Concept Symposium 2016
Governing the Front-End of Major Projects

Environmental considerations when selecting public investment projects

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The world is currently facing serious global and potentially irreversible environmental challenges. Major public investment projects will often have a long lifetime, and can potentially lead to significant climatic and environmental impacts. It is therefore important that climatic and environmental concerns are addressed systematically and satisfactorily in the methodology used for selecting and implementing such projects. I have investigated how the world's major climatic and environmental challenges are considered in the Norwegian governmental project model. I have focused on the concept evaluation phase, and particularly the cost-benefit model that is an important decision basis when ensuring that appropriate projects are selected. The analysis has shown that environmental considerations are partly included in the Norwegian governmental project model. However, the concept evaluation and the cost-benefit model do not address the world's major climatic and environmental challenges satisfactorily. Defining characteristics of the environmental issues challenge the methodology used in the concept evaluation.

The main reason for this is that neither the cost-benefit analysis, nor other methodological tools in the concept evaluation take into account that the Earth has a finite capacity to absorb pollution and waste or produce resources. Furthermore, it is assumed that various forms of capital such as natural capital and financial capital are fully interchangeable, which is often not the case. Based on these findings, I have proposed several potential changes to the Norwegian governmental project model, in order to strengthen it with respect to climatic and environmental concerns. The recommended option is to include a high-level, strategic environmental analysis as part of the decision base for the concept evaluation. I have suggested a framework for a model that could be useful for such an environmental analysis. The main parameters in the model are the world's major environmental challenges combined with the main life cycle phases of the investment project.

Environmental considerations when selecting public investment projects

Merete Saugestad - Concept Symposium 2016

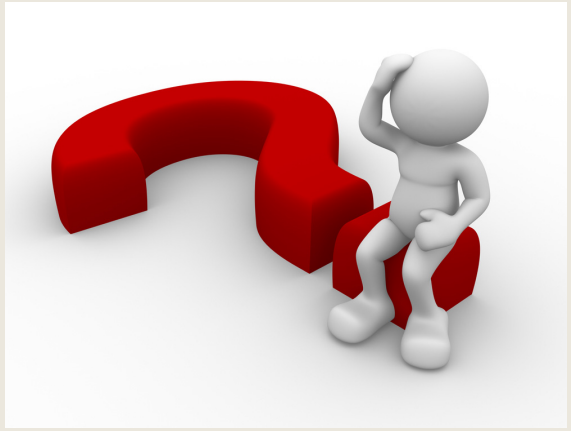
My aim today

- Establish a deeper understanding of the shortcomings of today's project management models with respect to environmental issues
- Initiate reflections and ideas on how project management practices can be improved in order to sufficiently handle major environmental concerns

The idea behind the thesis:

Integrating sustainability considerations
into project management
has the potential to contribute substantially
towards a more sustainable future

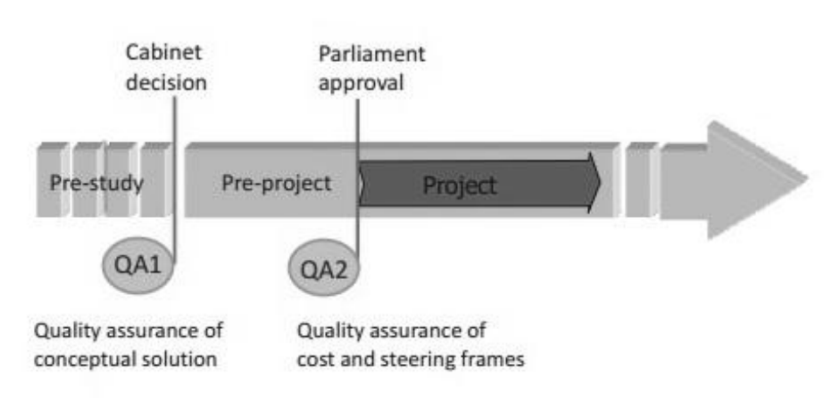
- A large proportion of the world's value creation is realised through projects
- Large projects usually have a long life time
- Large projects can potentially have large impacts,
  both negative and positive
- It therefore makes sense to integrate sustainability considerations
  in project management



I wanted to learn more about to which extent sustainability, and specifically environmental issues are taken into account when projects are selected and executed

Narrowing down the scope of the study

Project management



- ↓ Project management
- ↓ Norwegian State's project management model for large public investments
- ↓ Pre-study-phase - selecting the right concept
- ↓ Cost-benefit-analysis

Sustainability

- ↓ Sustainability
  Economic, social, environmental issues
- ↓ Environmental issues
- ↓ Serious, global environmental issues

Serious global environmental issues

- Local and regional environmental issues more or less under control
- Global
- Serious
- Long term
- Potentially irreversible
- Closely related to our way of life

1. CO_2 emissions – climate impacts
2. Resource consumption and depletion
3. Persistent bio-accumulative toxics
4. Loss of biodiversity

I took a broad approach

Academic literature

Case studies of large public investment projects

Project management standards

The official guide

And this is what I found

Academic literature

- Emerging field
- A fragmented field

Project management standards

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Project management standards

- Nothing!

