

Deliberative valuation - concepts and emerging methods

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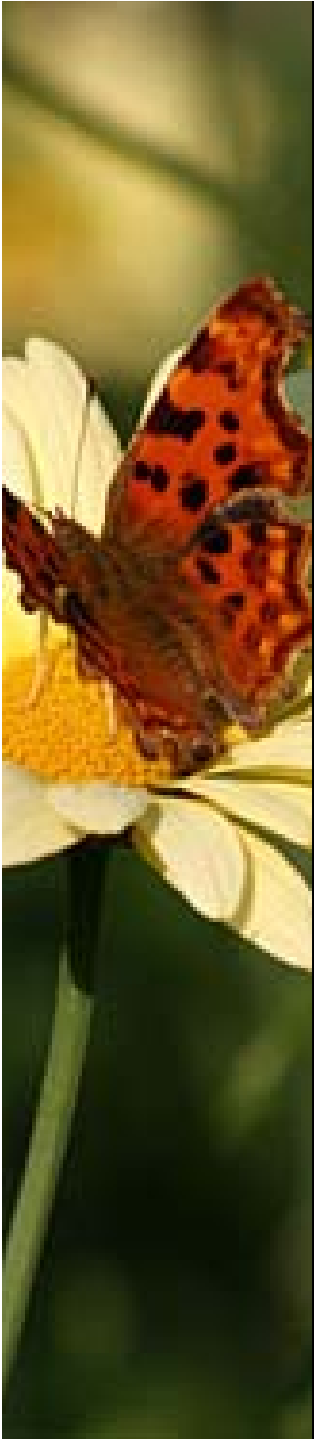


Exciting times ...

- Addressing environmental challenges by social and natural scientists working together
- Expanding the frame of reference by perceiving society and nature as complex systems
- Improving explanatory power by making social and behavioural sciences compatible

Overview

- Challenges of governing complex adaptive systems
- Appraising the sustainability of futures
- Applications to the energy field





‘Non-equilibrium’, ‘complex systems’ approaches

- **Key features:** Non-linearity, complexity, heterogeneity, uncertainty, ambiguity, ignorance, surprise
- **System organisation:** Multiple scales, interaction, integration
- **Models and methods:** Open experimentation, interactive modelling, trial and error, non-standard distributions and statistics, open-ended appraisal
- **Management implications:** Adaptive, responsive, context- and scale-dependent
- **Intervention principles:** Adaptive management and learning

