

Baltic Compass scenario assessments a framework

Sånga-Säby 2011102

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Foto Johanna Sjöberg

Which are the practical questions that Stakeholders need to answer?

Question 1:

Which BAP/BAT and policy measures should the Environmental protection money stimulate, and to what degree?

Question 2:

Which are the economic consequences for farmers due to regulations and the allocation of subsidies?

Main questions addressed by the scenarios

How large are the potentials for stakeholders to reduce the nutrient loading from agriculture hot spot areas to the Baltic Sea?

How do these potentials differ depending on stakeholder acting for environmental or production care?

Which are the consequences for costs making these actions?

Main objective of the BC scenario work

Operative:

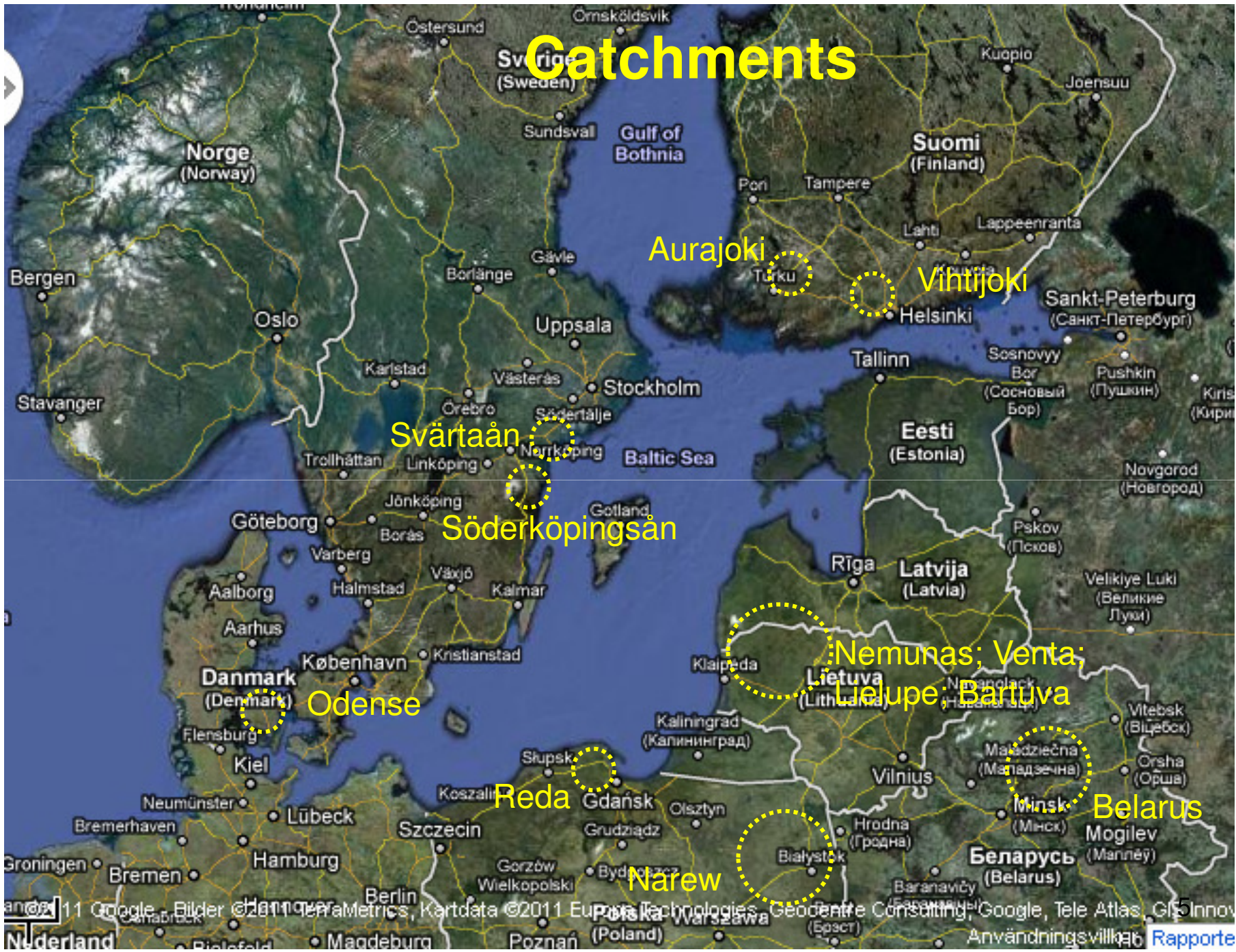
To assess relations between stakeholder actions for environmental care and nutrient load from specific catchments to the Baltic Sea by ~2020 and ~2050, restricted by exogenous scenario inputs for socio-economics and environmental conditions.

To assess the corresponding relations for stakeholders taken actions for production care.

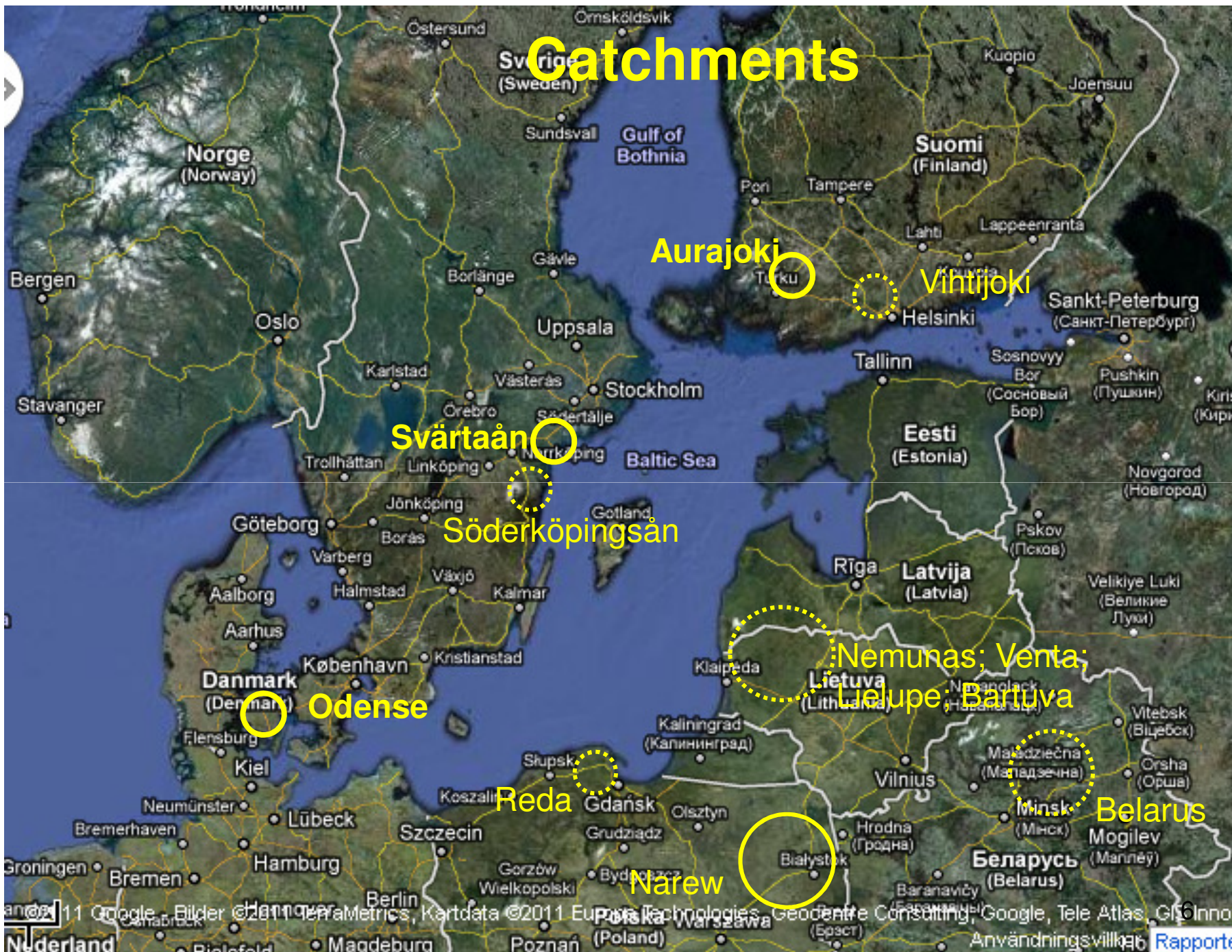
which in turn:

