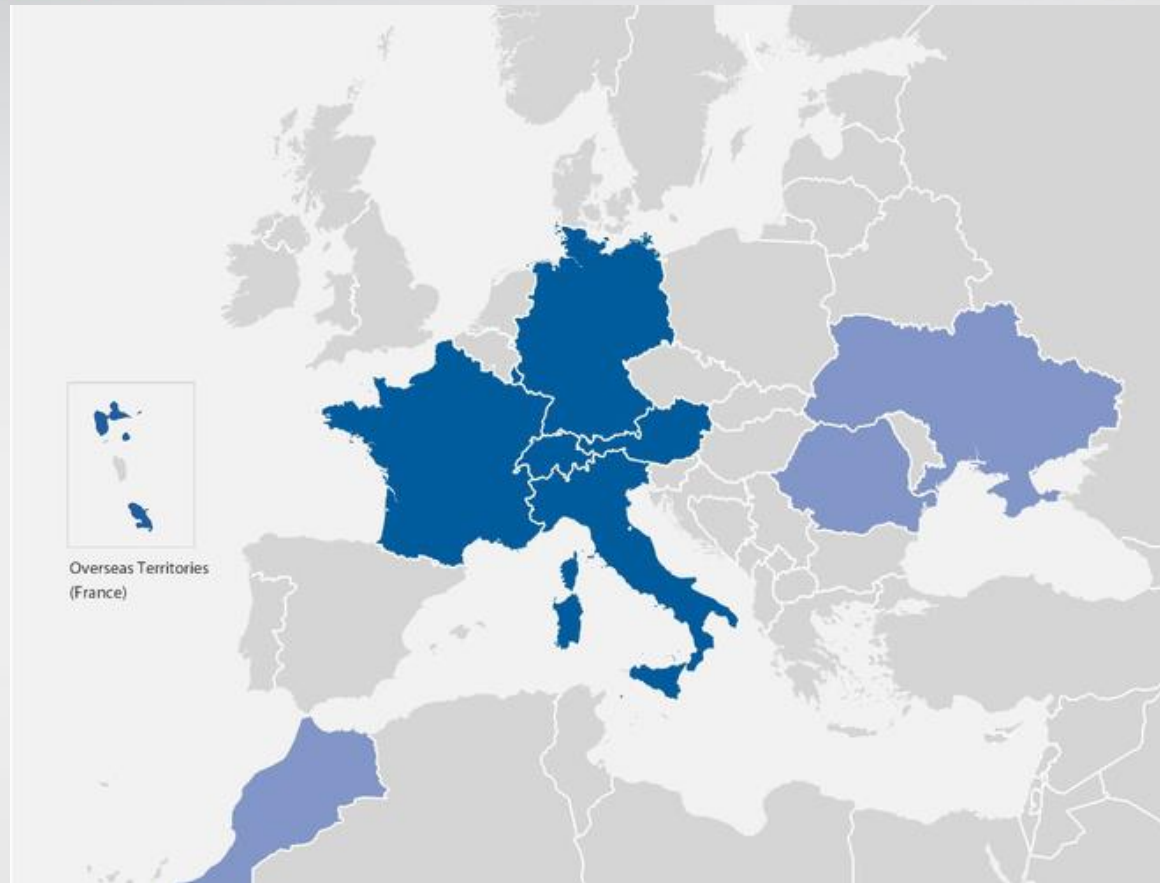
- Quality management system for holistic municipal energy planning
- Certification and award for energy-related achievements and control of success through regular audits.