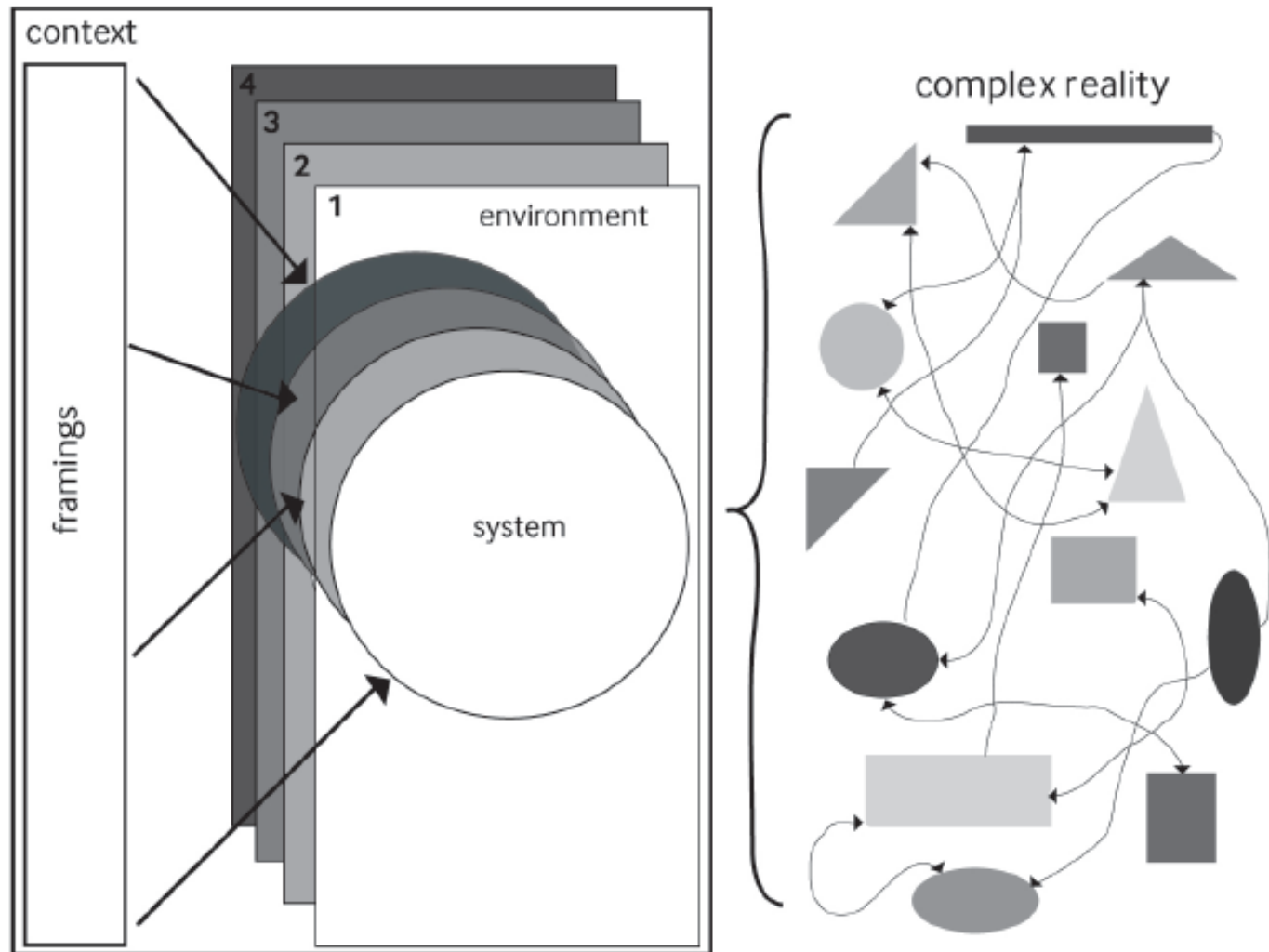


“Complexity theory has shifted the perspective of many economists toward thinking that what was viewed as anomalous and unusual may actually be the usual and expected ...”

(Rosser, JB 1999 ‘On the Complexities of Complex Economic Dynamics’, JEP)



An analytical heuristic of a complex system



Governance approaches

APPROACH TO GOVERNANCE	MAIN FOCUS	KEY PRESCRIPTIONS
ADAPTIVE	dynamic (not static) systems unintended effects uncertainty and complexity	'broadening out' of appraisal reflective precaution adaptiveness of commitments
DELIBERATIVE	exclusion by power discursive process narratives	more inclusive participation transparent public reason prioritises social learning
REFLEXIVE	contingency social construction framing by power	humility over basis for action reflexivity in knowledge claims 'opening up' of appraisal

Source: Leach et al. 2007





From environmental valuation to sustainability appraisal

CBA has been criticised for ...

... **using (high) discount rates:**

- if environmental problems cause future consumption to decline then low or even negative discount rates might well be justified (*Dasgupta, Hoel & Sterner 2006*)
- appropriately accounting for uncertainty can radically increase the perceived present value of greenhouse gas emissions control.

Weitzman, Martin L. 2007. "A Review of the Stern Review on the Economics of Climate Change", Journal of Economic Literature 45(3), pp. 703-724.



From environmental valuation to sustainability appraisal

CBA has been criticised for ...

... **lack of robustness**: “both altering the appearance of an interviewer and changing the degree of information provided can have significant impacts upon stated WTP.”

	Casual	Formal
Low	£13.66	£24.47
High	£19.36	£32.29

Bateman, I. J. and Mawby, J. 2004 'First impressions count: interviewer appearance and information effects in stated preference studies', Ecological Economics 49(1): 47-55.