Provide information on relations between stakeholder actions and nutrient loads and multiple benefits, to be useful for decisions.

Catchments



Catchments

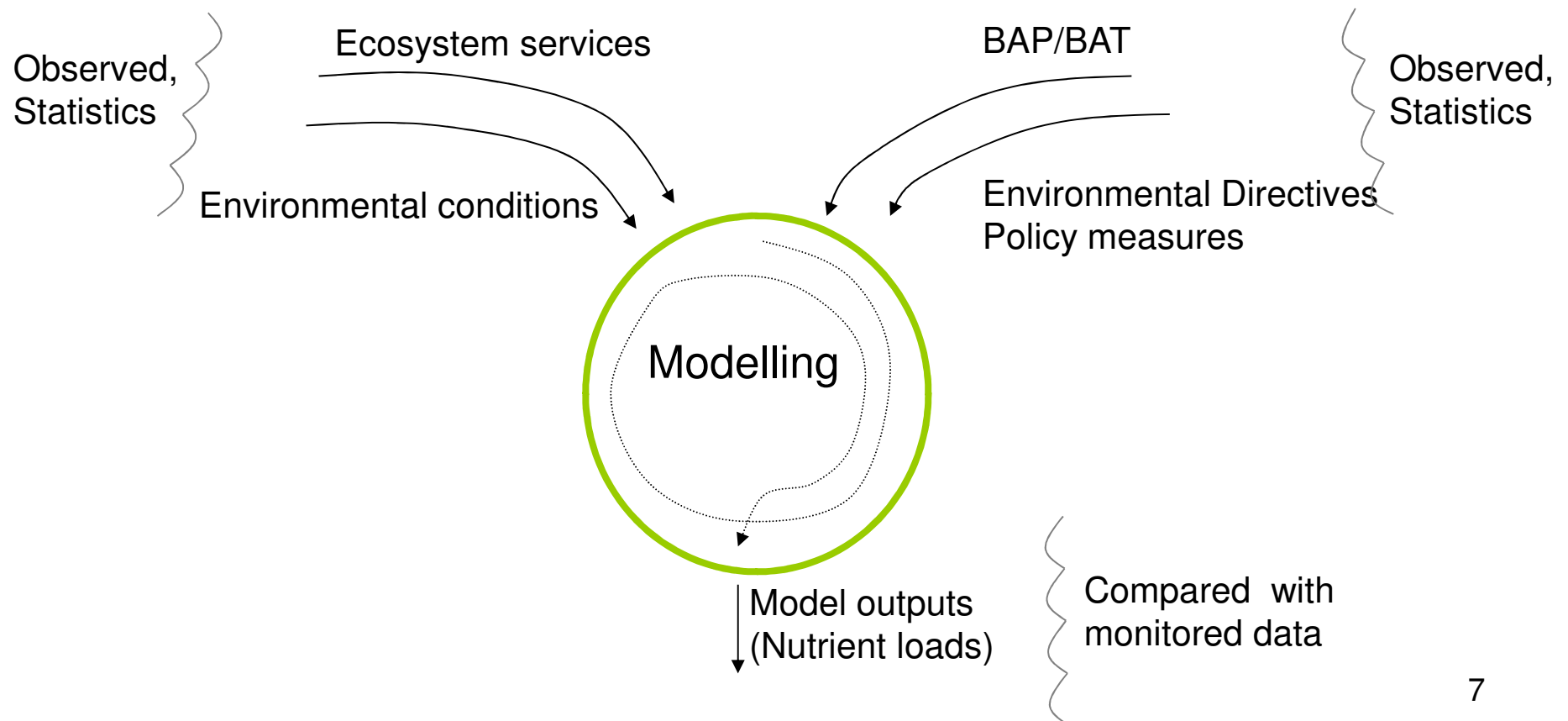


Reference scenario

Present conditions

for a specific hot spot catchment

e.g. Svärtaån ~2007 (2004-2010)





Future scenarios

We shall guess about future.

This is problematic.

We can not be certain, only uncertain.

