

**Financial and economic aspects
of Switch, a framework
Presentation in session 5**



Financial and economic aspects

- Make clear that integration can only be achieved if we have a shared vision concerning the Switch project
- If we agree on the Switch approach, which is working towards ecological cities
- If we understand what integration would mean

A vision concerning the Switch project

- What is the desired future for the Switch cities?
- A sustainable urban water system will be a basic feature of an ecological city, but is it enough?
- The Switch project is seeking a paradigm shift in urban water management
- Its purpose is to make water treatment more sustainable and protect the quality of drinking water sources
- It wants to reduce risks such as water related diseases, droughts and flooding
- Approach focuses on closing urban water cycle

My definition of a more ecological approach to urban development would be a strategy combining:

1. Integrated water resources management: closing the water cycle
2. Energy management, reducing the greenhouse gases
3. Waste minimization and integrated waste management
4. Integrated transport policies
5. Objectives concerning justice: equality
6. Integration in the framework of urban management, while also managing the urban risks

Switch vision emphasizes three aspects:

1. The thinking in terms of systems of interrelated components (system engineering)
2. The emphasis on a more ecological approach to sustainable urbanization and
3. The emphasis on a more integrated approach to solving different water related issues.

Integration

- We argue in favour of an integrated solution for water management: closing the urban water cycle: urban managers are needed to integrate different aspects of urban development
- Recently the emphasis is on sustainability and how to create ecological cities: looking at waste, energy use, pollution & environmental problems in an integrated way
- Issues discussed are the integration of the different sectoral and disciplinary interests, the role of planning & management, the importance of economic, financial, social & environmental criteria (an how to combine them), who are the decision makers and how do we deal with the strict&loose meaning of sustainable urbanization

Generate new efficiencies from an integration of actions across the urban water cycle

- To improve the quality of life in cities Switch promotes urban agriculture projects, as part of the integrated approach to water use and reuse
- Switch aims at doing financial and economic analysis of alternative decentralized urban water treatment
- The research contributes to developing and selecting sustainable plans for urban water management, by:
 - 1) Making quantitative determination of the costs and benefits for the alternative systems from the point of view of the social economics
 - 2) Making financial appraisal on the alternative systems.
 - 3) Exploring the sustainable financing plans
 - 4) Comparing the competitiveness of the alternative systems with that of the existing centralized system

A shared framework for our analysis

- Use of institutional analysis and design desirable institutional options
- Use cost-benefit analysis and related techniques such as Life cycle costing
- Use daisy to calculate effects on health

Examples of collaboration with other working packages by this subject group

- The leading idea of this research theme is that the different work packages of 6 work together and try to link with the other themes of the project, in particular theme 1 (strategic approach, sustainability and risk). Fields identified for closer cooperation with **theme 1**:
- Assist in a number of workshops preparing the scenarios, or turning them into strategies as inputs for the integrated urban water management plan or the strategic plan per city
- Prepare for the decision support model the data necessary for the economic component of the city water economics model, in particular when cost figures are needed (Greece)
- Provide inputs to the preparation of integrated urban water management plan or the strategic plan per city
- Other work in which theme 6 will be involved **with themes 2 to 5**:
- Urban agriculture in Accra and Beijing
- Work in aquifer refilling and riverbank infiltration
- Look positively at whatever WP or LA asks us to collaborate