Benefits of the e5 Programme:

- Municipalities can
 - identify strengths, weaknesses and potential for improvement
 - effectively implement EE and RE measures
- Standardized assessment allows for benchmarking between communities
- Success of a municipality's efforts is made visible by an award
- Allows member municipalities to share their experiences and expertise



II. EUROPEAN ENERGY AWARD®



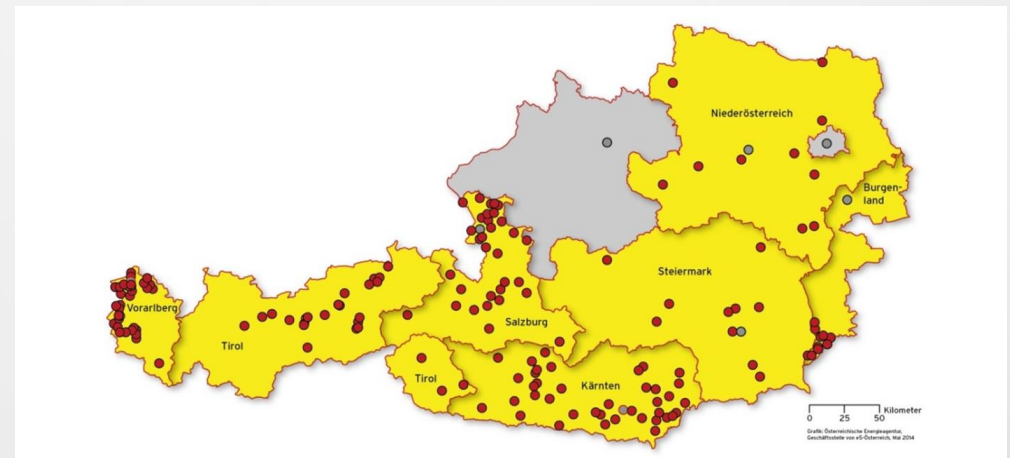
- 11 countries
- > 1,300 municipalities
- 40 million people

Romania, Ukraine and Morocco – pilot countries

Romania pilot cities: Arad, Brasov, Cluj-Napoca and Suceava

II. e5 PROGRAMME IN AUSTRIA

- Programme runs in 7 out of 9 provinces
- 175+ e5 municipalities
- 22 regions using e5
- Almost 2 mio. inhabitants in Austria (> 20 %)
- 13 municipalities have achieved “e5e5e5e5e5”



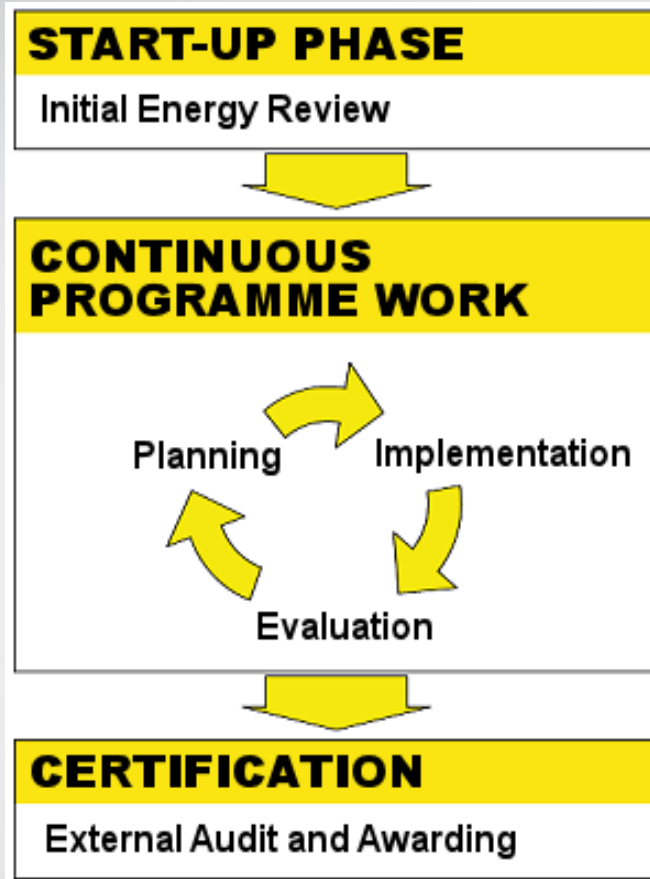
II. EUROPEAN ENERGY AWARD® AND THE EUROPEAN COMMISSION

Letter of recognition from the European Commission

We are pleased to confirm that the European Energy Award® can be recognised as an efficient implementation tool for Sustainable Energy Action Plans (SEAPs) in the context of the Covenant of Mayors. In doing so, the European Commission acknowledges the quality management and certification system of the European Energy Award® which has been developed within previous European programmes.