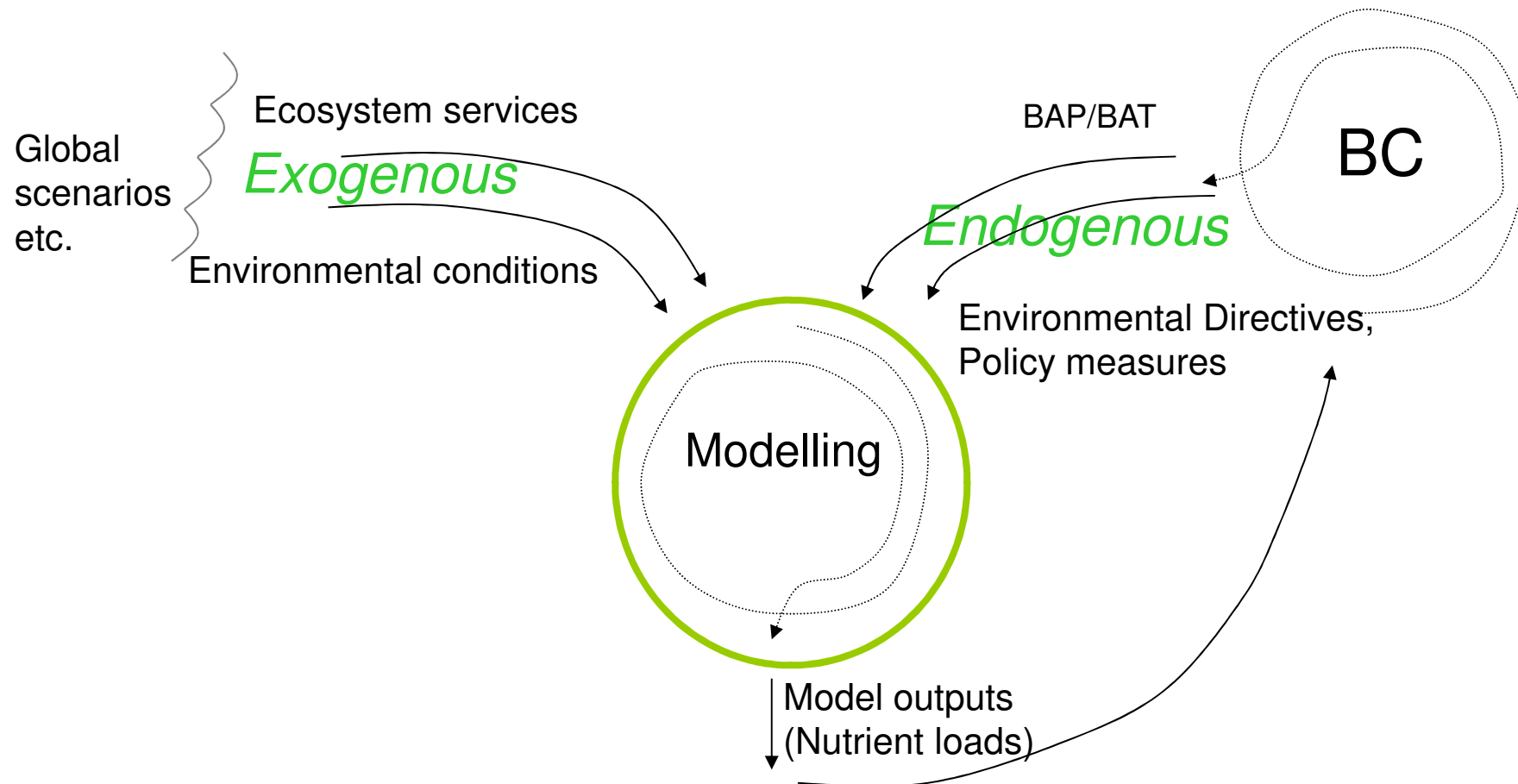
How do we do this?

- 1) Use a method with a documented predictability
- 2) Use a transparent method
- 3) Extrapolation

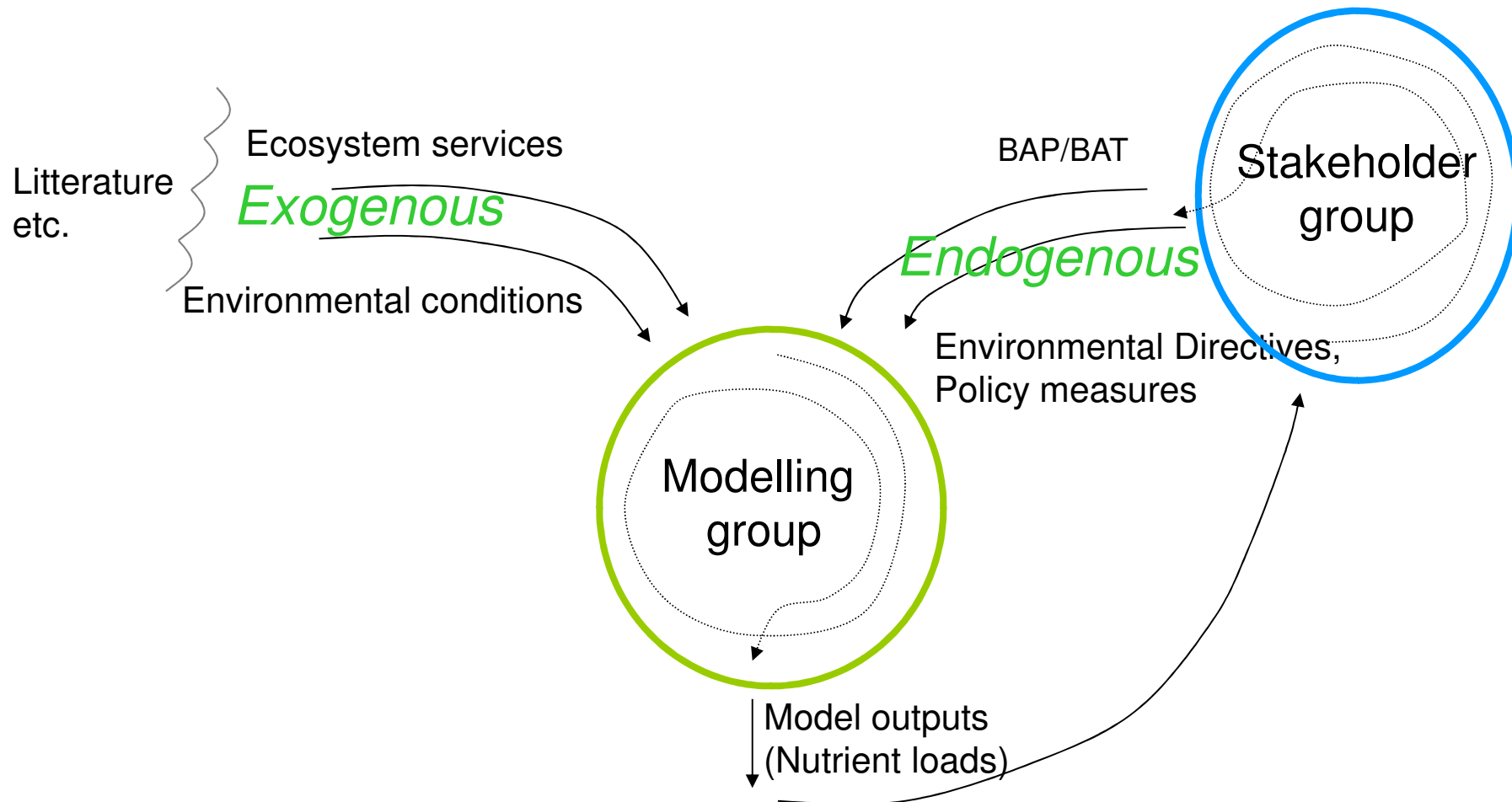
Future BC-scenarios

- a) **A Reference scenario**
for the monitored reference period
and compared with observations.
- b) **Baseline scenario ~2020 and ~2050**
with changes in exogenous inputs (independent of our scenario work)
(ecosystem services and environmental conditions)
- c) **Adaptation scenario ~2020 and ~2050**
with changes in
BAP/BAT, Environmental directives and Policy measures
as derived by the loops among the “BC scenario groups”
- d) **Implementation scenarios**
evaluating the cost effectiveness of the adaptation scenarios

