

MAXIMA/NEEDS co-workshop

Tools for estimating the external costs



Milan Ščasný
Charles University Environment Center

Krakow, 1 March 2005

OBJECTIVES OF the CO-WORKSHOP

1. Discuss problems in order to discuss and possible identify the best **case studies** for IP NEEDS
2. Present the appropriate possible **software tools** for the estimating the external costs
 - EcoSense
 - RiskPoll

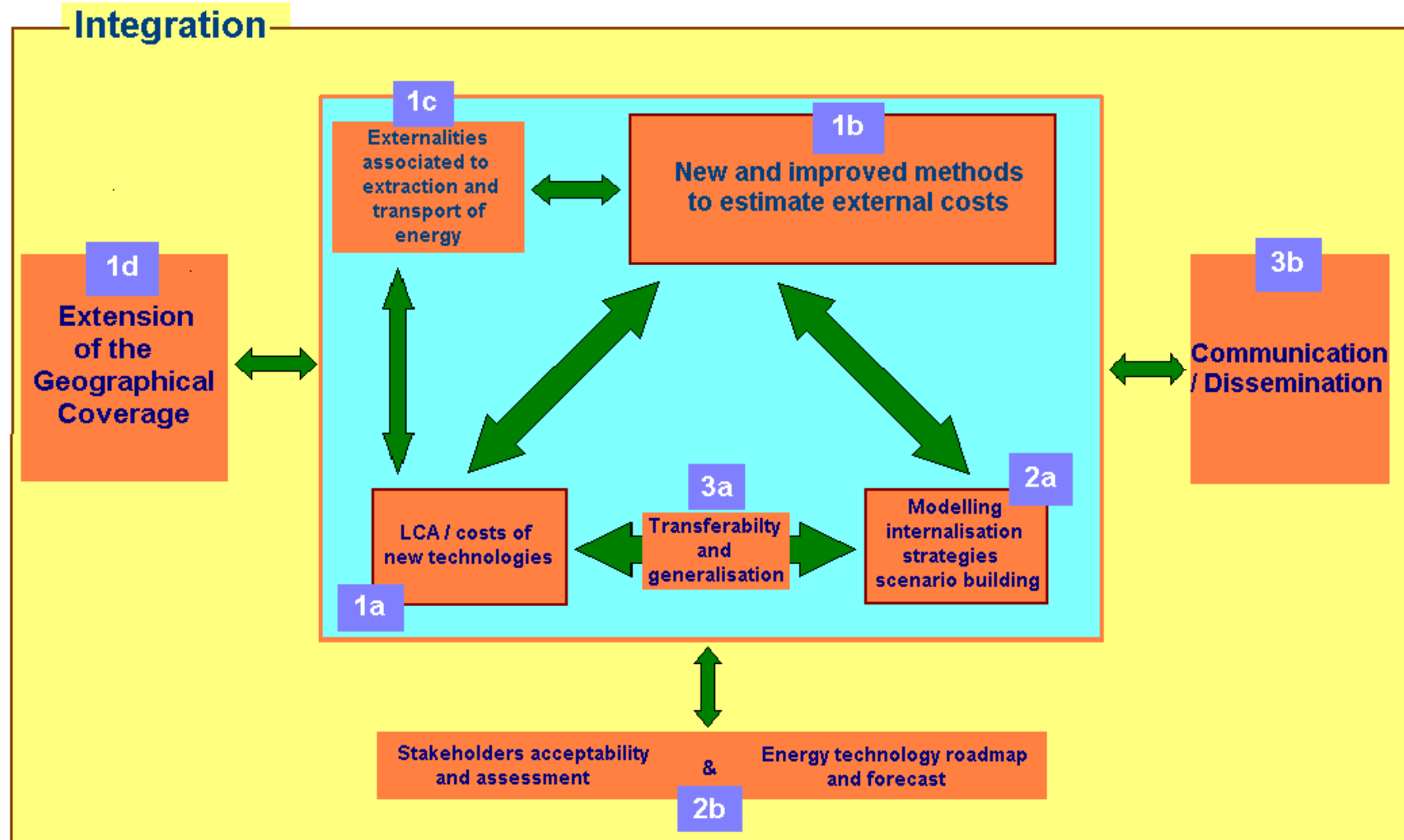


IP NEEDS: New Energy Externalities Developments for Sustainability

- 66 partners, 1118 person-months, 11.7 MEuro, the EC financial contribution ca. 7.6 MEuro
- 4 years: Sept. 2004 – August 2008
- *IP divided into the Research Streams:*
 - 1.a - *LCA of new energy technologies*
 - 1.b - *New and improved methods to estimate the external costs of energy conversion*
 - 1.c - *Externalities associated to the extraction and transport of energy*
 - 1.d - Extension of the geographical coverage of the current knowledge of energy externalities**
 - 2.a - *Modelling internalisation strategies, including scenario building*
 - 2.b - *Energy Technology Roadmap and Stakeholder Perspectives*
 - 3.a - *Transferability and generalisation*
 - 3.b. - *Dissemination/communication*
 - In - Integration



Research Streams Interrelationships



Overall objectives of the NEEDS IP

- ***The ultimate objective of the NEEDS Integrated Project is to evaluate the full costs and benefits (i.e. direct + external) of energy policies and of future energy systems, both at the level of individual countries and for the enlarged EU as a whole***
- Major innovation is expected in a number of research fields:
 - the analysis of **new energy technologies options** for which the current LCA knowledge is insufficient (RS 1a)
 - the development of **new and improved tools** for the monetary valuation of externalities of energy, targeting major innovation in terms of (RS 1b & RS 1c):
 - methods
 - impacts so far insufficiently addressed
 - the availability and reliability of quantitative evidence
 - the development of a consistent analytical platform allowing to integrate the full range of data on LCA and external costs into a **Pan-European modelling framework** (RS 2a)



