

LIFE-CYCLE COSTING AND ENVIRONMENTAL CRITERIA:  
COMPLIMENTARY OR COMPETING TOOLS?

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Seminari e approfondimenti  
a cura del Gruppo di Lavoro acquisti verdi

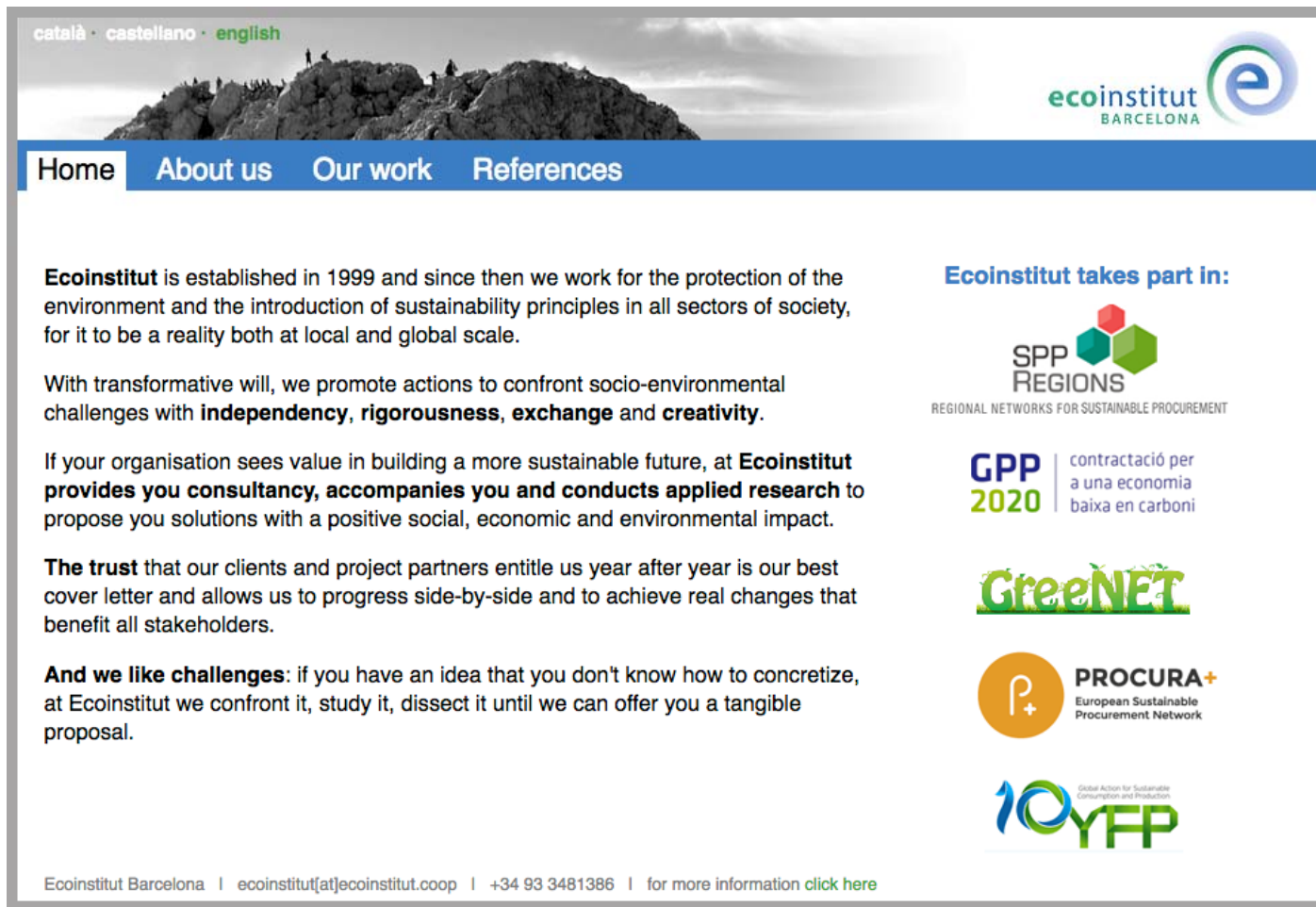
- **“Theoretical framework”**

Helena Estevan (ECOINSTITUT SCCL)