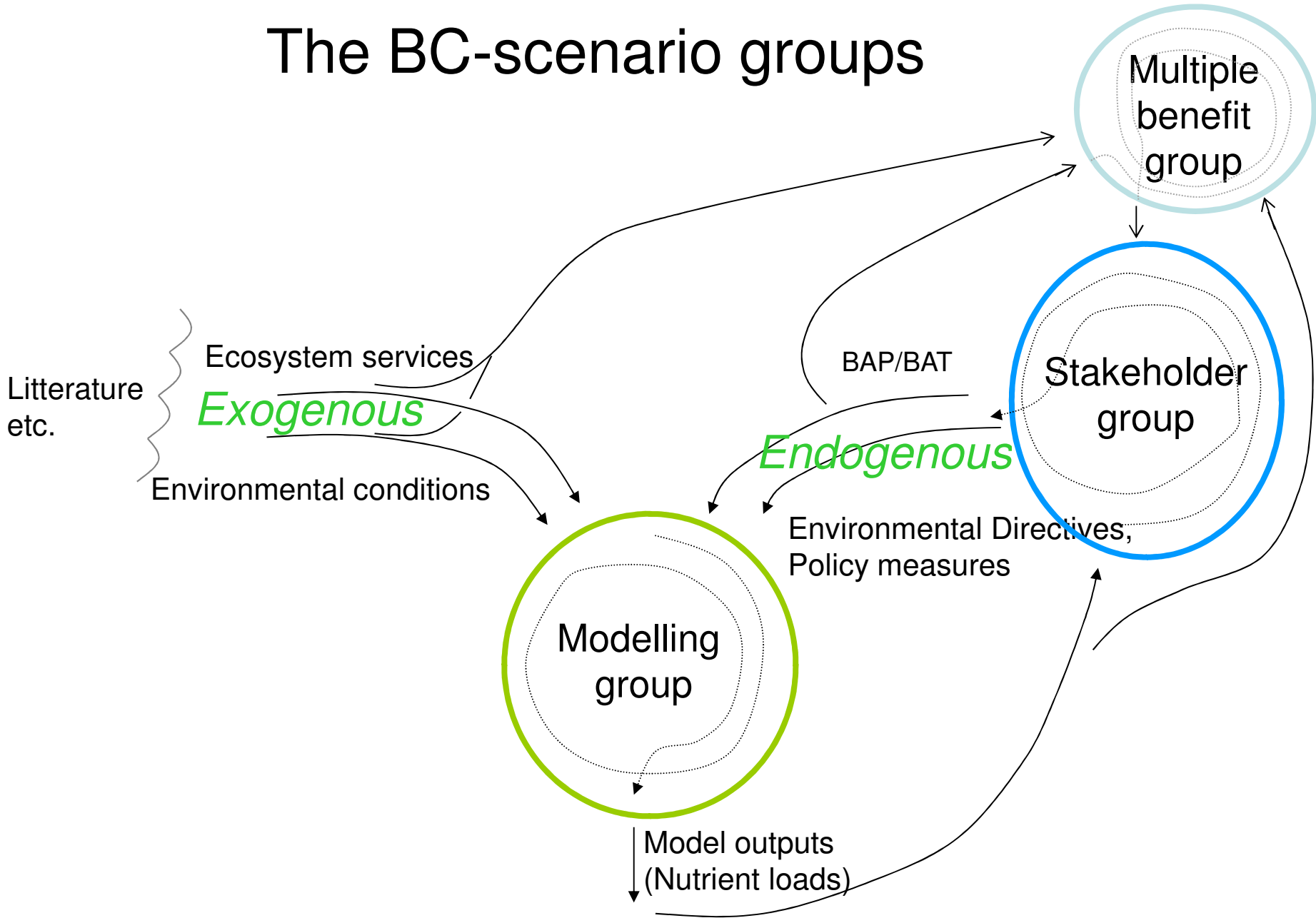
Future scenarios



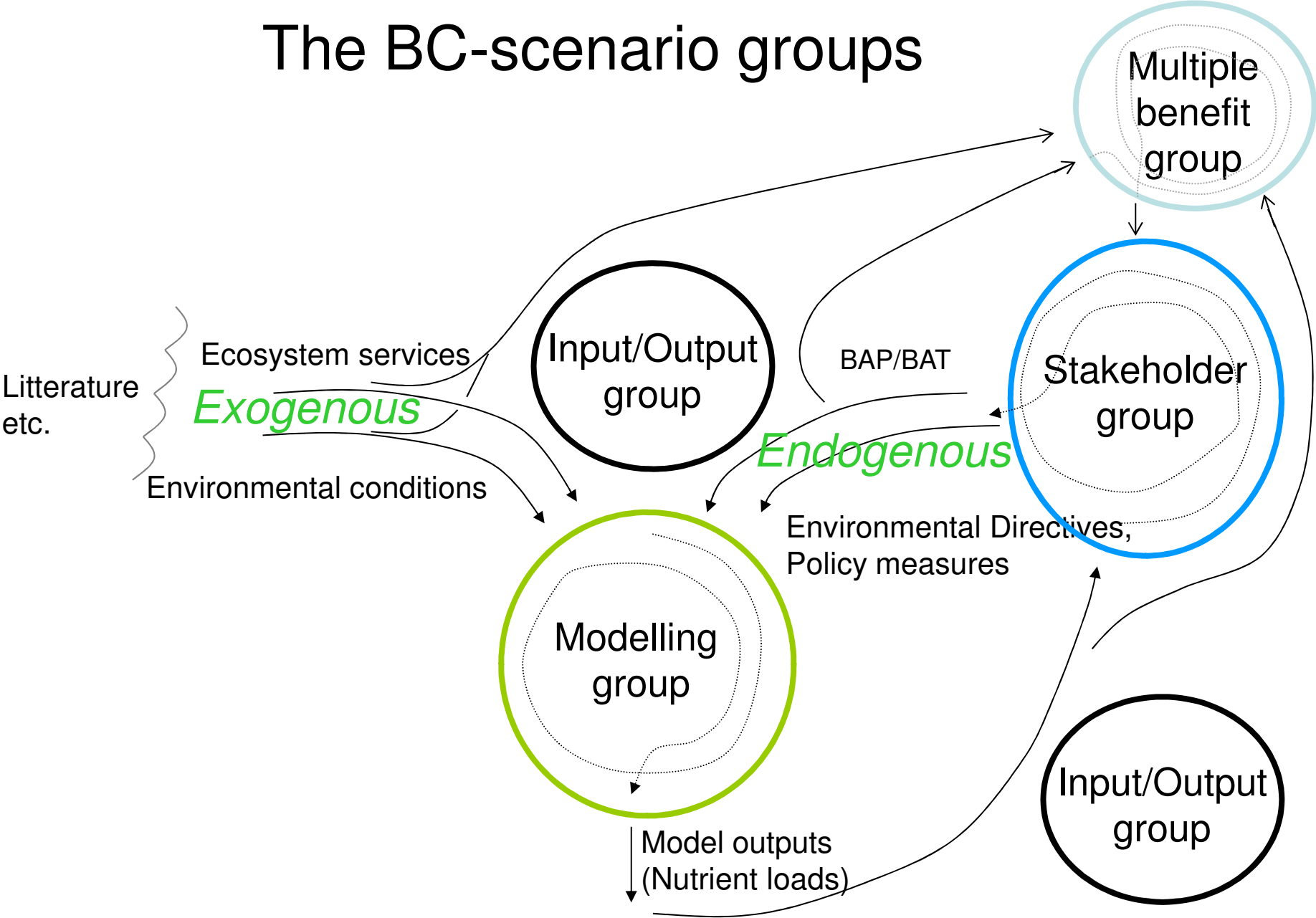
The BC-scenario groups



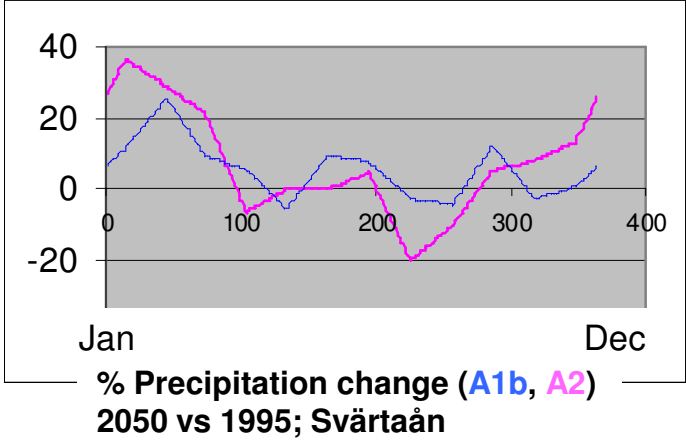