Complementary objectives of the NEEDS

- Acceptability and stakeholders perspective (RS 2b)
 - To identify the terms and conditions for an effective formulation and implementation of long term strategies based on the internalisation of external costs
 - To examine the robustness of the research results under various stakeholder perspectives
- Transferability and generalisation (RS 3a)
 - to develop a simple way of calculating, transferring and present the uncertainty of default values for average/aggregate external costs
- Dissemination (RS 3b & all RS's)
 - To develop internal project communication structures and the more classical dissemination tasks for disseminating the results of the different project streams



RS 1d: Extension of the geographical coverage of the current knowledge of energy externalities

Main objective:

- To bring additional countries up to par with those for which the current state of knowledge on energy externalities is more advanced (NACs, MPCs)
 - associated countries and other CEEC: Bulgaria, the Czech Republic, Estonia, Hungary, Poland, Slovak Republic,
 - Mediterranean Partner countries: Southern and Eastern Mediterranean countries, namely Egypt, Morocco, and Tunisia

Main Aim:

- The main aim is to present scientifically sound and reasonable economic instruments for environmental protection and sustainable development, with significant focus on the environmental fiscal/tax reform in particular that will lead to more efficient and sustainable economies

Time-plan:

- March 2006 – August 2008



FUEL CYCLES AND TECHNOLOGIES

- externality calculations will be performed on a country-specific base for the following fuels and technologies :
 - **combustible fuels**, e.g. brown and hard coal, lignite, oil shale, natural gas, heavy fuels, wood and if relevant a mixture of these energy carriers used for production of electricity and heat,
 - **cogenerations** in Central Europe will be focused in particular,
 - **nuclear energy** will be assessed, a typical nuclear power plant within these countries – the Czech Republic, Hungary, Slovakia
 - relevant type of **renewable energy** will be chosen and assessed at least in one NAC/MPC partner country,
- mainly by applying the ExternE methodological body of knowledge, including, as and when possible, advancements developed within the previous streams (1.a, 1.b, and 1.c).



DoW: Phase I

WP1: Energy market and policy, measures addressing the externalities

- leading by MEERI (+ OME)
- *participants*: all 6 NAC and 3 MPC

WP2: Methodology of energy externality estimation

WP2.1. The expansion of EcoSense model knowledge

WP2.2. Identification of case studies in NAC and MPC

- leading by IER
- *participants*: all 6 NAC and 3 MPC



DoW: Phase II

WP3: Data collection and update of databases

WP3.1. Reference environment database

WP3.2. Reference technology database

WP3.3. Monetary values

- leading by AEKI (+ OME)
- *participants: all 6 NAC and 3 MPC*

WP4: Adoption of the methodology

WP4.1. adaption of methodology, inclusion of regional data from WP2, preparation and provision of tool (IER)

WP4.2. transferability of monetary values (CUEC)

WP4.3. transferability of exposure-response relationships (IOM)

- leading by IER (+ OME)
- *participants: CUEC, IOM*



DoW: Phase III

WP5: Application of the methodology

WP5.1 marginal external costs of specific technologies at specific locations

- leading by MEERI (+ OME)
- *expressed interest: CDER, EPT, MEERI, PROFING, SEI, NREA*

WP5.2. cost benefit analyses – total costs and damage costs for Energy system, assessment the welfare effect of emission reduction measures

- leading by SEI (+ OME)
- *expressed interest: AEKI, CDER, CUEC, EPT, MEERI, PROFING, SEI, UNWE, NREA*

WP5.3. green accounting & indicators - costs of the total energy sector

- leading by UNWE (+ OME)
- *expressed interest: AEKI, CUEC, UNWE*

WP5.4. National dissemination activities

- leading by AEKI (+ OME)
- *expressed interest: all*

WP6: Possible internalisation and policy recommendation

- leading by CUEC (+ OME)
- *participants: all 6 NAC and 3 MPC*



Communication Flows

- through a **Reserved Area of the NEEDS website**
 - each will be able to visualise all information and download relevant documents
 - a special tool of the reserved area is the **Calendar**
- **by e-mail to Stream coordinator**



6th Framework Programme of EC

Financial issues

- **# audits**

- every year for IPs
- only for those who spent costs

- **flexibility: concern to shift money**

- within partners
- within WPs
- within budget lines
- within periods
- Swiss are treated under special arrangements...

- **subcontracting**

“Any subcontract must be assigned following the principle of best price-quality ratio and complying with conditions of transparency and equal treatment”

- if subcontract is planned to be about 10,000-20,000 €
... send offer to 3 possible applicants (prove it that it has been sent)
- if subcontractor were mentioned in Technical Annex (AEKI, MEERI)
...any tender would need not be issued
- if there is no subcontracts, and you may like to have one
... 1) inform EC about your intention, 2) call for 3 potential competitors



RS 1d: Planned Workshops

- **Workshop 0 – Tools for estimating the external costs**
 - M7 (March 2005)
 - MAXIMA co-workshop (Krakow)
- **Workshop 1 – Basics of the EcoSense model and the ExternE methodology**
 - M26 (October 2006)
 - hosted by IER (Stuttgart) or CUEC (Prague)
- **Workshop 2 - Use of methodology and EcoSense software toll**
 - M36 (August 2007)
 - WS2-1 for NAC hosted by AFKI in Budapest
 - WS2-2 for MPC hosted by LEGI-EPT (Tunisia)
- **Workshop 3 - Results form externality calculation and policy recommendations**
 - M46 (June 2008)
 - Venue will be identified.

