

Jan Ros

System innovation in environmental policy

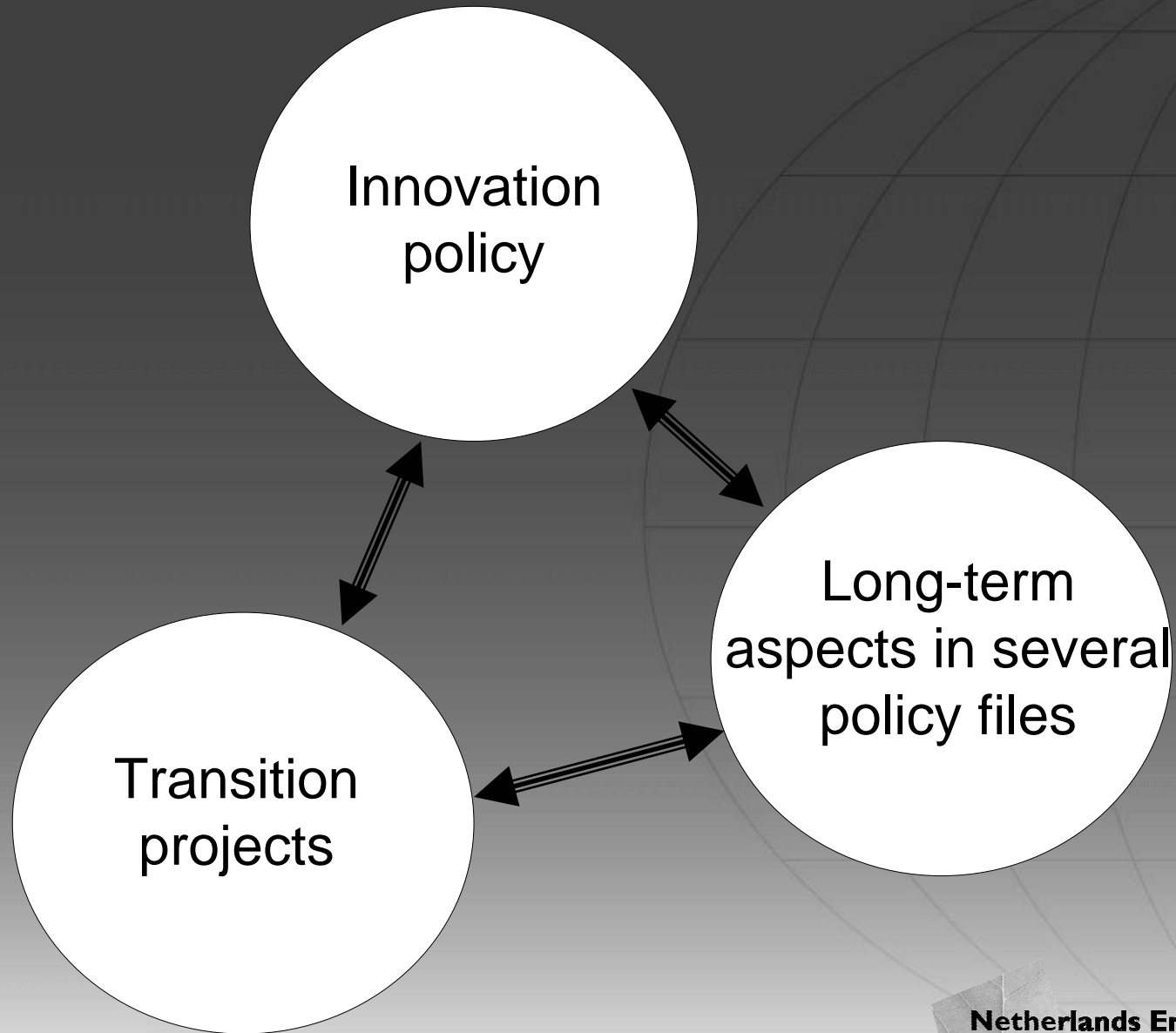


**Netherlands Environmental
Assessment Agency**

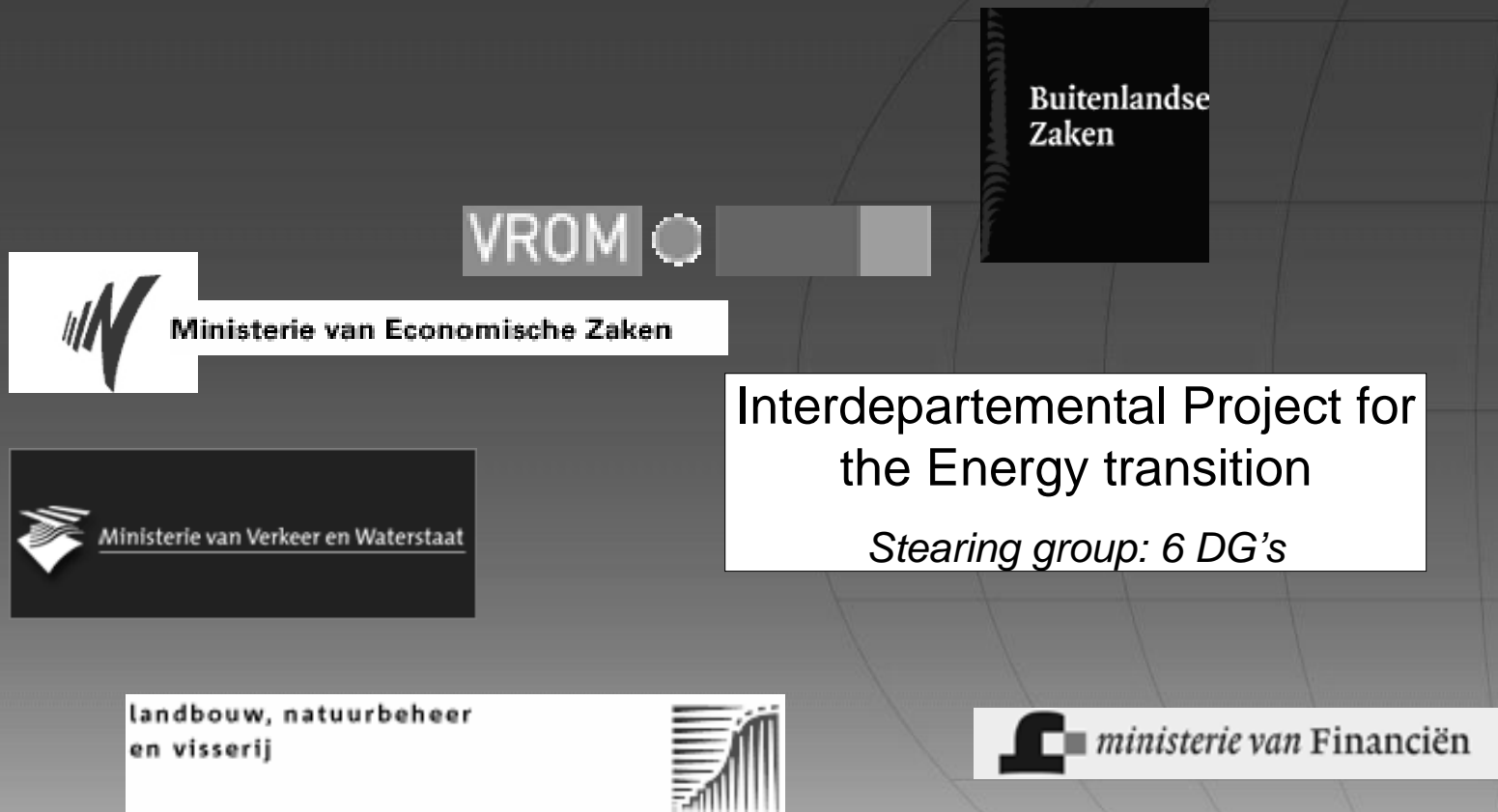
4th National Environmental Policy Plan (2001)

Need for system innovation (transitions) to deal with stubborn problems

- Energy
- Agriculture
- Mobility
- Biodiversity and natural resources



Coöperation of departments



Characteristics of policy actions

- Setting boundary conditions, long-term goals and the proper short-term goals
- Stimulating societal networking and 'new' coöperation
- Financial support for R&D and experiments (or other financial instruments)
- Creating specific conditions for experiments
- Starting experiments with new institutional arrangements

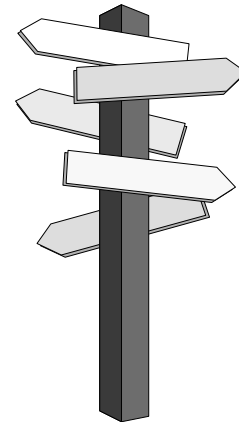
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Policy evaluation of system innovation



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Evaluation of a goal seeking process ???

