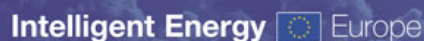




# Bottom-up benchmarking, direct benefits for the municipality as a building owner

Stefano Faberi - ISIS



## Contents of this presentation

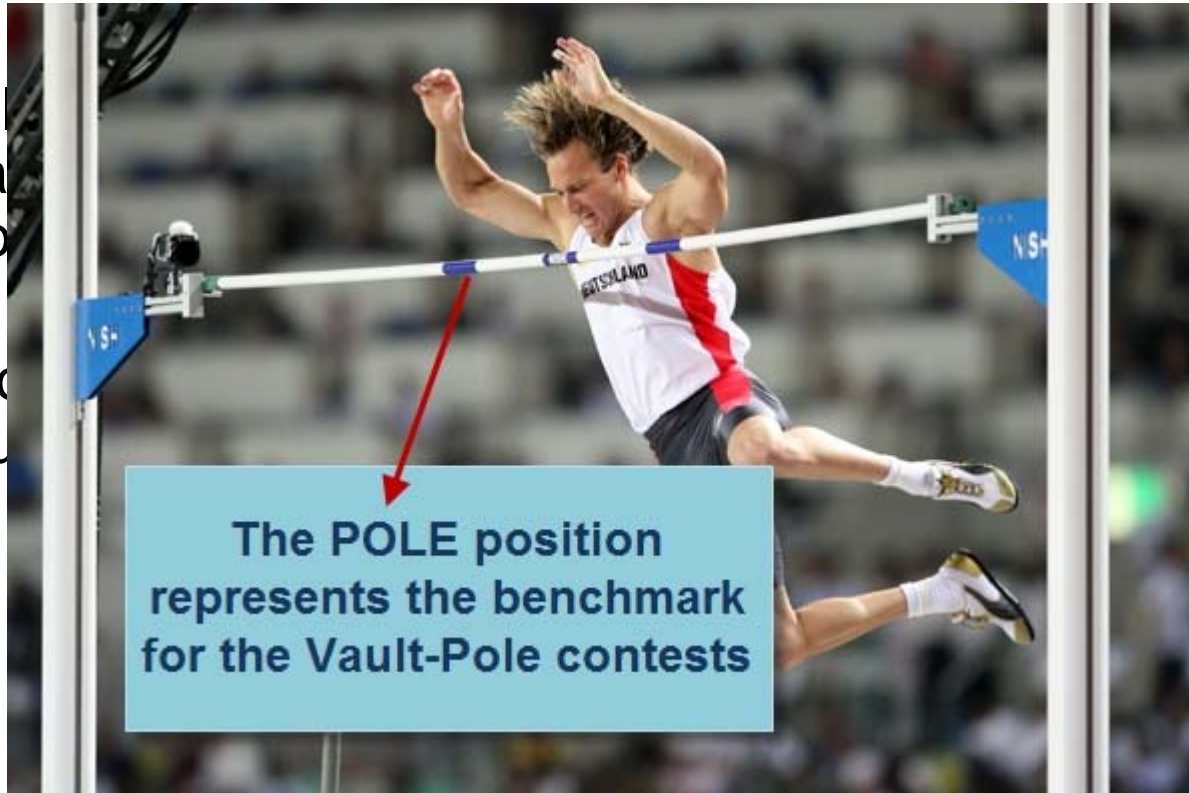
- What a Benchmarking exercise is
- Which are the main elements of a good SEAP..
- ...and which is the role of the indicators in a SEAP layout
- Steps to Creating a SEAP (from the Energy Saving Trust, UK)
- The indicators system in Sec-Bench
- Some final considerations



Take a week to change tomorrow

# What a Bench-Mark is

- Literal permanent position
- So, more measurement



other  
and

which to



European Union 22-26 March 2010  
**Sustainable Energy Week**



# What a Benchmarking Practice is

- **Benchmarking** is widely used in the business – marketing sectors
- **Benchmarking** is the process of comparing costs, cycle times, productivity, or quality to another that is widely considered to be an industry standard benchmark or best practice
- In this way, benchmarking provides a snapshot of the performance of your business and helps you understand where you are in relation to a particular standard.
- The performance is measured by using specific indicators: (energy or cost per unit of measure, productivity per unit of measure, defects per unit of measure) resulting in a metric of performance that is then compared to others.