- **The vision from a procurement authority**

Lidia Capparelli (CONSIP SPA)

## About Ecoinstitut



The screenshot shows the website for Ecoinstitut Barcelona. At the top left, there are language options: català, castellano, and english. The main header features a navigation menu with 'Home', 'About us', 'Our work', and 'References'. The main content area is divided into two columns. The left column contains text about the organization's history and mission, while the right column lists the organizations Ecoinstitut is part of, each with its logo. At the bottom of the page, there is contact information including the address, email, phone number, and a link to the website.

català · castellano · english

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Home About us Our work References

**Ecoinstitut** is established in 1999 and since then we work for the protection of the environment and the introduction of sustainability principles in all sectors of society, for it to be a reality both at local and global scale.

With transformative will, we promote actions to confront socio-environmental challenges with **independency, rigorousness, exchange** and **creativity**.

If your organisation sees value in building a more sustainable future, at **Ecoinstitut provides you consultancy, accompanies you and conducts applied research** to propose you solutions with a positive social, economic and environmental impact.

**The trust** that our clients and project partners entitle us year after year is our best cover letter and allows us to progress side-by-side and to achieve real changes that benefit all stakeholders.

**And we like challenges:** if you have an idea that you don't know how to concretize, at Ecoinstitut we confront it, study it, dissect it until we can offer you a tangible proposal.

**Ecoinstitut takes part in:**

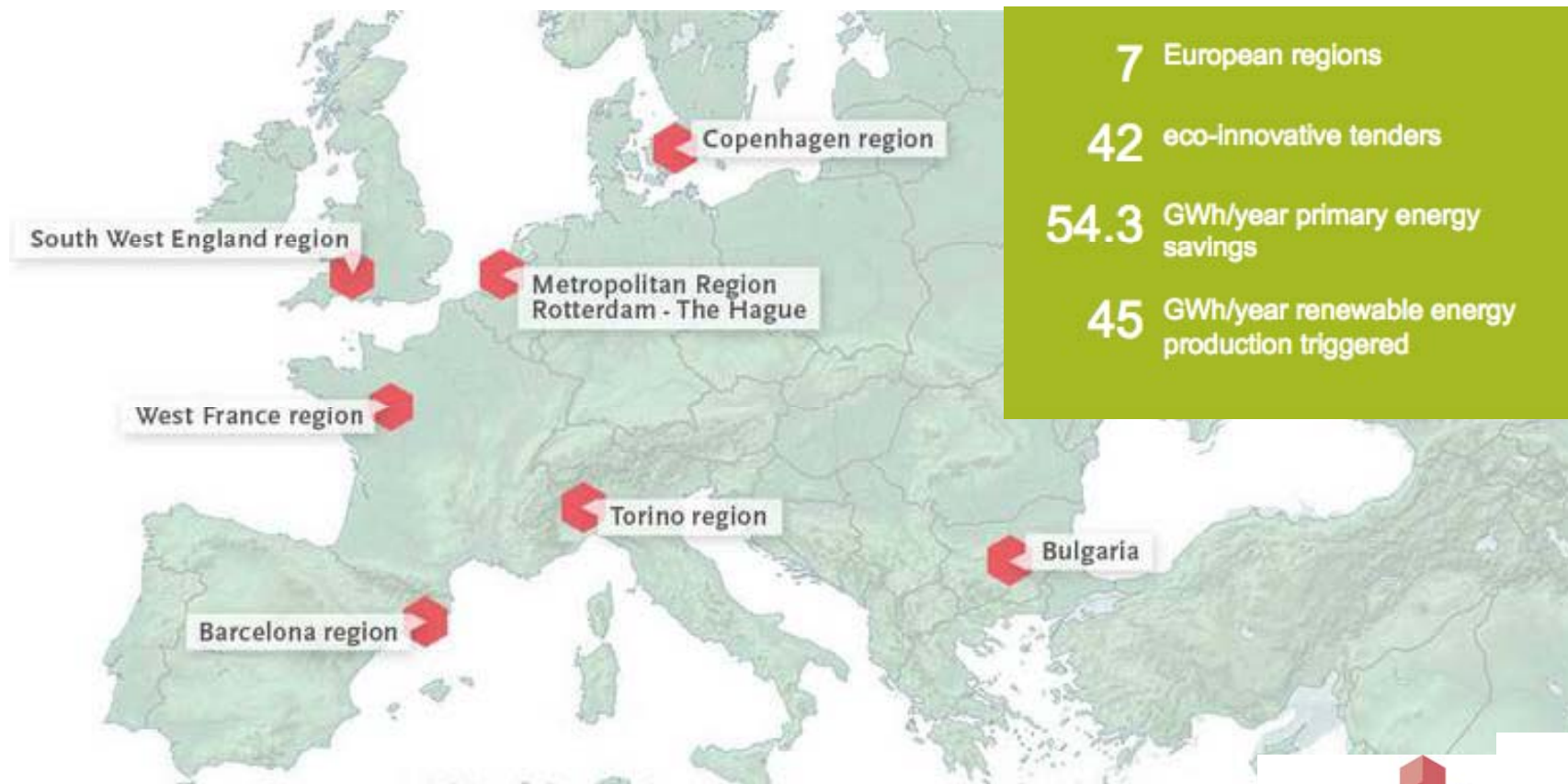
- SPP REGIONS  
REGIONAL NETWORKS FOR SUSTAINABLE PROCUREMENT
- GPP 2020 | contractació per a una economia baixa en carboni
- GreenNET
- PROCURA+  
European Sustainable Procurement Network
- 10YFP  
Global Action for Sustainable Consumption and Production