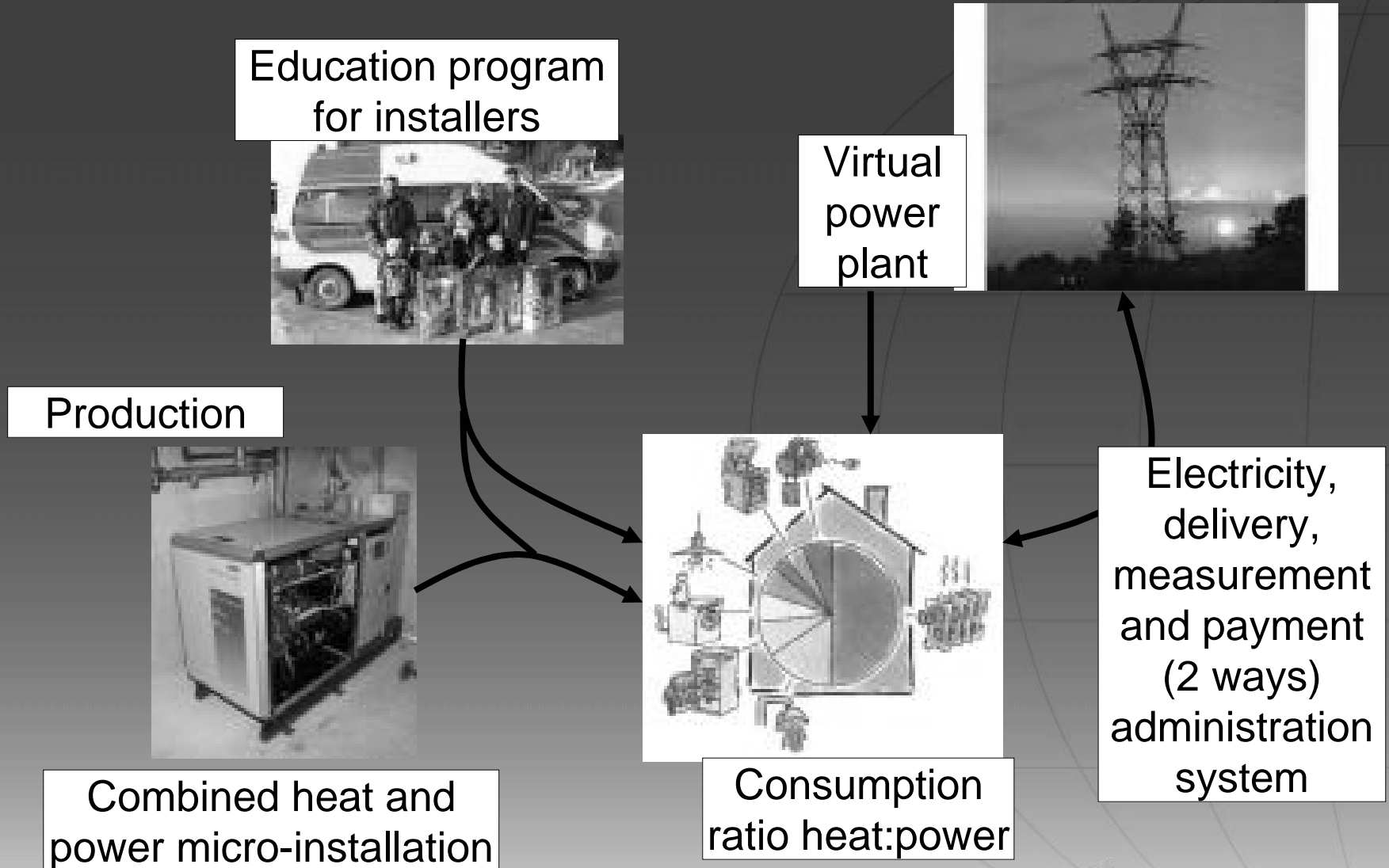


*2 h10 m would be good ???
Or 20 minutes ??? Where's