# What a Benchmarking Practice is

- There are several types of Benchmarking, most of them refer to the business-management ambit of activities
- Here we can just define two Benchmarking practices :
  - **External**, where the performance measures of one organisation are compared with external ones for the purpose of determining how good an organisation is as compared to others and identifying possible improvement
  - **Internal** where comparisons are made between or within departments/divisions (real estates or processes) of the same organisation



# Benchmarking as a tool to support the planning activity

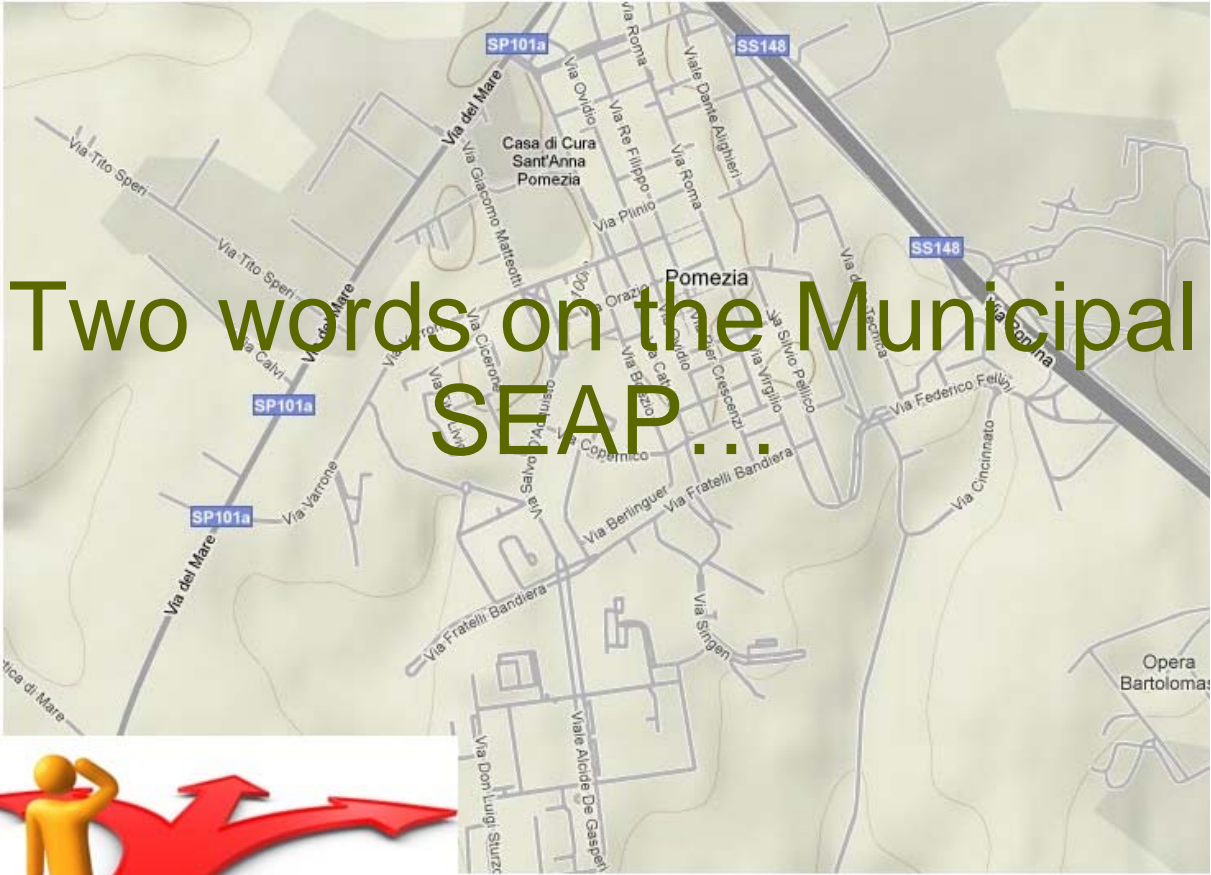
- The result of a Benchmarking analysis might allow the organisations to develop **plans** on how to make improvements or, adapt specific best practices with the aim of increasing their performance.
- In particular the Benchmarking practice can be adopted to support the development of the Municipal Energy Action Plan...