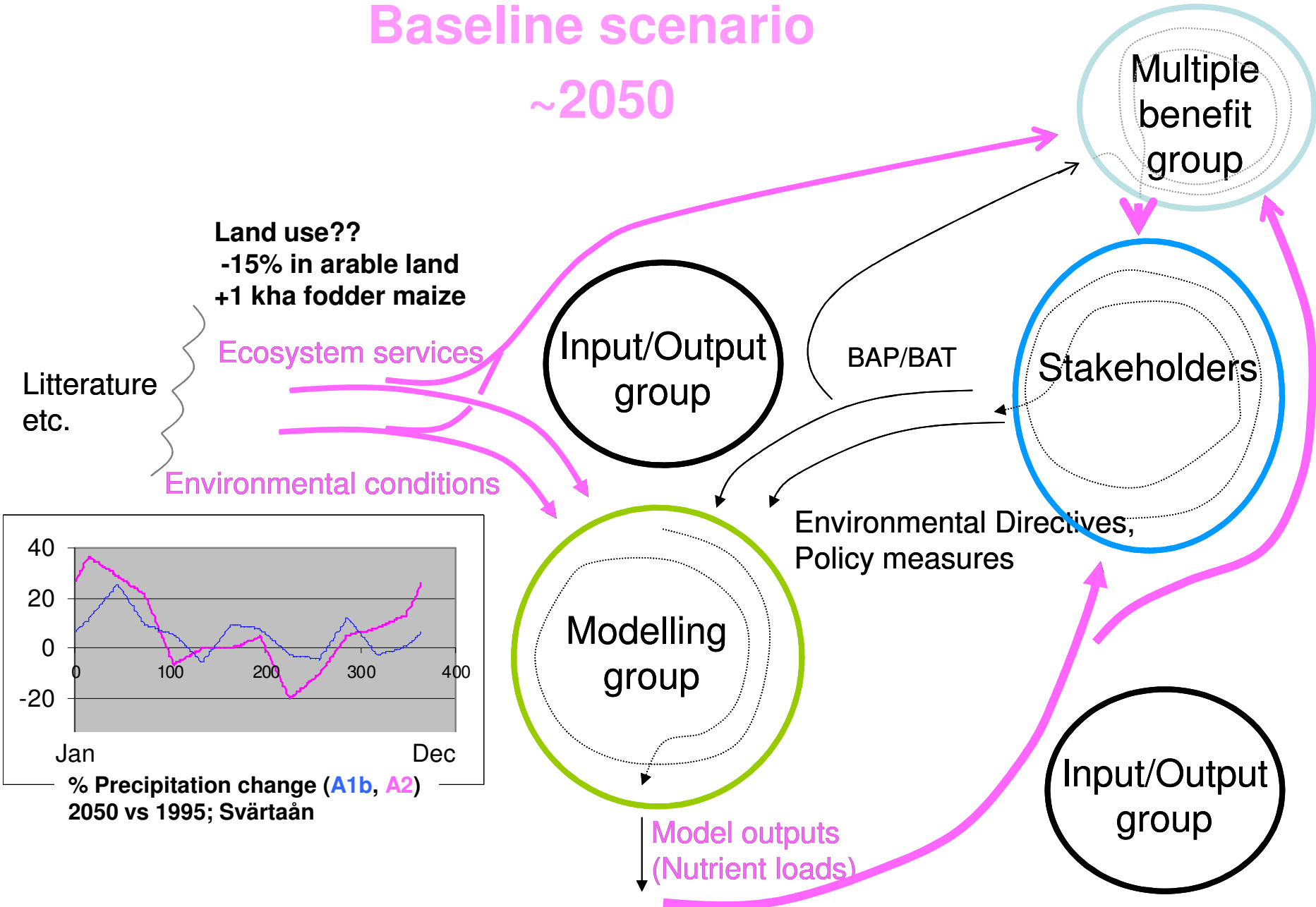
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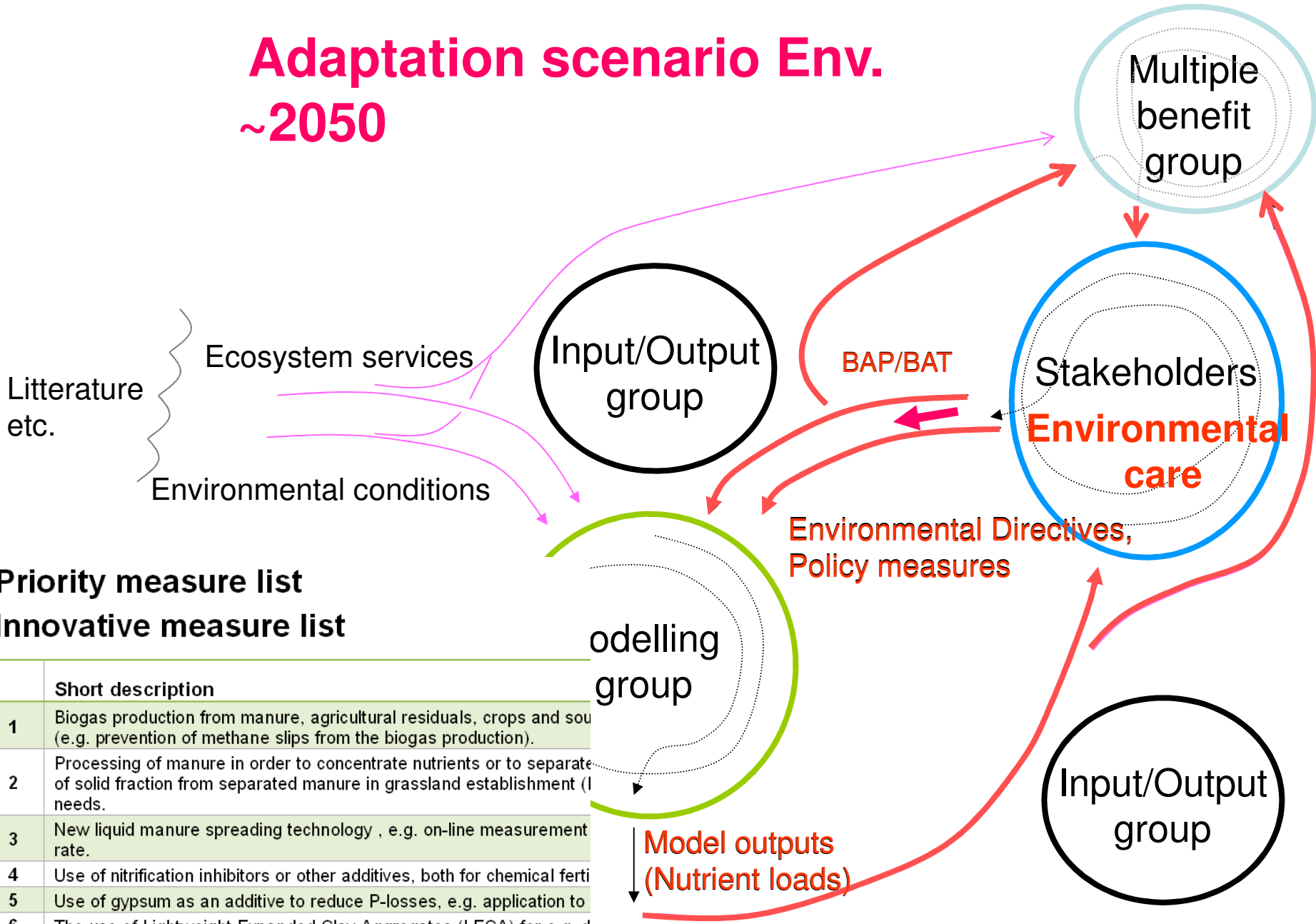
The BC-scenario groups