the finish ???*

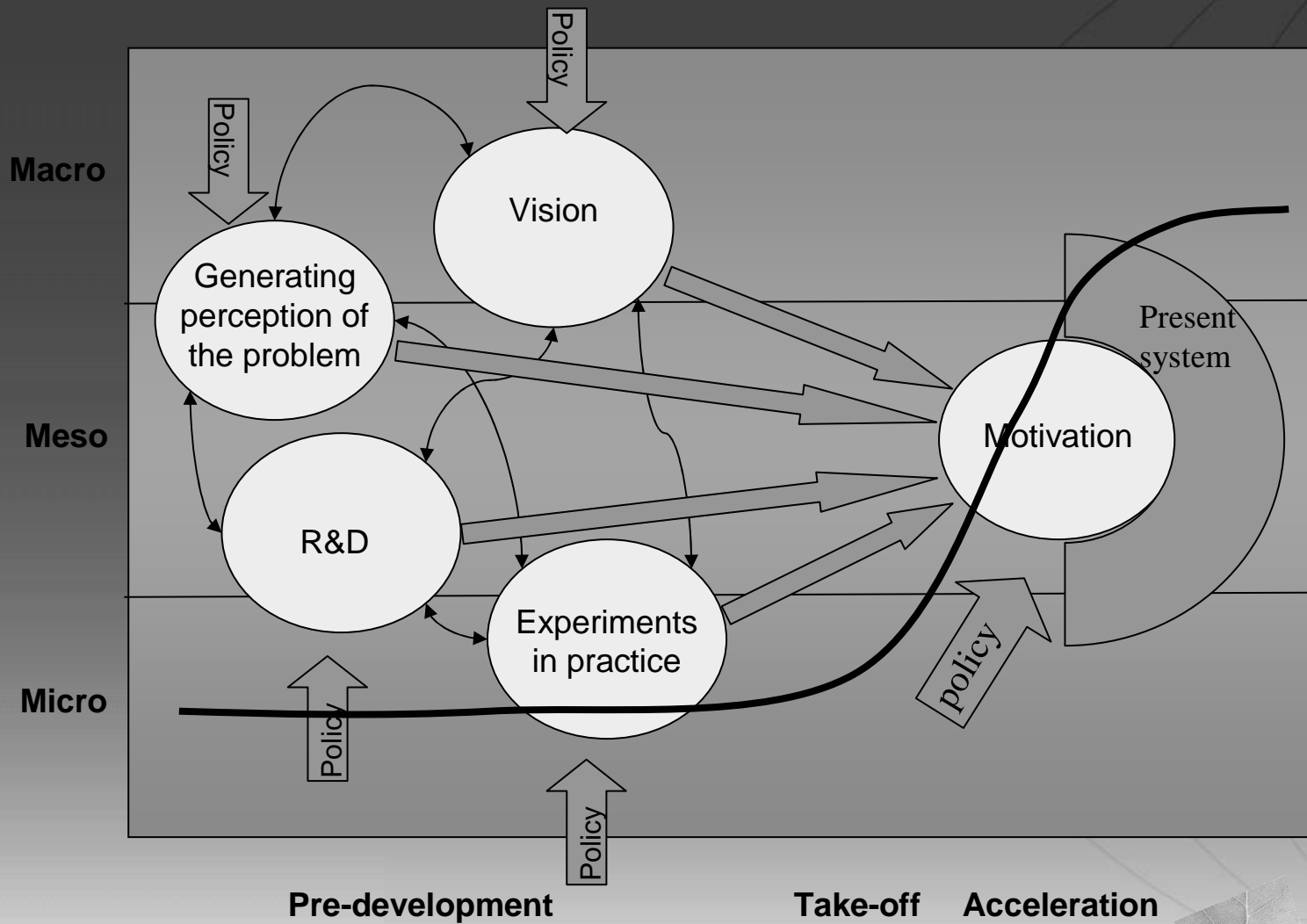
System options (potential goals)