We acknowledge that there is a high analogy and good convergence between the European Energy Award® and the Covenant. As the signing of the Covenant entails

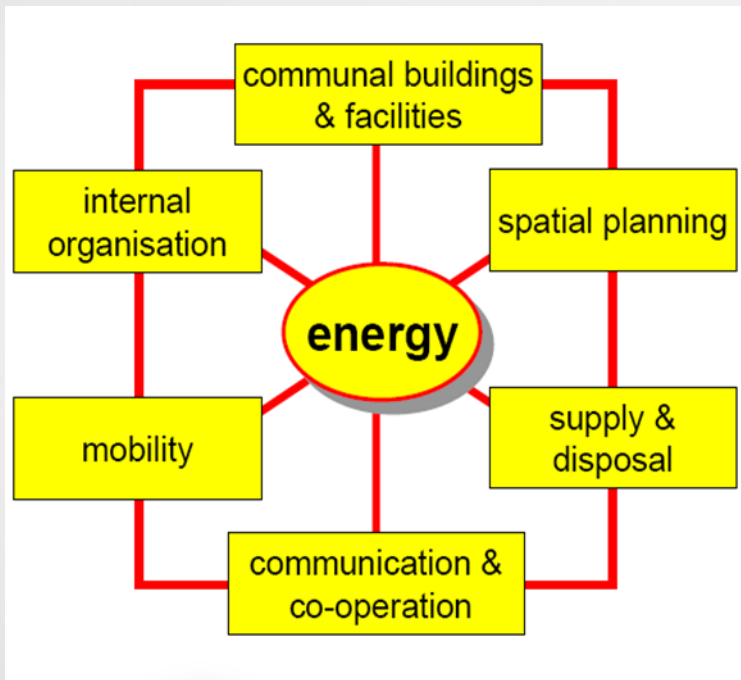
II. e5 PROCESS



1. Municipality signs an agreement with a regional e5 programme organisation
 2. Energy team is set up (representatives from the municipal administration, politicians and committed citizens)
 3. Together with an e5 advisor, the energy team establishes an energy work programme
 4. Initial energy review: an analysis of the current status of the community assisted by e5 tools
 5. Implementation of a work plan
- Municipality has to be audited externally at least every three years
- Certification and award