Baseline scenario ~2050



Adaptation scenario Env. ~2050



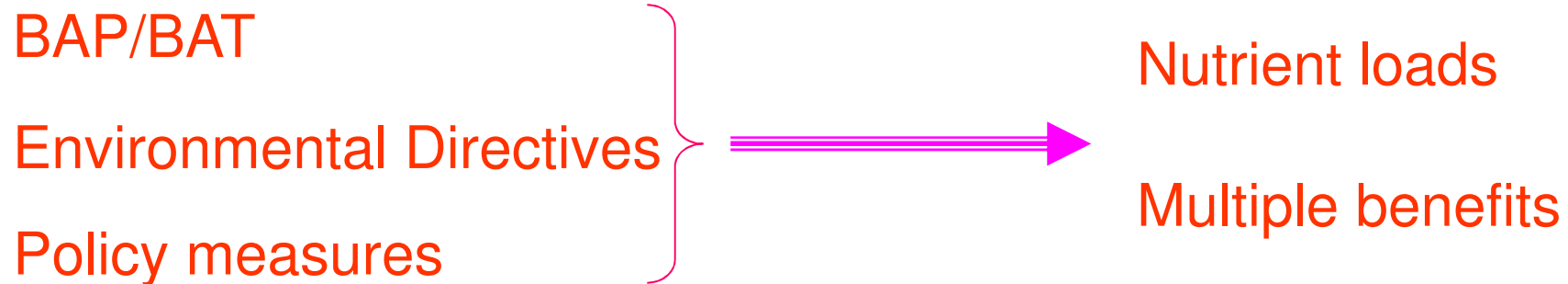
Priority measure list
Innovative measure list

	Short description
1	Biogas production from manure, agricultural residuals, crops and so (e.g. prevention of methane slips from the biogas production).
2	Processing of manure in order to concentrate nutrients or to separate of solid fraction from separated manure in grassland establishment (I needs).
3	New liquid manure spreading technology , e.g. on-line measurement rate.
4	Use of nitrification inhibitors or other additives, both for chemical ferti
5	Use of gypsum as an additive to reduce P-losses, e.g. application to
6	The use of Lightweight Expanded Clay Aggregates (LECA) for e.g. d
7	Sustainable use of peat as litter/to bedding, if a bi-product. Not allow