European Union 22-26 March 2010  
**Sustainable Energy Week**



Take a week to change tomorrow



European Union 22-26 March 2010  
**Sustainable Energy Week**



Take a week to change tomorrow

# Some questions to be answered to lay out a good SEAP

- All strategic plans, no matter who is writing them or what topic they are addressing, tend to have five major elements.
- Simplistically, these can be characterized by the following five questions:
  - Where are you coming from?
  - Where are you now?
  - Where do you want to be?
  - How do you get there?
  - How do you measure your progress toward the goals?



European Union 22-26 March 2010  
**Sustainable Energy Week**



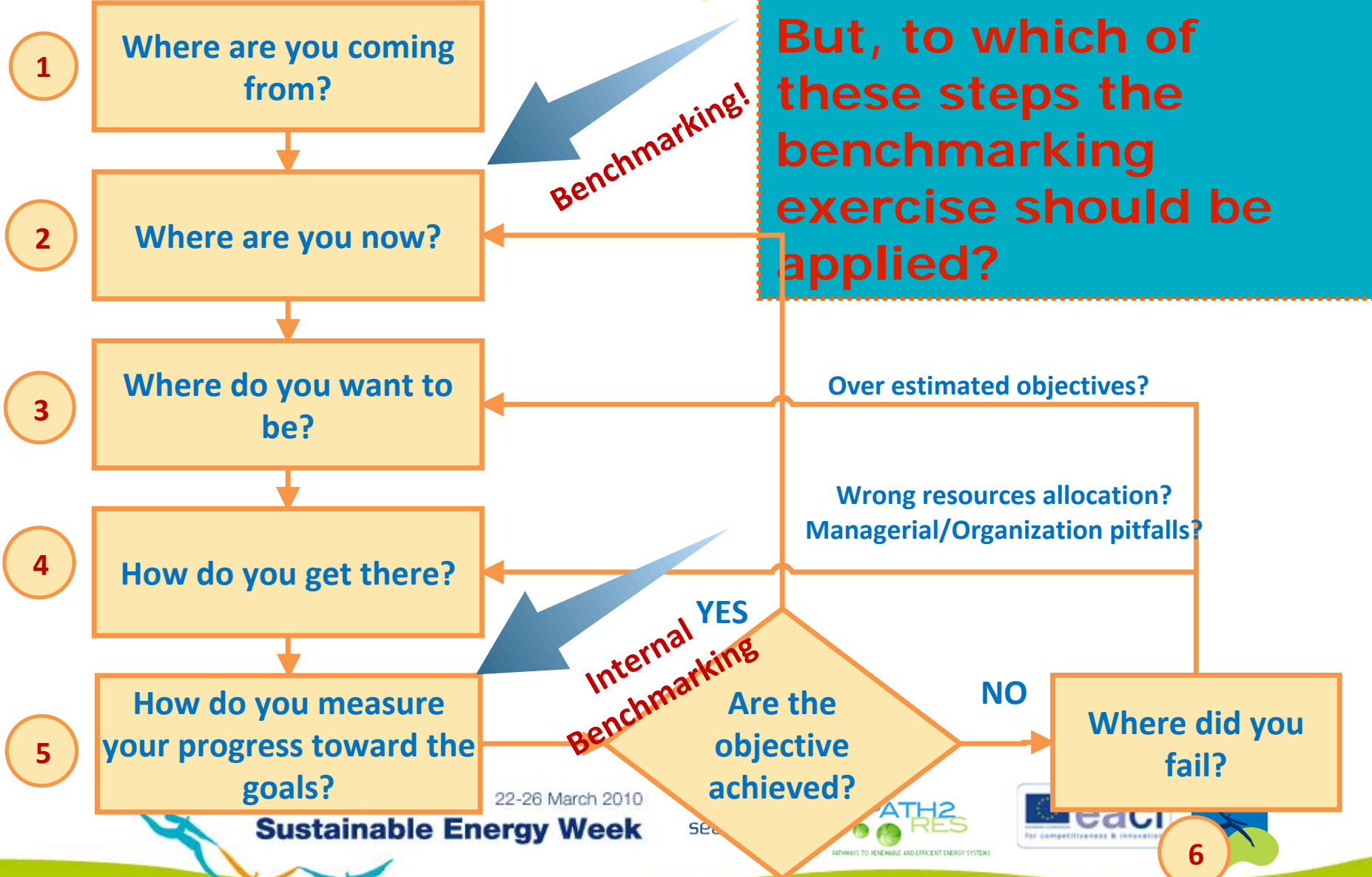
# Steps to creating a Strategic Energy Plan