II. e5 CATALOGUE OF MEASURES: THE CORE OF THE PROGRAMME

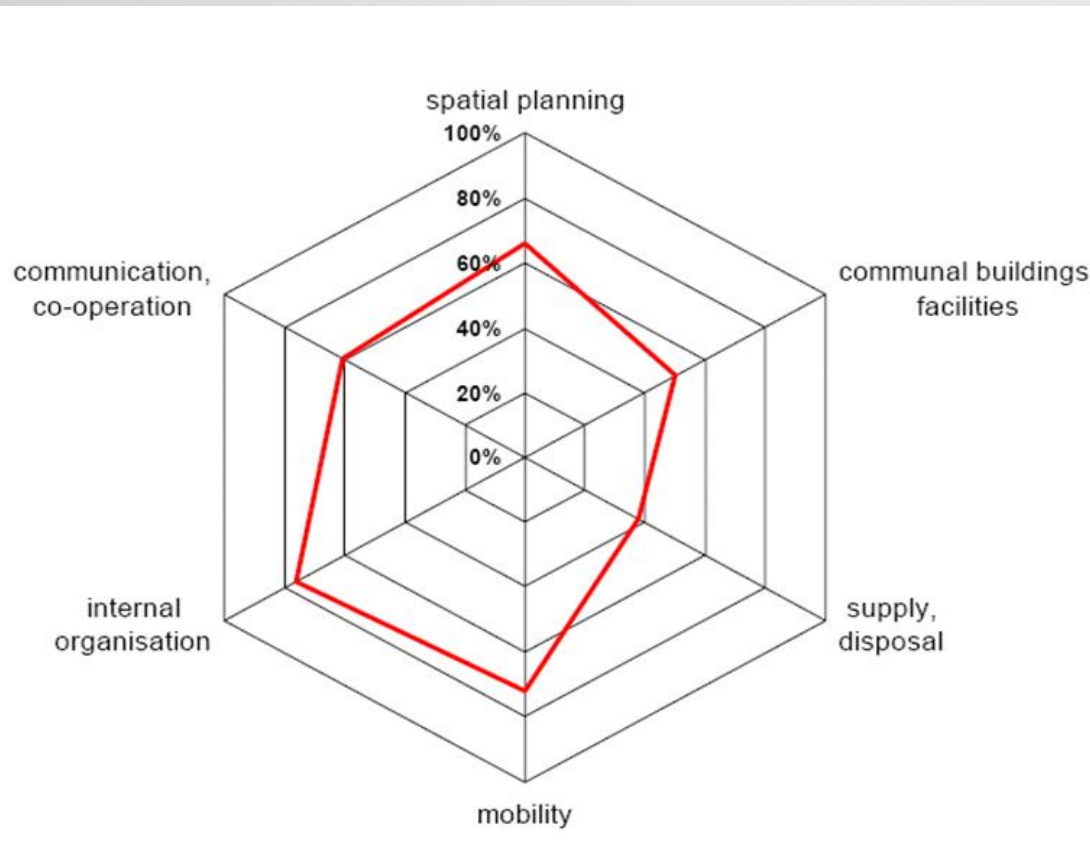
Structure of the catalogue: 6 specific areas; 79 measures, each measure with a specific number of points; total number of 500 points adapted to scope of action/influence of each municipality



4 Functions:

1. Checklist
 - What has been done?
 - Quality of implementation?
 - Documentation
2. Catalyst for the process
3. Aid for planning future activities
4. Measurement tool for benchmarks, external audits and certification

II. THE ENERGY PROFILE

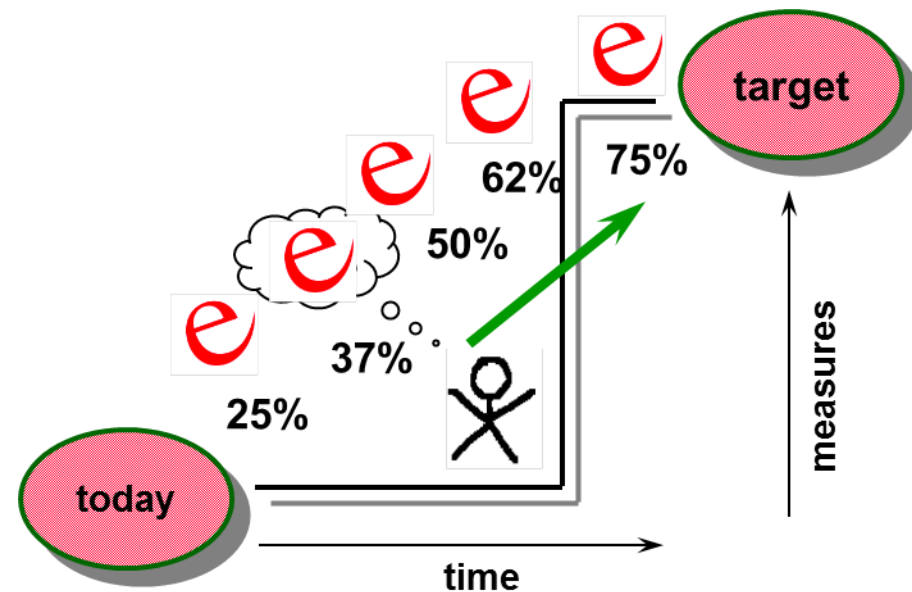


- Percentage of realisation in each specific area
- Visualisation of strengths & weaknesses
- Audit result:
 - Level of realisation in %
 - Certification