Thomas Eckersten, Stefan Lund, Uppsala 2011-05-06

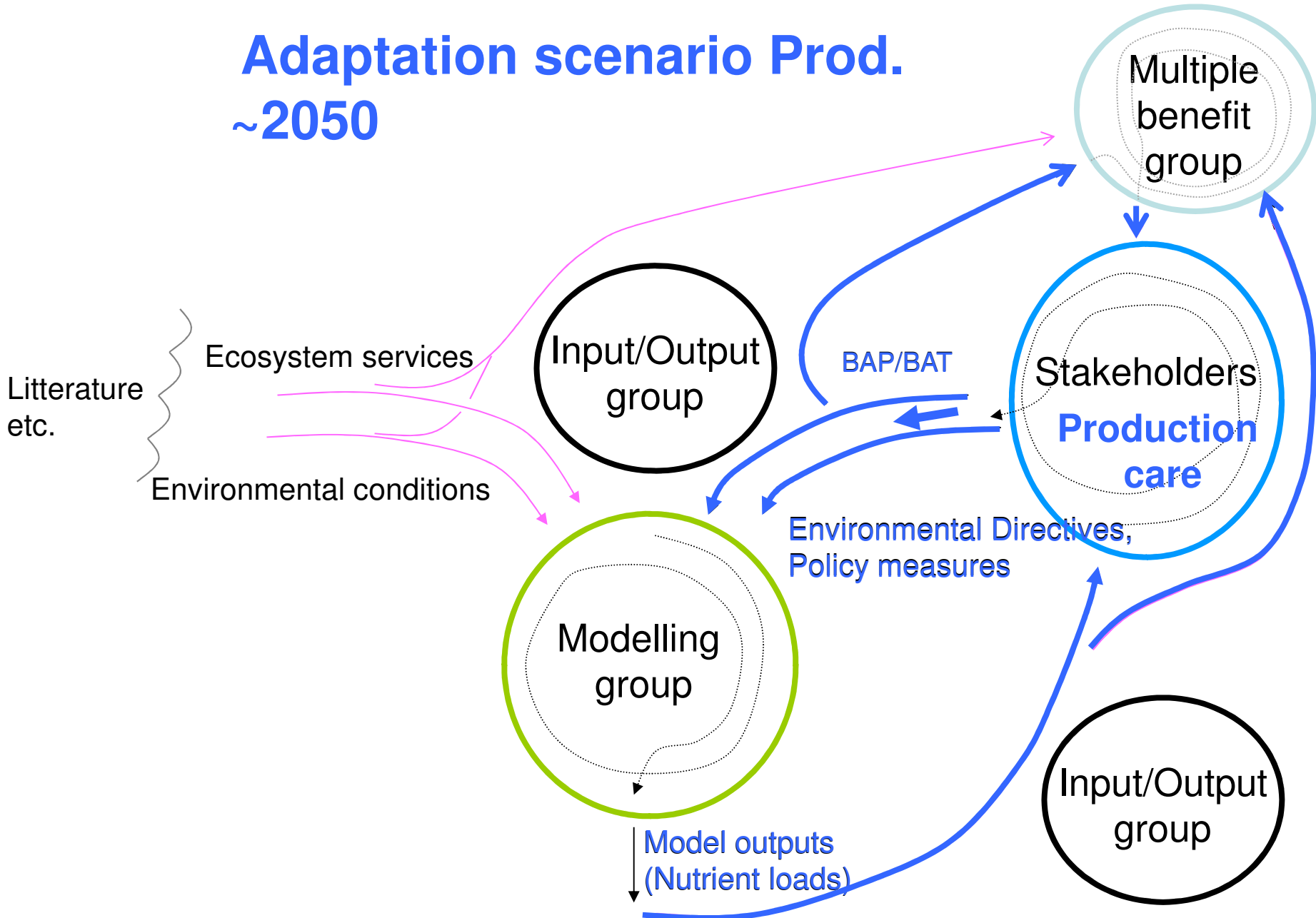
The result:
Causal relations between
measures taken and nutrient load
when acting for

Environmental care



- for the specific catchment
- for the specific exogenous scenario inputs

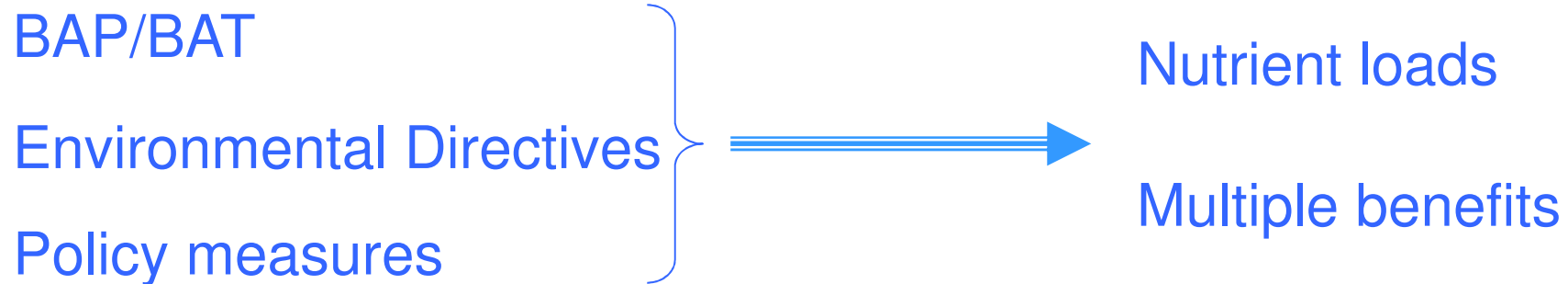
Adaptation scenario Prod. ~2050





The result:
Causal relations between
measures taken and nutrient load
when acting for

Production care



- for the specific catchment
- for the specific exogenous scenario inputs



How do we compare the different relations?