Where are you coming from?	To identify all applicable legislation, regulation and requirements that influence and define your work environment
Where are you now?	To paint a picture of where you are in terms of energy consumption, costs...
Where do you want to be?	To identify potential projects, both at short term and longer term. To set specific goals
How do you get there?	To plan resources, costs, timing; To assign responsibilities and roles...
How do you measure your progress toward the goals?	To set and apply an accounting and information system is an unavoidable step to control the rate of achievements of your objectives



Take a week to change tomorrow

# Steps to creating a Strategic Energy Plan



22-26 March 2010

**Sustainable Energy Week**

SEC



## The Sec-Bench Indicators system

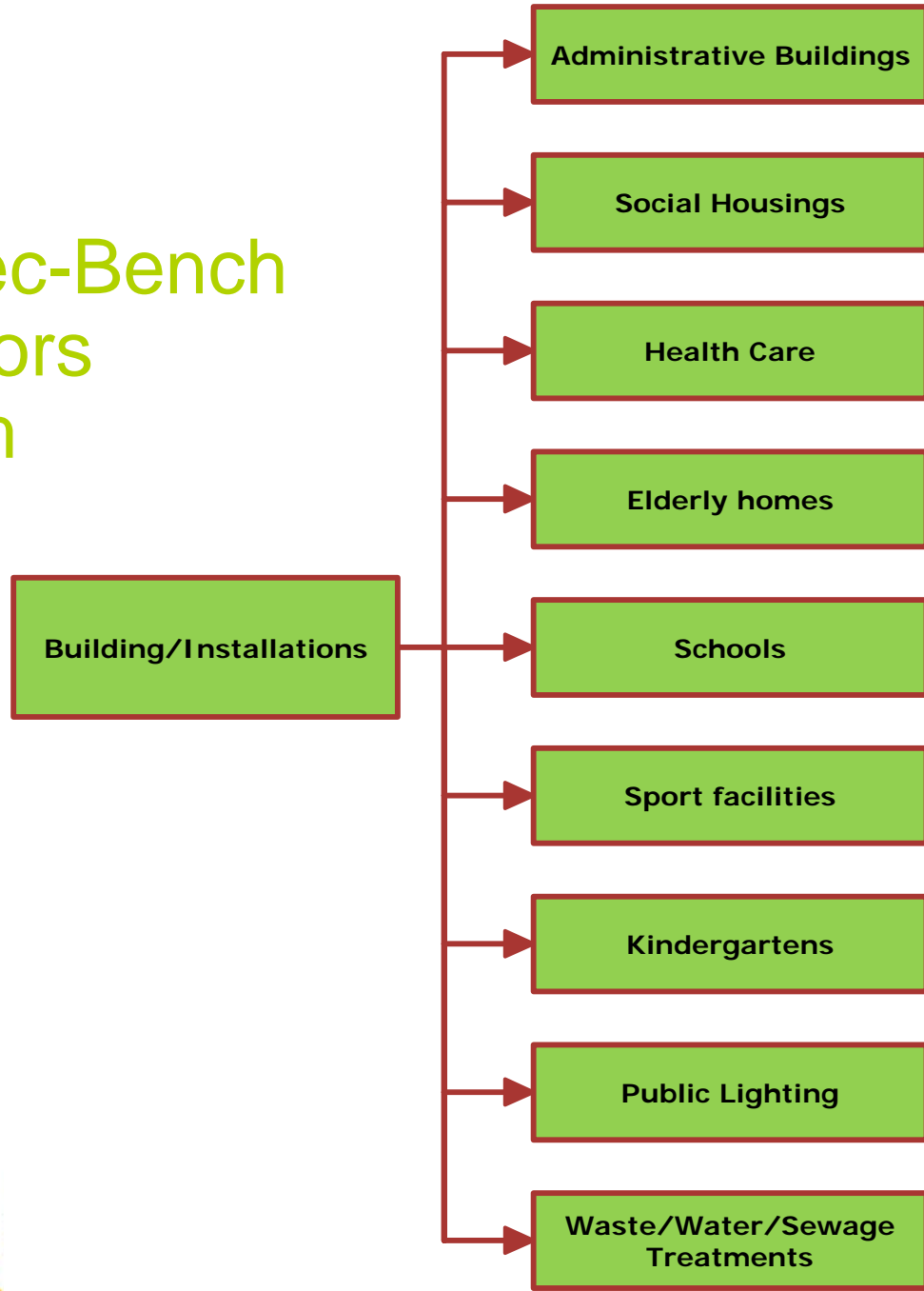
- Indicators have been conceived taking into account the data that are reasonably available at Municipal level
- There have been thus a balancing through the indicators complexity and the data availability and quality
- In this framework, data collection has mainly concerned the buildings and the vehicle fleets owned and managed by the Municipalities