II. e5 CERTIFICATION SCHEME

“e”	25 %
“ee”	37 %
“eee”	50 %
“eeee”	62 %
“eeeee”	75 %

of all possible points that can be attained

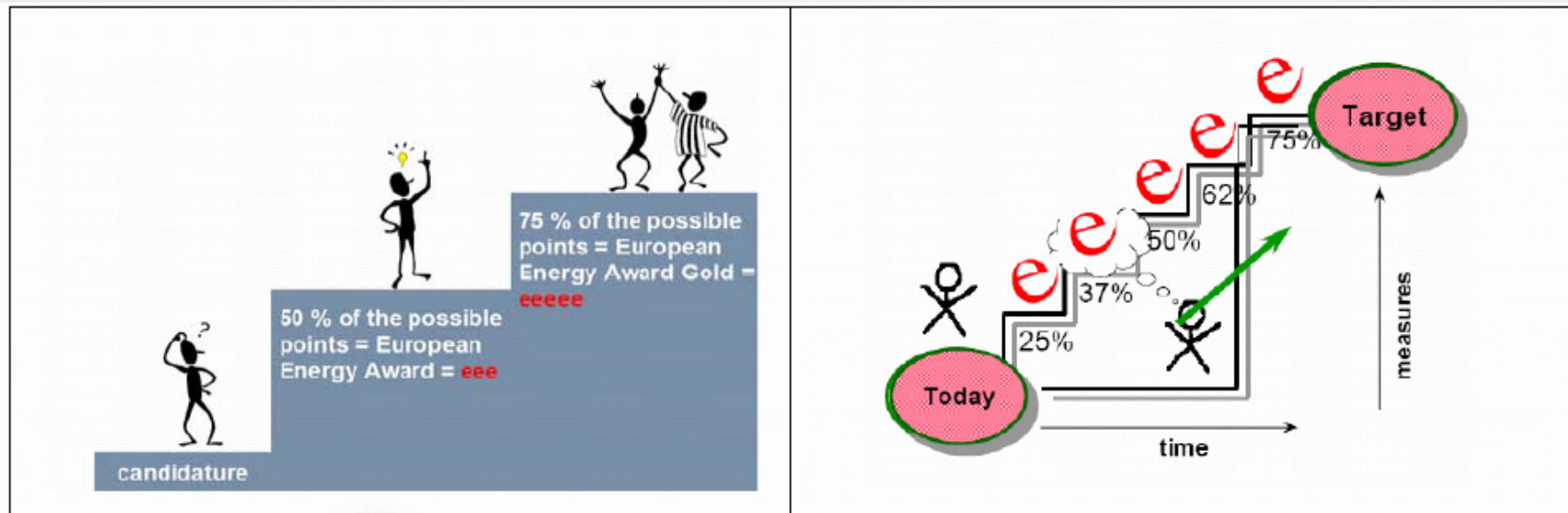


II. COMPARISON: e5 & EUROPEAN ENERGY AWARD® CERTIFICATION

EEA®:

50 % of all possible points = European Energy Award®

75 % of all possible points = European Energy Award® Gold



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europa
energy award

III. SUCCESSFUL MUNICIPALITY: LANGENEGG



- Population: 1,026
- 10.47 km²
- The municipality is nearly energy autonomous and has received many awards
- Energy concept „Auf dem Weg in eine unabhängige Energie-Zukunft“ (on the way towards an independent energy future):
 - The energy concept describes possibilities and measures in 6 thematic areas
 - Definition of targets and measures to increase energy efficiency and quality of life
 - Example: target „2015 – Langenegg without oil-fired boilers“
 - Langenegg is e5 municipality since 1998 and was awarded the highest score „e5“ in 2004. It managed to further improve its score in % over the following years .