Environmental care

BAP/BAT

Environmental Directives

Policy measures

- for the specific catchment
- for the specific exogenous scenario inputs



Nutrient loads

Multiple benefits

Production care

BAP/BAT

Environmental Directives

Policy measures

- for the specific catchment
- for the specific exogenous scenario inputs



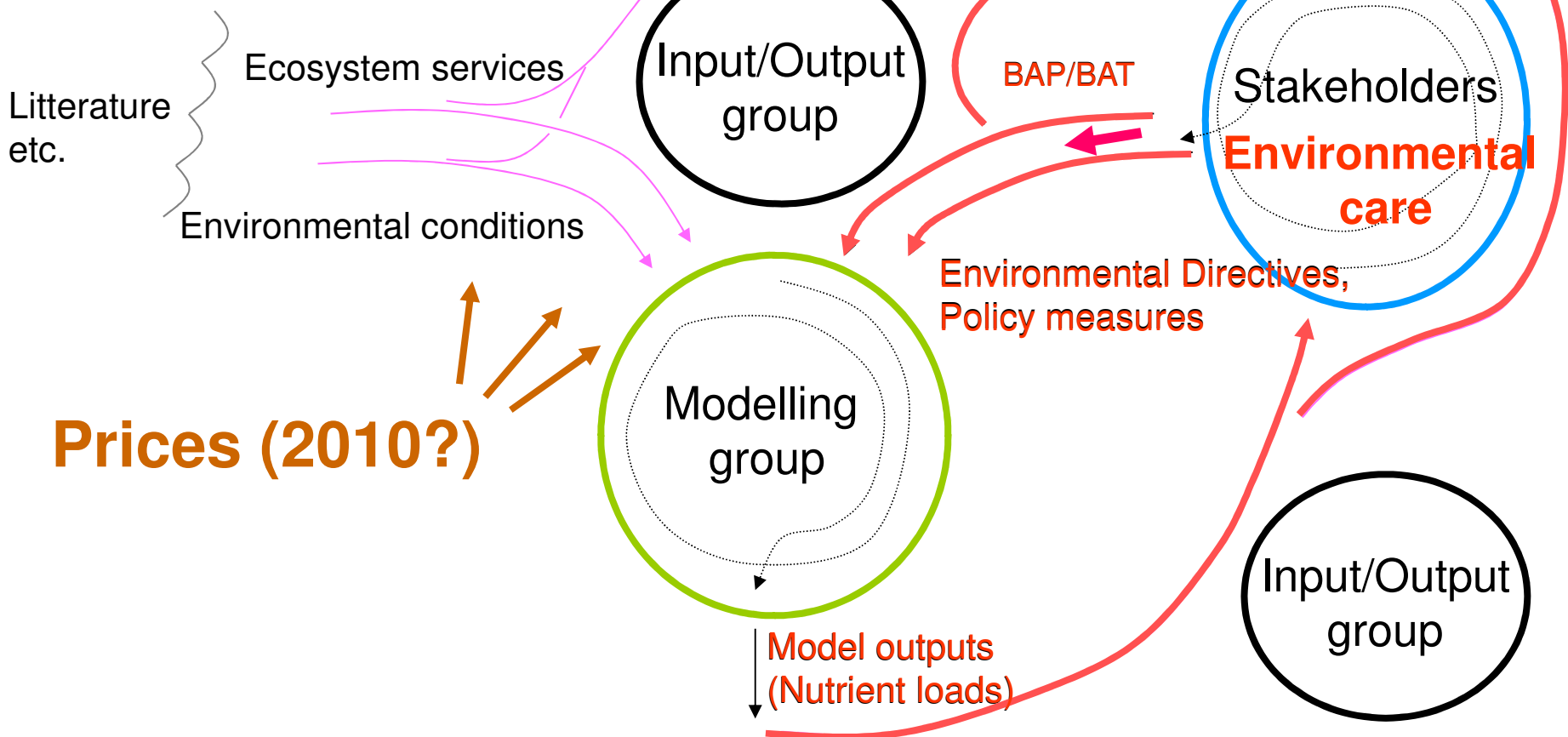
Nutrient loads

Multiple benefits

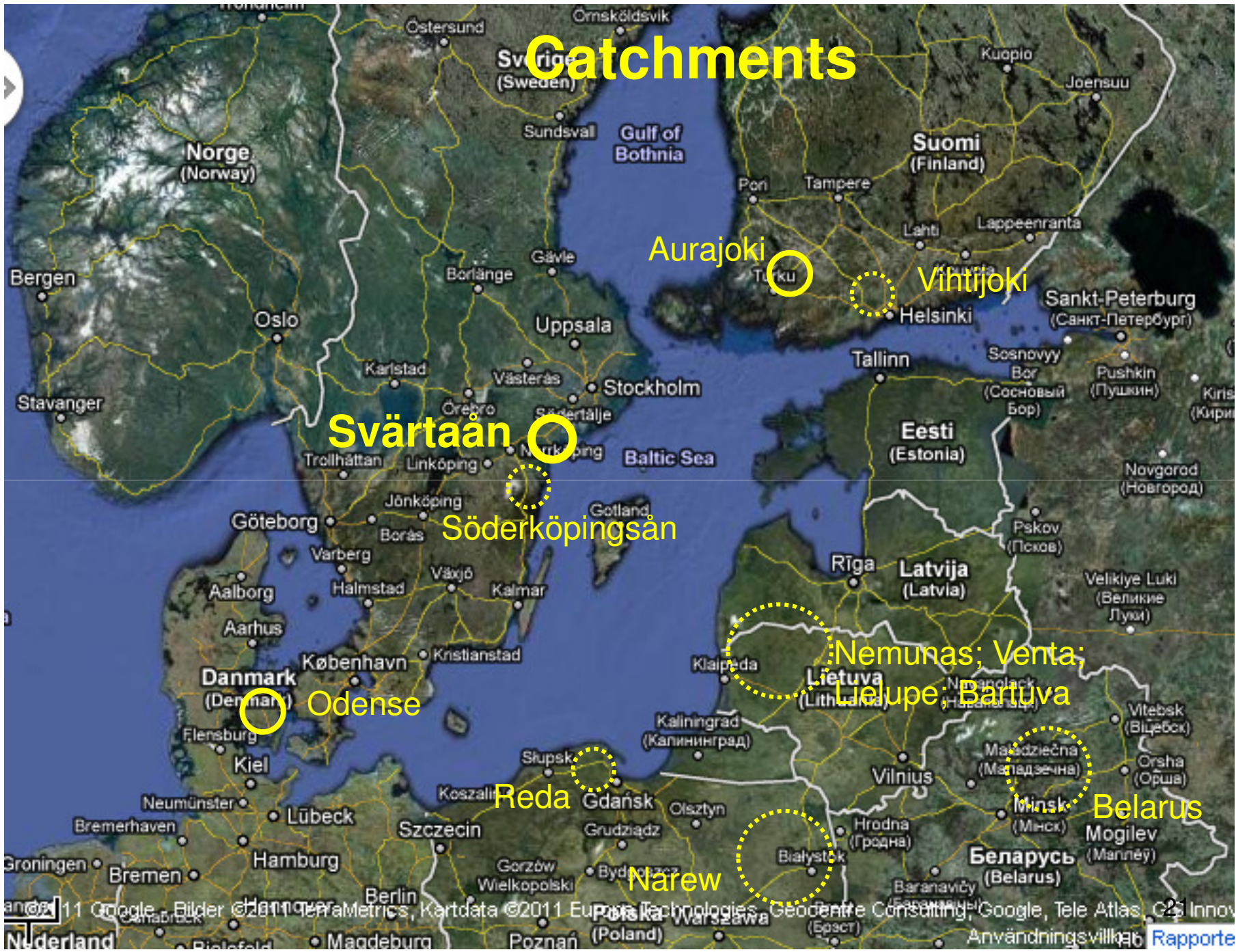


Adaptation scenario Env. ~2050

Implementation scenario Env.



Catchments



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- d) **Implementation scenarios**
evaluating the cost effectiveness of the adaptation scenarios

Future BC-scenarios

- a) **A Reference scenario**
for the monitored reference period
and compared with observations.
- b) **Baseline scenario ~2020 and ~2050 (climate only)**
with changes in exogenous inputs (independent of our scenario work)
(ecosystem services and environmental conditions)
- c) **Adaptation scenario ~2020 and ~2050**
with changes in
BAP/BAT, Environmental directives and Policy measures
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Thank you