From environmental valuation to sustainability appraisal

CBA has been criticised for ...

... **misplaced concreteness**: "Climate change and biodiversity losses are two phenomena that are probably not amenable to formal, quantitative economics analysis. We economists should not have pressed for what I believe is misplaced concreteness. Certainly we should not do so now."

Dasgupta, P. forthcoming. Discounting Climate Change, in Review of Environmental Economics and Policy



Sustainability appraisal

- The aim of sustainable development puts special demands on valuation and appraisal methods.
- Given that sustainable development is
 - a multidimensional concept,
 - crucial for human survival, and
 - a long-term issue,makes it necessary to test currently used valuation and appraisal tools for their fitness for this context.



Fitness of valuation and appraisal tools for sustainable development context

Valuation and appraisal tools perform better in aiding decision-making for sustainable development, if they -

- do not require monetary valuation of all aspects,
- use very small or no discount rates,
- support social learning processes,
- include public and stakeholder engagement,
- are transparent,
- can draw on both quantitative and qualitative data, and
- bring them together in a systematic way.

Sustainability appraisal

Multicriteria appraisal allows taking into account -

- a large number of data, relations and objectives; facts and values,
 - multiple criteria, measured on different scales (€, MT, ha, etc.) (requires only weak comparability between actions),
 - data from various scientific disciplines and different value judgements and interests.
- MCA enables us to rank a finite number of alternatives, while considering several, in part conflicting criteria.
- No solution optimising all criteria; compromise solution has to be found.
- Often combined with deliberative processes.





Institutions and sustainability appraisal

- The valuation and appraisal methods determine -
 - who participates in the decision process;
 - how they participate and in what capacity (consumer, stakeholder, citizen);
 - what counts as data;
 - which data processing and aggregation procedures are used.
- Valuation methods can be seen as ‘value-articulating institutions’ (Jacobs 1997; Vatn 2004).
- The type of valuation and the institutional structures in which the appraisal is embedded influence the outcome.

Methodology of energy case studies

- Scenario development
- Life-cycle analysis
- Multi-criteria appraisal
- Expert interviews
- Stakeholder interviews
- Deliberative processes (citizen or stakeholder workshops)





Appraising energy futures / 1

- Public Participation on UK National Energy Policy
- Preparation for UK Energy White Paper (2003)
- Deliberative Workshops with citizens from three regions
- August 2002
- Funder: DTI



Appraising energy futures / 1

Three options for 2020 were explored in groups:

- A – a continuation of current trends
- B – a focus on renewables development and reducing energy use
- C – a focus on UK based sources of energy with a focus on reducing energy use

Appraising energy futures / 2

- Assessment of Renewable Energy Technologies on Multiple Scales (ARTEMIS) - A Participatory Multi-Criteria Approach
- Multi-level environmental governance
- Partners: SERI Vienna; CEPE, ETH Zürich and SPRU, University of Sussex, UK
- June 03 – May 06
- Funded by the Austrian Science Council