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Project management standards

- Nothing!

Case studies of large public investment projects

- Thanks to the Concept researchers
- The ambitions are there, but in effect challenging…

The official guide

3 out of 4 large public investment projects have environmental ambitions

A study* of 111 concept evaluation or quality assurance reports has shown that:

- Climate considerations are part of the overall project goals for 75% of the major public investment projects that are described
- In 40% of these project evaluations climatic and environmental considerations are regarded to be of major importance

*Concept report no 37

The use of carbon pricing has little effect on the project recommendations

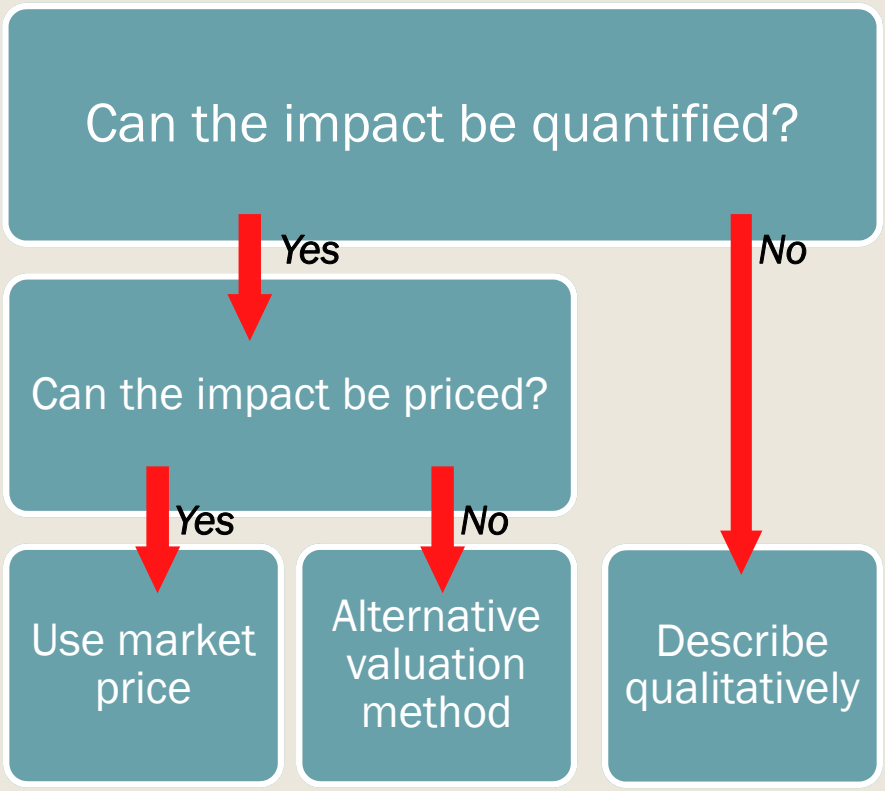
In 55% of the concept evaluations, greenhouse gas emissions have been costed.

Including the cost of CO2-emissions has

- only a limited effect on the overall project value
- no effect on the ranking of the different project concepts with respect to project value

*Concept report no 37

Evaluations of non-priced impacts seem less powerful



- Environmental impacts are difficult to price
- Non-priced impacts are described qualitatively.
- 90% of the project evaluations include non-priced impacts*
- Partly unclear how to define non-priced impacts
- Evaluations of non-priced impacts can be unclear
- Reluctance towards non-priced impacts «subjective», «unprofessional»

*Concept-report no 38

The official guide

- At a glance: 👍
- But further investigation: ☹

At a glance: 👍

- Environment/climate/green mentioned 101 times in a 185 page long guide
- No doubt! All impacts, also environmental impacts are to be considered in the project evaluation phase
- Option to describe qualitatively those impacts that can’t be quantified and priced
- Precautionary approach mentioned with respect to environmental issues
- Cost-benefit analysis is only part of the decision base for concept evaluations