III. SUCCESSFUL MUNICIPALITY: LANGENEGG

Municipality initiated

- waste heat recovery in industry
- 2 private biogas installations

Own solar collectors

- Municipal office 63m² since 1992
- Additional 20m² since 1995

Heat from biomass

- 99% in municipal buildings
- 67% overall

Transport

- Initiated a carpooling exchange; carsharing
- Higher service frequencies of public transport

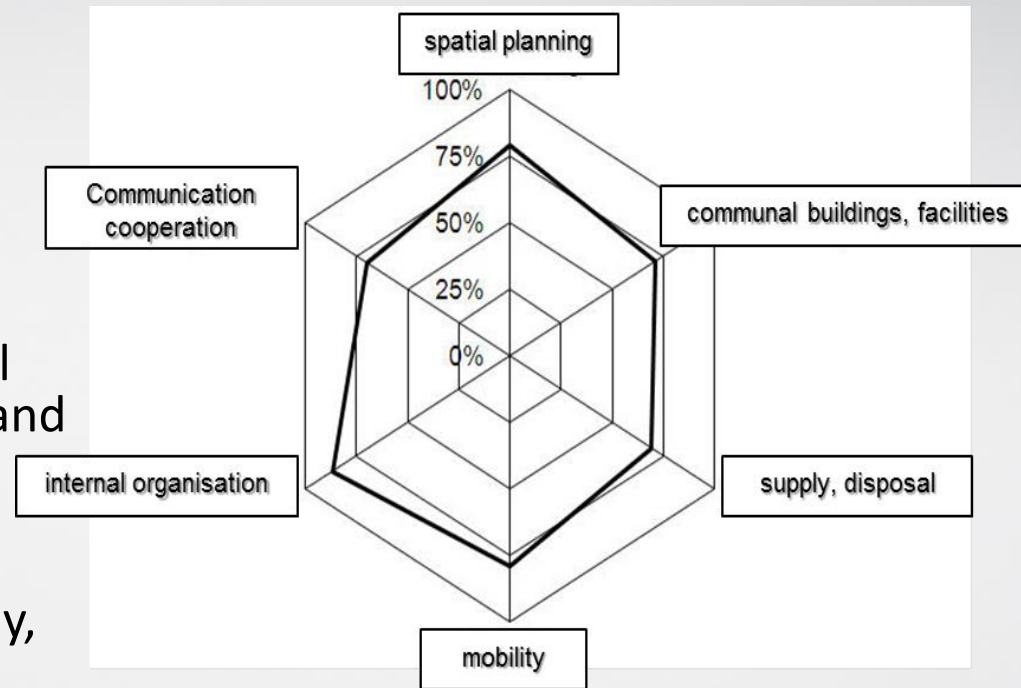
Excellent Indicators

- 1.27m² solar collectors per citizen
- 8 energy audits per 1000 citizens
- 62 new wood-fired boilers per 1000 citizens
- 170 kWh electricity from PV per citizen
- € 9.80 energy related grants per citizen



III. GOOD PRACTICE EXAMPLE: DORNBIRN, AT

- 46,464 inhabitants
- eea Gold since 2011
- 75% of possible points achieved
- Dornbirn was one of the first local authorities in Vorarlberg to prepare and agree upon a comprehensive environmental mission statement
- Promotes environmentally friendly, energy-efficient mobility



III. DORNBIRN – PROJECT EXAMPLES

- Implementation of **mobility management** in the town hall:
 - Soft measures for employees, staff bikes, bike repair station, etc.
- **Mobility plan/strategy** updated regularly
- Comprehensive **parking space management**
- **Spatial planning**
 - focus on connections for pedestrians and bikes
- Modernisation of **street lighting**
- **Energetic standards** for newly built municipal buildings
- **Energy accounting** for all municipal buildings and yearly reporting
- **Energy audits** for households
- Exceptional successes in **green public procurement**
- Continuous **information and PR for citizens** concerning mobility and energy



THANK YOU!

MULȚUMESC!

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