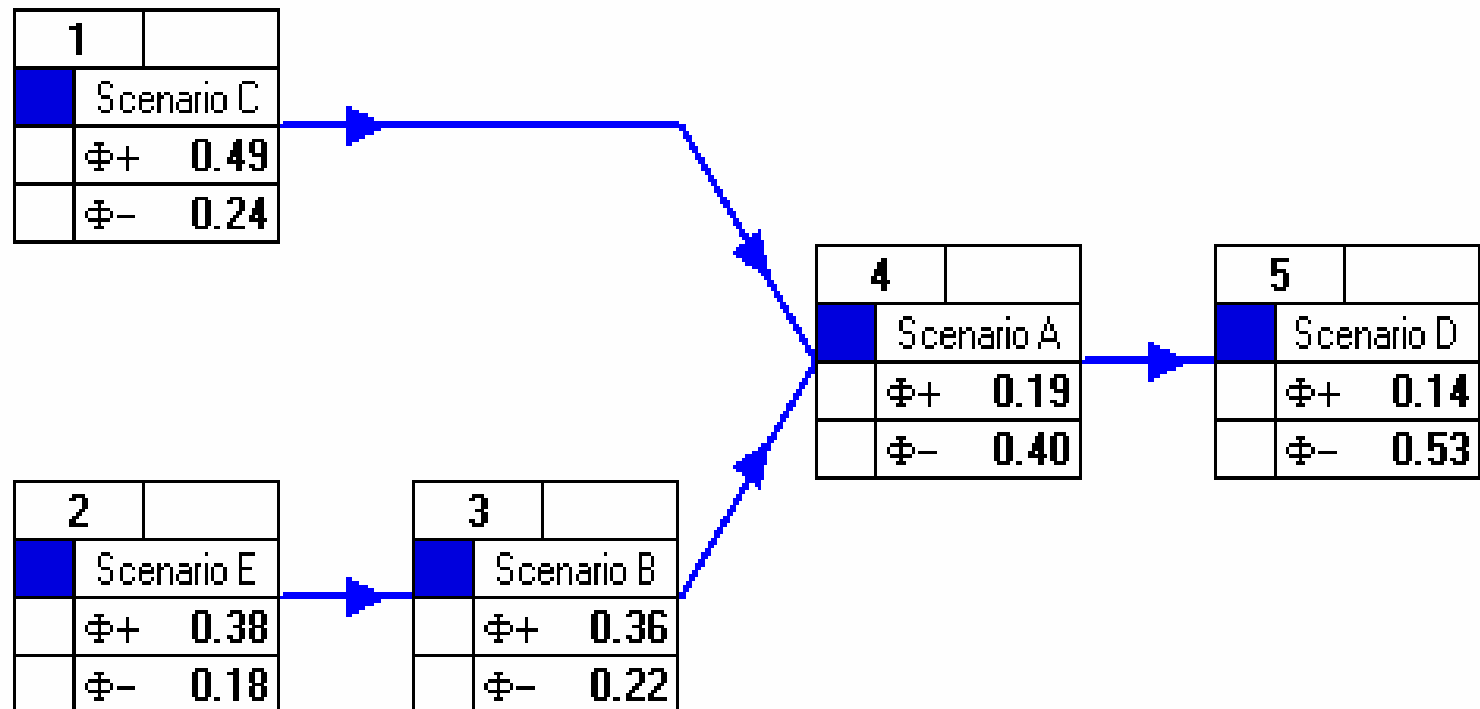
www.project-artemis.net

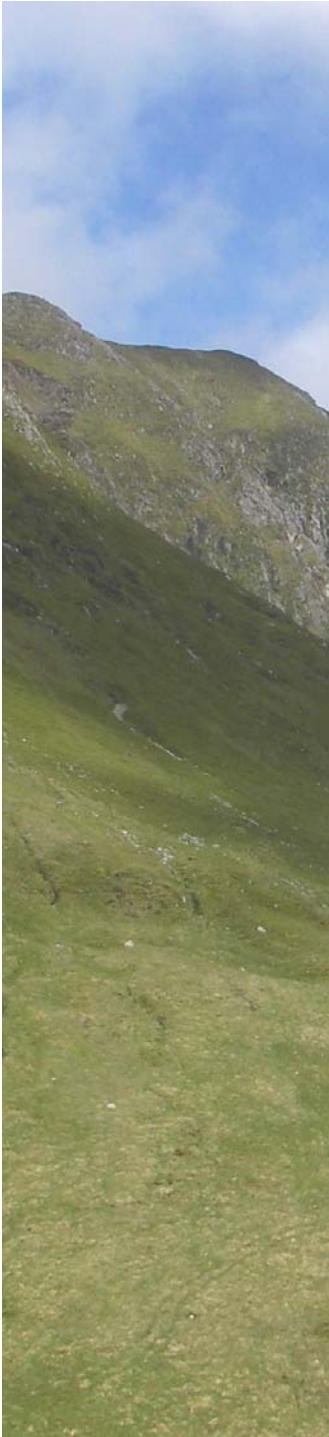


Appraising energy futures / 2

Scenario A: Rapid and familiar
Scenario C: Investing in the future
Scenario E: Big on small units