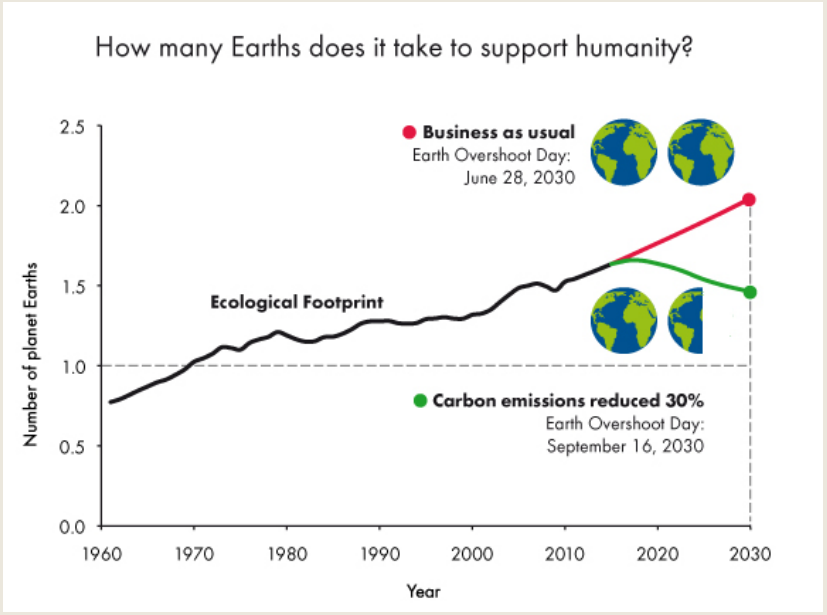
Further investigation: ☹

- Overall limitations are not included
- Market prices are preferred for valuation
- All impacts and costs are considered to be interchangeable
- Long-term effects are given little value

Overall limitations are not included

Actual limits in the Earth's capacity to

- Produce resources
- Absorb pollution and waste
- Provide non-renewable resources



www.footprintnetwork.org

Market prices are preferred for valuation, but not adequate for environmental goods

- Common goods do not have a market price
- Missing markets
  - *Poor people*
  - *Future generations*
- Lack of information
- Differences in assigning value

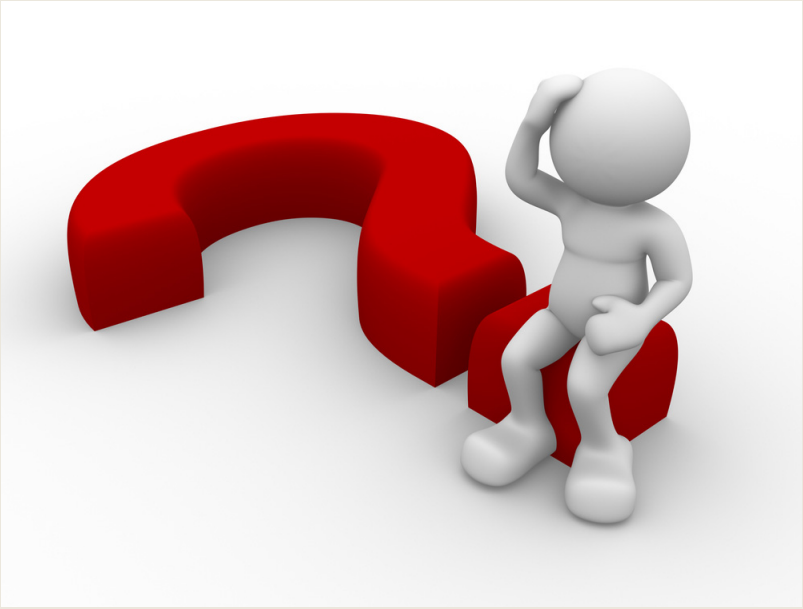
All impacts and costs are considered to be interchangeable

Long-term effects are given little value

Serious global environmental issues challenge the methodology in the concept evaluation, and there is a risk of incorrect conclusions

The cost-benefit analysis is a model

So what to do?



Three basic options

1. Include overall environmental requirements
2. Strengthen the existing model
3. Expand the methodology

Expand the methodology

«Whatever is omitted from the preanalytic vision cannot be recaptured by subsequent analysis […] Correcting the vision requires a new preanalytic act, not further analysis of the old vision"

Daly og Farley (2011)

		Project life cycle phase		
		Implementation	Operation	Closure
Strategic environmental issues	CO_2 emissions – climate impacts			
	Resource consumption and depletion			
	Spread of persistent bio-accumulative toxics			
	Loss of biodiversity			

Join the journey to develop the methodology for concept evaluation to ensure that serious global environmental issues are sufficiently taken into account

Realise the shortcomings of the current methodology

- Overall limitations are not included
- Market prices are preferred for valuation
- All impacts and costs are considered to be interchangeable
- Long-term effects are given little value

Improve the methodology

- Include overall environmental requirements
- Strengthen the existing model
- Expand the methodology

Thanks for listening!

Questions or comments?

Feel free to contact me:

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