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<http://www.ecoinstitut.coop>

## About SPP Regions

SPP Regions promotes the creation and expansion of European regional networks of municipalities working together on sustainable public procurement (SPP) and public procurement of innovation (PPI).



## About SPP Regions

The SPP Regions consortium will be producing reports, guidance and other tools for public authorities interested in sustainable procurement and procurement of innovation:

- ◆ Six reports on existing SPP and PPI networks
- ◆ An updated Procura+ Manual, as part of the European Sustainable Procurement Network
- ◆ Reports from regional networks on their experiences
- ◆ State-of-the-art reports on market engagement, life cycle costing, performance-based specifications and circular procurement
- ◆ Three tools for calculating CO<sub>2</sub> and energy savings
- ◆ 42 eco-innovative case studies
- ◆ How-to videos

- **What is Life Cycle Costing?**
- **LCC in the New Directives**
- **Achivements to date**
- **Challenges**
- **Conditions for succesful implementation**
- **Conclusions**

## Life Cycle Cost (LCC) definition:

*“All costs associated with the product, system or structure as applied over the defined life cycle”.*

Fabrycky and Blanchard (1998)

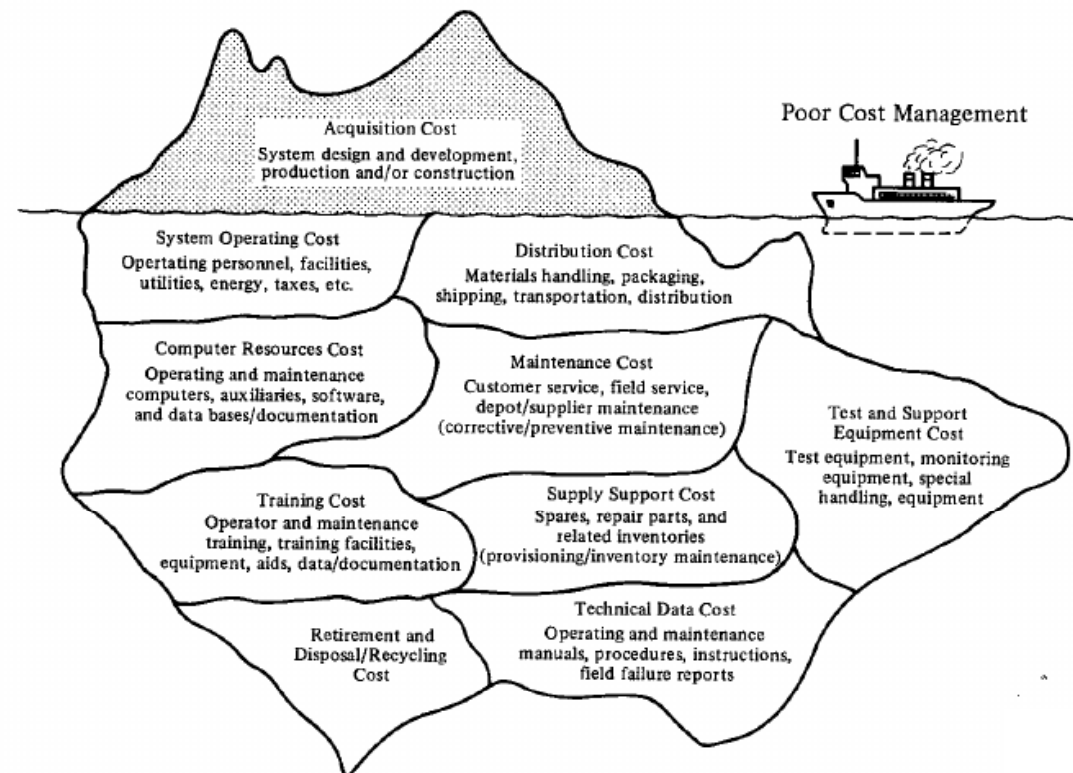
## Main cost categories included in an LCC analysis (Huppés et al., 2004):