## The Sec-Bench Indicators system

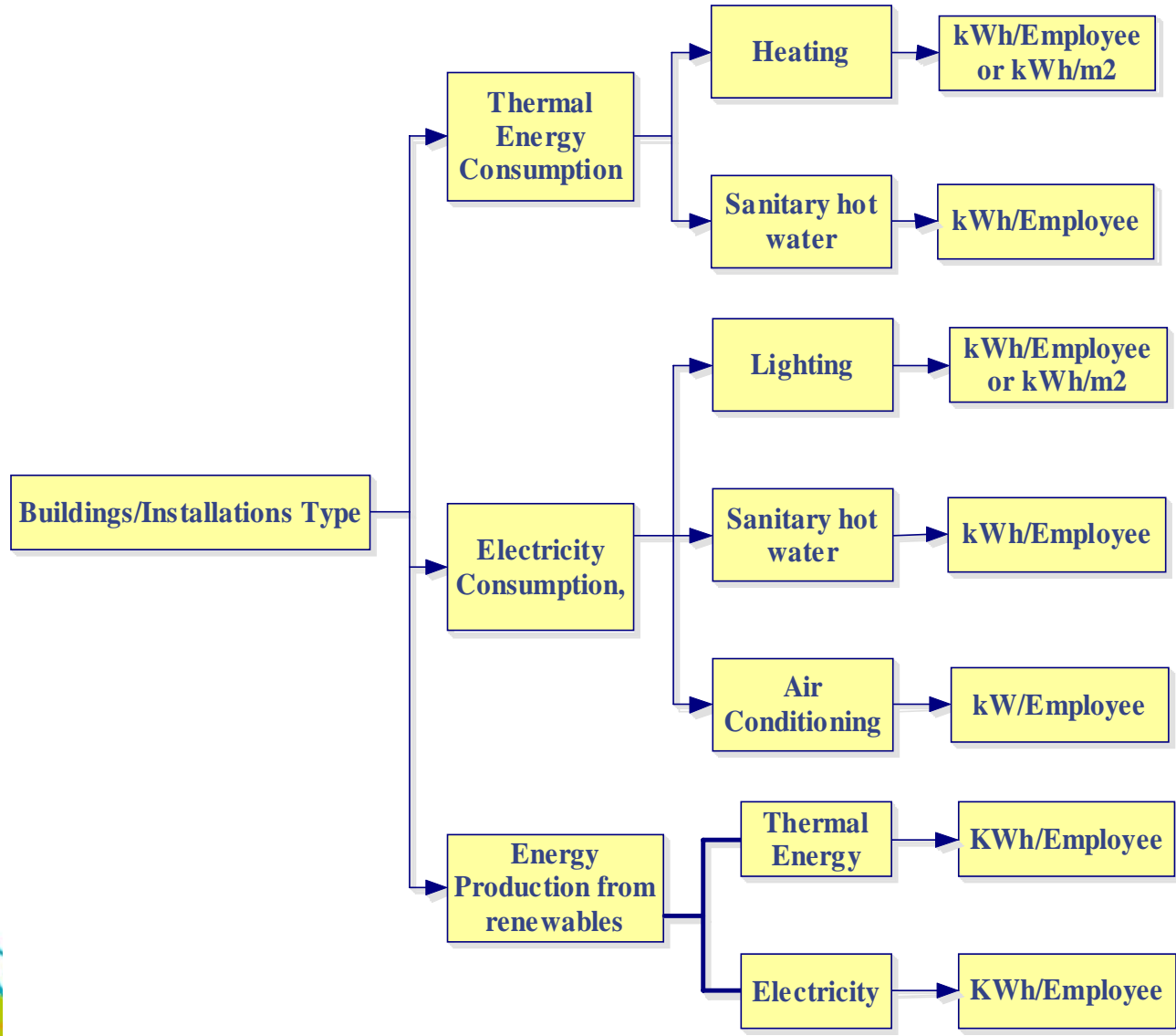
- The indicators then measure/compare
  - The buildings specific energy consumption (kWh/m<sup>2</sup>) per energy source and, where possible, per final use
  - The energy consumption per employee (when meaningful)
  - The renewable energy production (kWh/year and kWh/employee)
  - The cost of the used energy (EURO/kWh)