B: Extending competitive advantage
D: Biomass en gros





Appraising energy futures / 3

- Appraising regional sustainable energy strategies for South-East England
- Sussex Energy Group
- April 05 – March 07
- Funded by ESRC

Scenario 1: Neotraditional

2: Stern Path to Sustainability

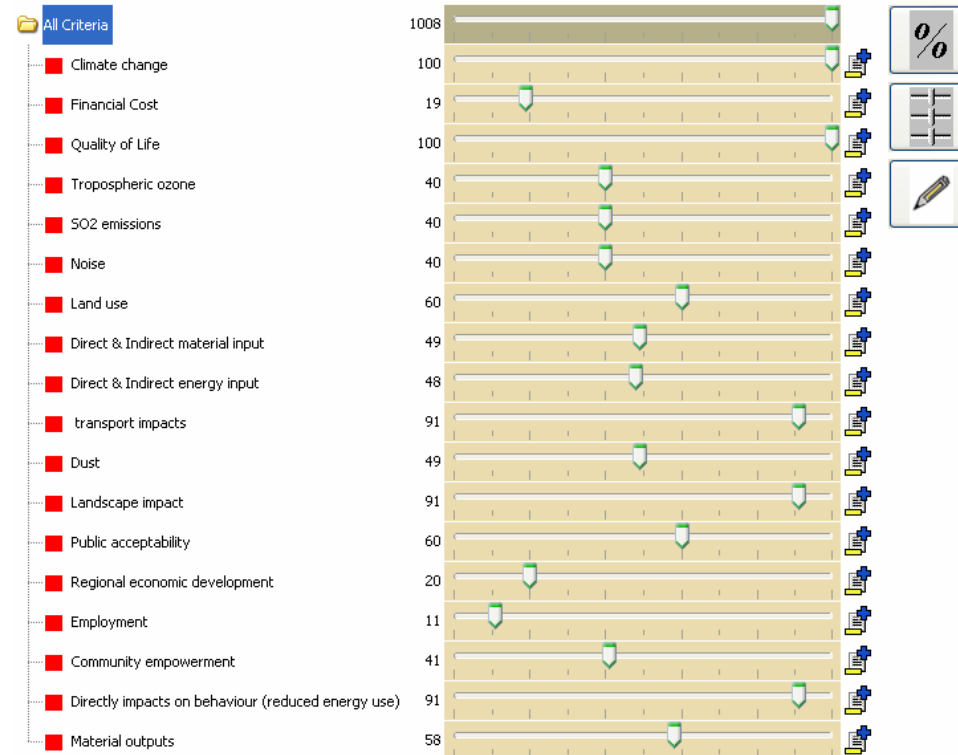
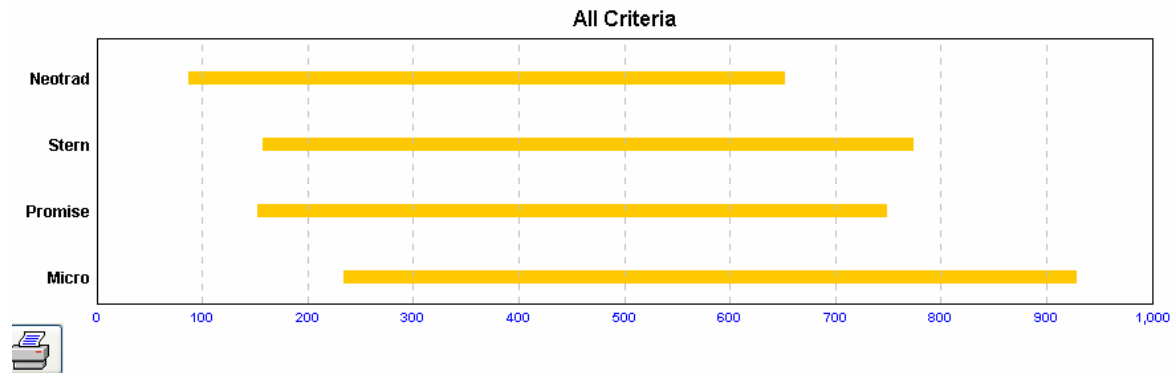
Scenario 3: Security of Supply Promise