- Research, development and design
- Primary production
- Manufacturing
- Use
- Disposal



## LCC costs in procurement (Adell et al. 2011):

- Acquisition: purchase, investments, installation, initial costs
- Operation: consumptions, annual taxes or fees, etc.
- Maintenance: maintenance, spare parts, etc.
- Remnant value or end-of-life costs



## DIRECTIVE 2014/24/EU

### Subsection 3. Award of the contract

#### Article 67. Contract award criteria

2. The **most economically advantageous tender** from the point of view of the contracting authority shall be identified on the basis of the price or cost, using a cost-effectiveness approach, such as **life-cycle costing** in accordance with Article 68, and may include the best price-quality ratio, which shall be assessed on the basis of criteria, including qualitative, environmental and/or social aspects, linked to the subject-matter of the public contract in question. [...].

## DIRECTIVE 2014/24/EU

### Subsection 3. Award of the contract

#### Article 68. Life-cycle costing

1. Life-cycle costing shall to the extent relevant cover parts or all of the following costs over the life cycle of a product, service or works:

(a) costs, borne by the contracting authority or other users, such as:

- (i) costs relating to acquisition,
- (ii) costs of use, such as consumption of energy and other resources,
- (iii) maintenance costs,
- (iv) end of life costs, such as collection and recycling costs.

(b) costs imputed to environmental **externalities** linked to the product, service or works during its life cycle, **provided their monetary value can be determined and verified**; such costs may include the cost of emissions of greenhouse gases and of other pollutant emissions and other climate change mitigation costs.

## DIRECTIVE 2014/24/EU

### Subsection 3. Award of the contract

#### Article 68. Life-cycle costing

2. Where contracting authorities assess the costs using a life-cycle costing approach, they shall indicate in the procurement documents the data to be provided by the tenderers and the method which the contracting authority will use to determine the life-cycle costs on the basis of those data.

The method used for the assessment of costs imputed to environmental externalities shall fulfil all of the following conditions:

- (a) it is based on **objectively verifiable and non-discriminatory** criteria. In particular, where it has not been established for repeated or continuous application, it shall not unduly favour or disadvantage certain economic operators;
- (b) it is **accessible** to all interested parties;
- (c) the data required can be **provided with reasonable effort** by normally diligent economic operators, including economic operators from third countries party to the GPA or other international agreements by which the Union is bound.

## **DIRECTIVE 2014/24/EU**

### **Subsection 3. Award of the contract**

#### **Article 68. Life-cycle costing**

3. Whenever a common method for the calculation of life-cycle costs has been made mandatory by a legislative act of the Union, that common method shall be applied for the assessment of life-cycle costs.