# The Sec-Bench Indicators System



# The Sec-Bench Indicators System



## The Sec-Bench Indicators system

- Other accompanying qualitative information has been moreover collected to allow a better interpretation/comparison of the results:
  - Building age
  - Building technology (walls, windows, ...)
  - The age and the efficiency (where known) and the fuel used in the heating boilers
  - The lighting type mainly used
  - The appliances type and number (where existing)

## Main problems fund by the Municipalities (from the Italian experience, starting from scratch...)

- Technical/organizational problems:
  - Often two or more buildings have just one electricity counter
  - On the contrary the street lighting electricity counter refer to group of streets, section of boroughs, etc.
  - No data on the energy consumption per end use
  - Building or installations pertaining to different cost centres
  - Sometimes difficult to found the building surface (not even this information is provided in the building land registers)
- Administrative problems
  - Necessity to modify the municipalities internal regulation in order to create/identify roles and responsibilities for the data collection and continuous updating



European Union 22-26 March 2010  
**Sustainable Energy Week**



## Some final considerations

- The Sec-Bench experience has been very useful for the participating municipalities in terms of increased sensitiveness to the energy management issues
- Investments in capacity building and networking consolidation as well as organisational and institutional analysis of the Municipal regulations are nonetheless required
- Cost benefit and SWOT analysis for the development of municipal and regional energy consumption monitoring and benchmarking systems are also required to support the decision process of the local authorities (i.e. which is the cost of wrong investment decisions...)
- A link with the main national or regional electricity and gas utilities to enlarge the data monitoring scope should be eventually promoted.
- To this end the role of the EC, also through the initiatives already promoted (i.e. the Covenant of Majors) and programmes like the IEE, is unavoidable



Take a week to change tomorrow

# Bottom-up benchmarking, direct benefits for the municipality as a building owner

- Stefano Faberi:
- [sfaberi@isis-it.com](mailto:sfaberi@isis-it.com):

Intelligent Energy  Europe



European Union 22-26 March 2010  
**Sustainable Energy Week**