4: Microtopia

<http://www.sussex.ac.uk/sussexenergygroup/>

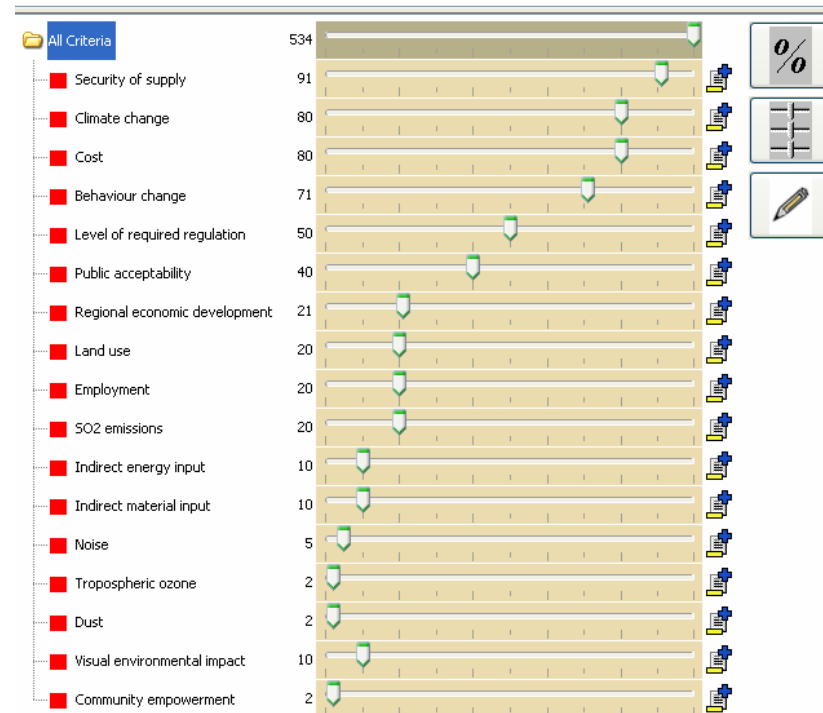
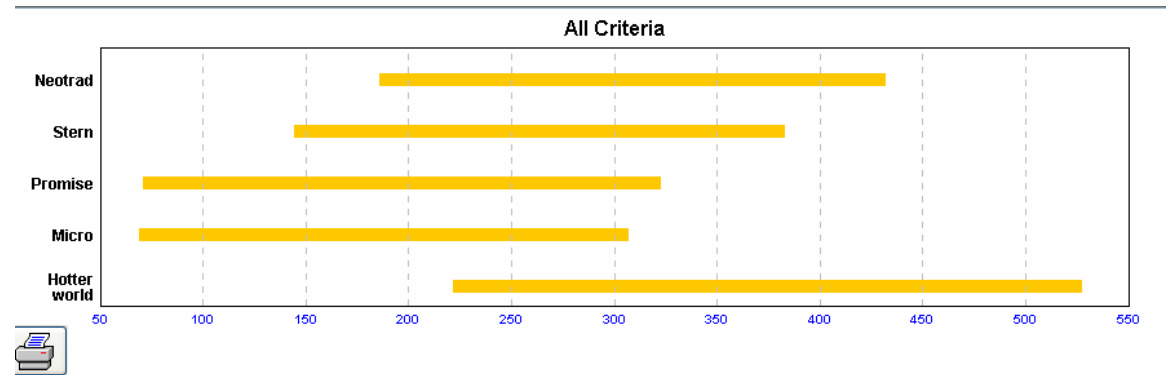


Appraising energy futures / 3





Appraising energy futures / 3



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Sustainability appraisal and governance

Case study

Governance approach

Austria

adaptive

UK

deliberative

Southeast England

reflexive



Conclusions

- The new methods will benefit from further testing and development, but they have already been shown to be effective tools of sustainability appraisal and valuation under a range of circumstances.
- No one method is best suited for appraising all types of policies, programmes and projects → a more differentiated approach produces better outcomes.