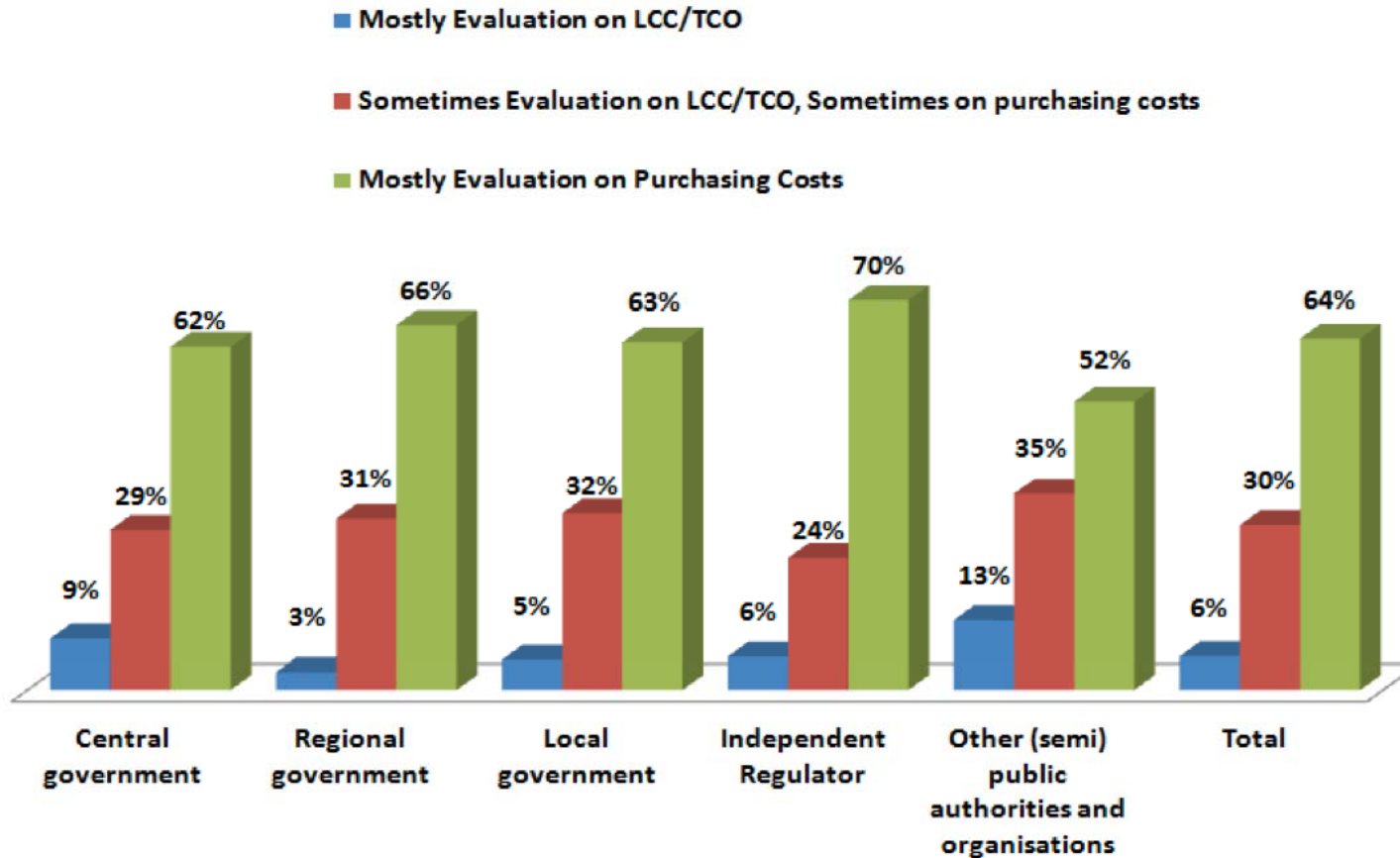
→ Currently, the only Union legal act listed in Annex XIII is the Clean Vehicles Directive (2009/33/EC)

However, LCC can be used not only during the awarding phase, but:

- Before tendering
- During tendering
- After tendering

Total	Mostly evaluation on LCC	Sometimes evaluation on LCC, sometimes evaluation on purchasing costs	Mostly evaluation on purchasing costs
Austria	9%	46%	45%
Denmark	12%	57%	31%
Finland	14%	38%	48%
Germany	14%	49%	37%
The Netherlands	11%	40%	49%
Sweden	7%	30%	62%
United Kingdom	26%	58%	16%
	13%	45%	41%

Source: Collection of statistical information on Green Public Procurement in the EU. Report on data collection results (PricewaterhouseCoopers, Significant and Ecofys, 2009).