- New technology and a revised production chain
- Adjusted consumption patterns
- Spatial structures
- New institutions

Example of a system option



Motivation as a key factor



Assessment of the potential effects of a system

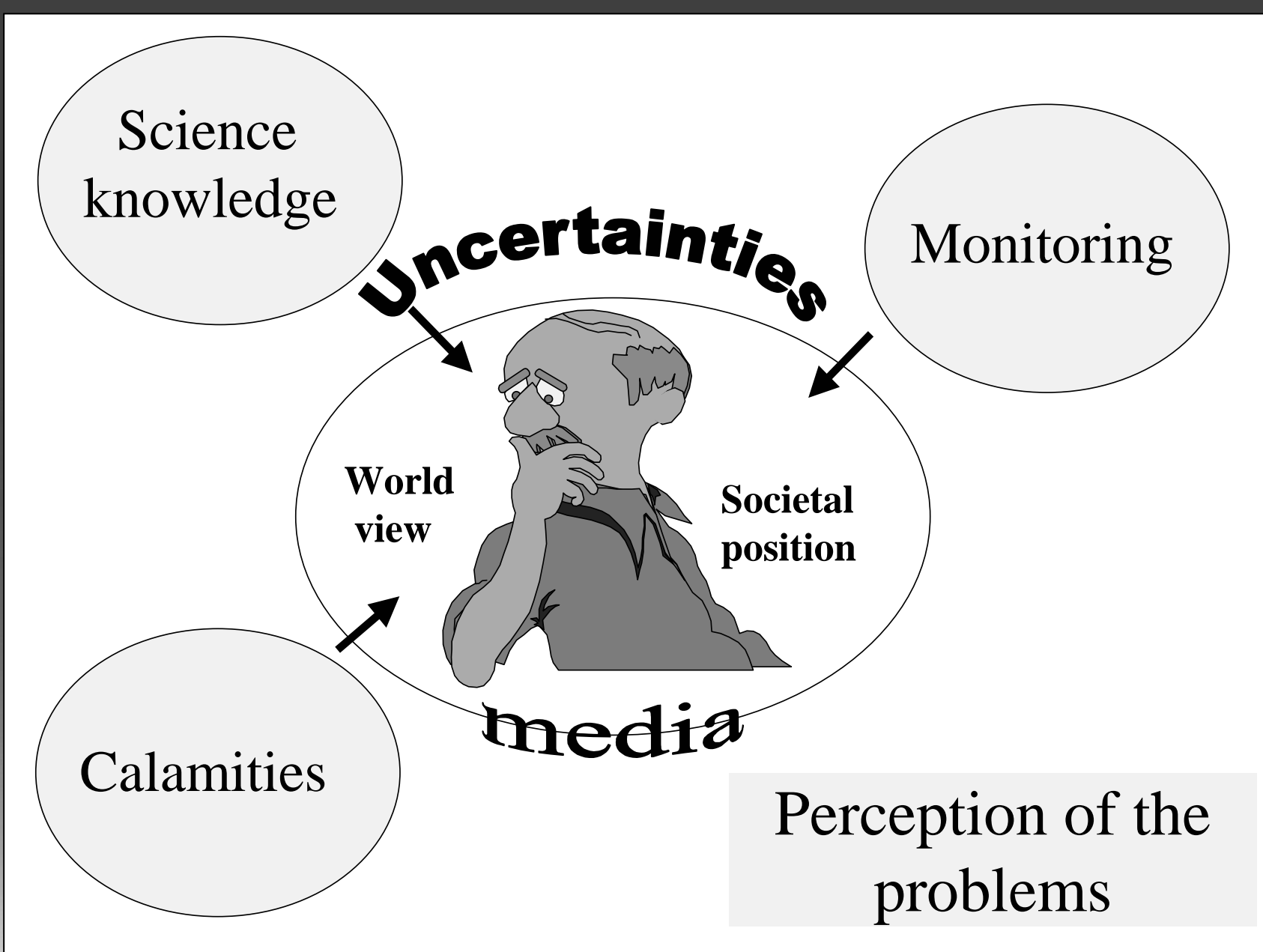
Example 30% biofuels

Change in % compared to Dutch total	Diesel based on rape	Ethanol based on wheat	Ethanol based on poplar
Greenhouse gases	-0,5	-1	-4
N and P load	+160	+80	+1
Acidification	+6	+4	-2
Land use	+100	+50	+40
Emission PM10	+5	+4	+2
Added value	+0,2	+0,4	+0,6
Work	+0,7	+0,4	+1