Source: The uptake of green public procurement in the EU27 (Centre for European Policy Studies and College of Europe, 2012).



## “Classical challenges” of using LCC:

- ***Availability of data***

- From the PPAA: different departments, no monitoring, etc.
- From the supplier: reliability, lack of standards, comparability...

- ***Uncertainties***

- ***Users knowledge***

- ....

*“However it could be more reasonable to accept some inaccuracies in the life cycle cost calculations than not try to evaluate life cycle cost at all.”*

Present and future of life cycle costing: reflections from Finnish companies  
(Lindholm and Suomala, 2005)

## “Extra challenges” of using LCC for SPP:

### *Complexity of environmental issues*

- Even more uncertainty and unpredictability
- Even more less availability of data
- Over-simplification into monetary dimension
- ...

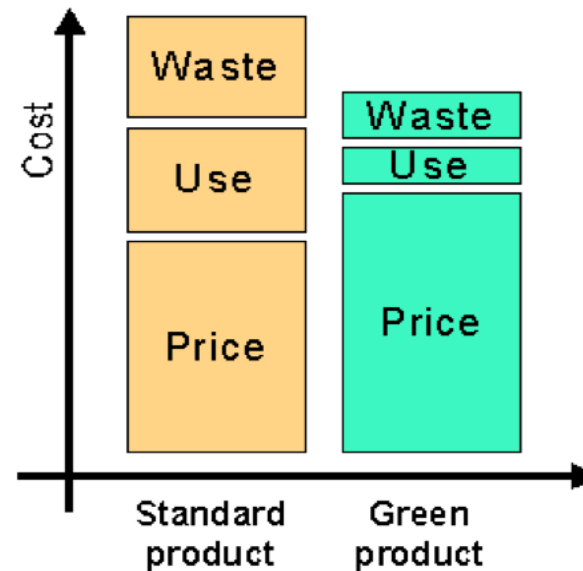
*Ex. EU LCC tool just published:*

*After further discussions and evaluations between the Commission and the project team, it was decided to take, at least for the first version of the tool, a cautious approach and use a monetization only for the impact category Climate Change. The calculations for the externalities Human Health, Ecosystems and Resources Availability are disabled.*

<http://ec.europa.eu/environment/gpp>

## *Environmental Vs. cost-effective alternative*

What if this is not true?:



Source: EC - DG Environment, 2008

*“In all of the cases, the most advantageous in terms of LCC was not the one that received best life cycle assessment rating”.*

(Perera and Morton, 2009)

## *Clear policy framework*

- Compulsory SPP criteria
- Environmental regulation of taxes, fees, subsidies, etc.
- ...

*Vehicles registration tax, Denmark:*

*Car acquisition cost: 15,000 €*

*Registration tax: 17,550 €*

*→ From 2008 to 2016 electric vehicles were exempt from this tax!!*

## *Combination of tools*

### **Rijkswaterstaat example**

- Total costs - by LCC or TCO
- Sustainability: life cycle analysis (LCA) calculator - “DuboCalc”
- CO2: The CO2 performance ladder

Source: <http://www.rijkswaterstaat.nl>

*“Life cycle costing is primarily an **economic** tool and that, while it may have positive implications for sustainable procurement, it is not a panacea. As such the application of whole-life costing methodology is necessary but not sufficient to **guarantee sustainable procurement.**”*

Costing the future: Securing value for money through sustainable procurement (Westminster Sustainable Business Forum, 2008)

**Currently developing:**

**“Life Cycle Costs (LCC): State of the Art Report”**

(SPP Regions project)

Inputs, examples, resources, etc will be welcome!!

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More info and future publication: [www.sppregions.eu](http://www.sppregions.eu)

# GPP Academy



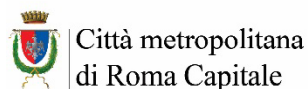
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Segreteria tecnica



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