Sustainability assessment

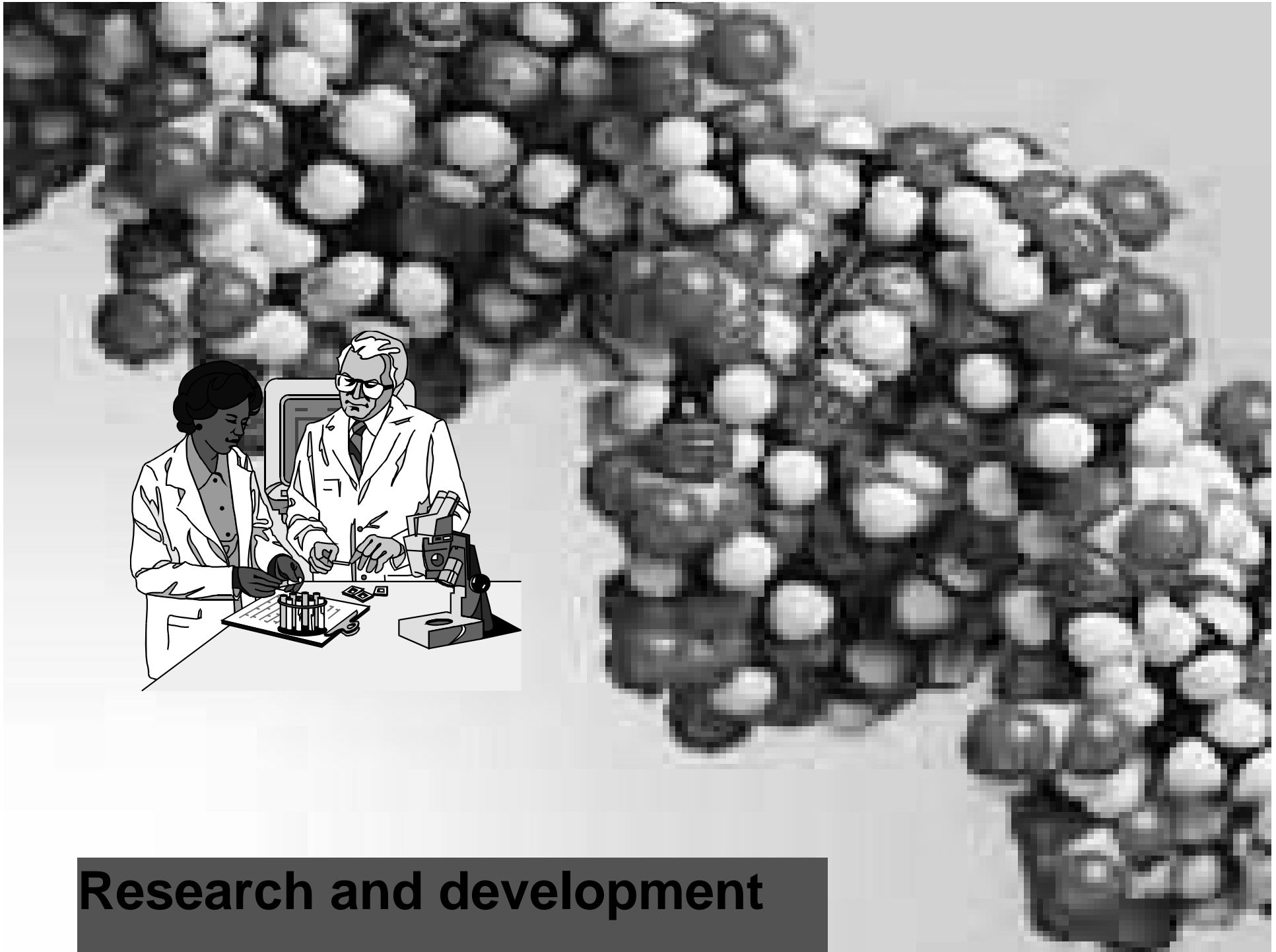
	People	Planet	Profit
Here			
Elsewhere			

Indicators



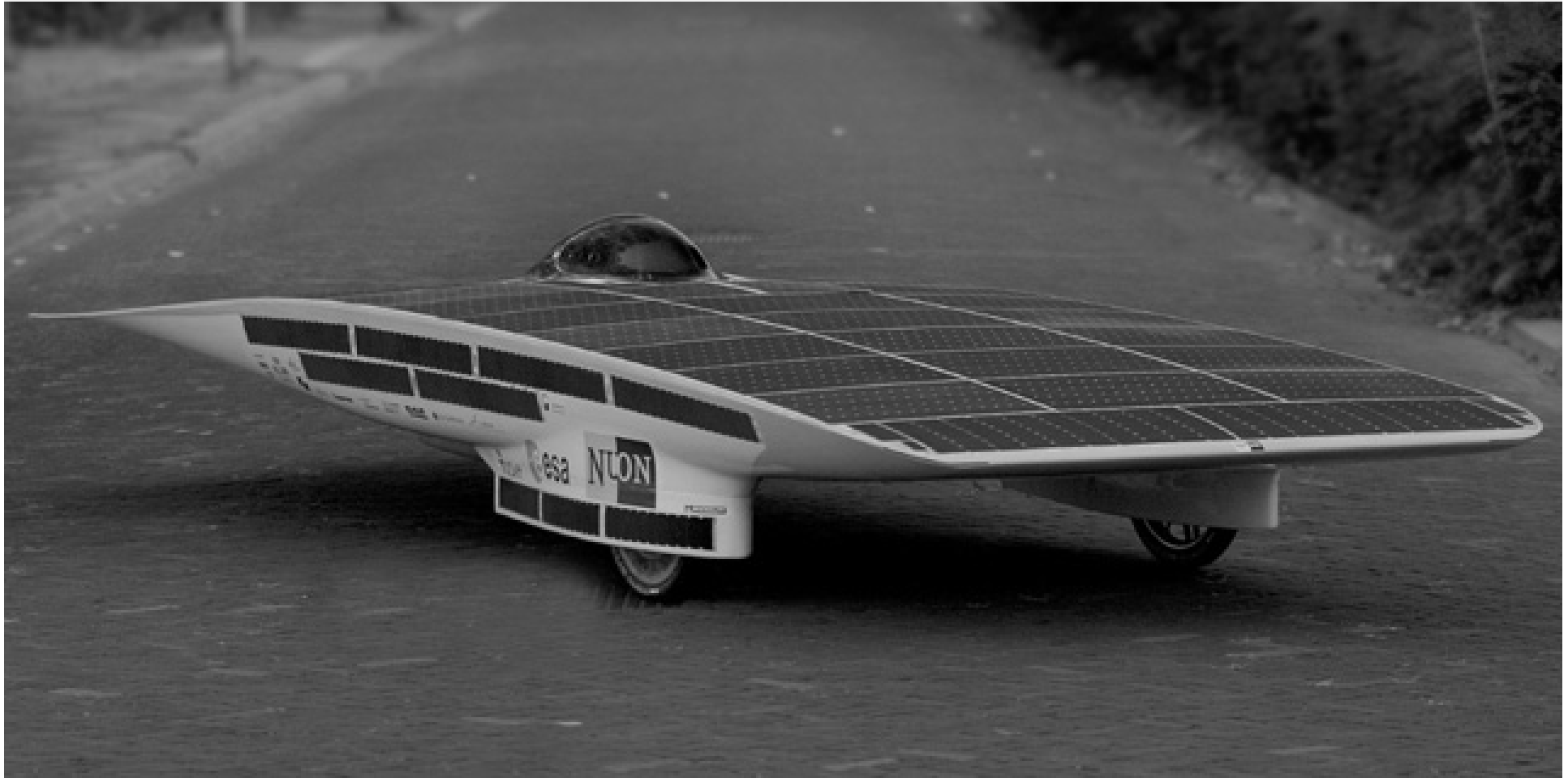
Vision (on system options)





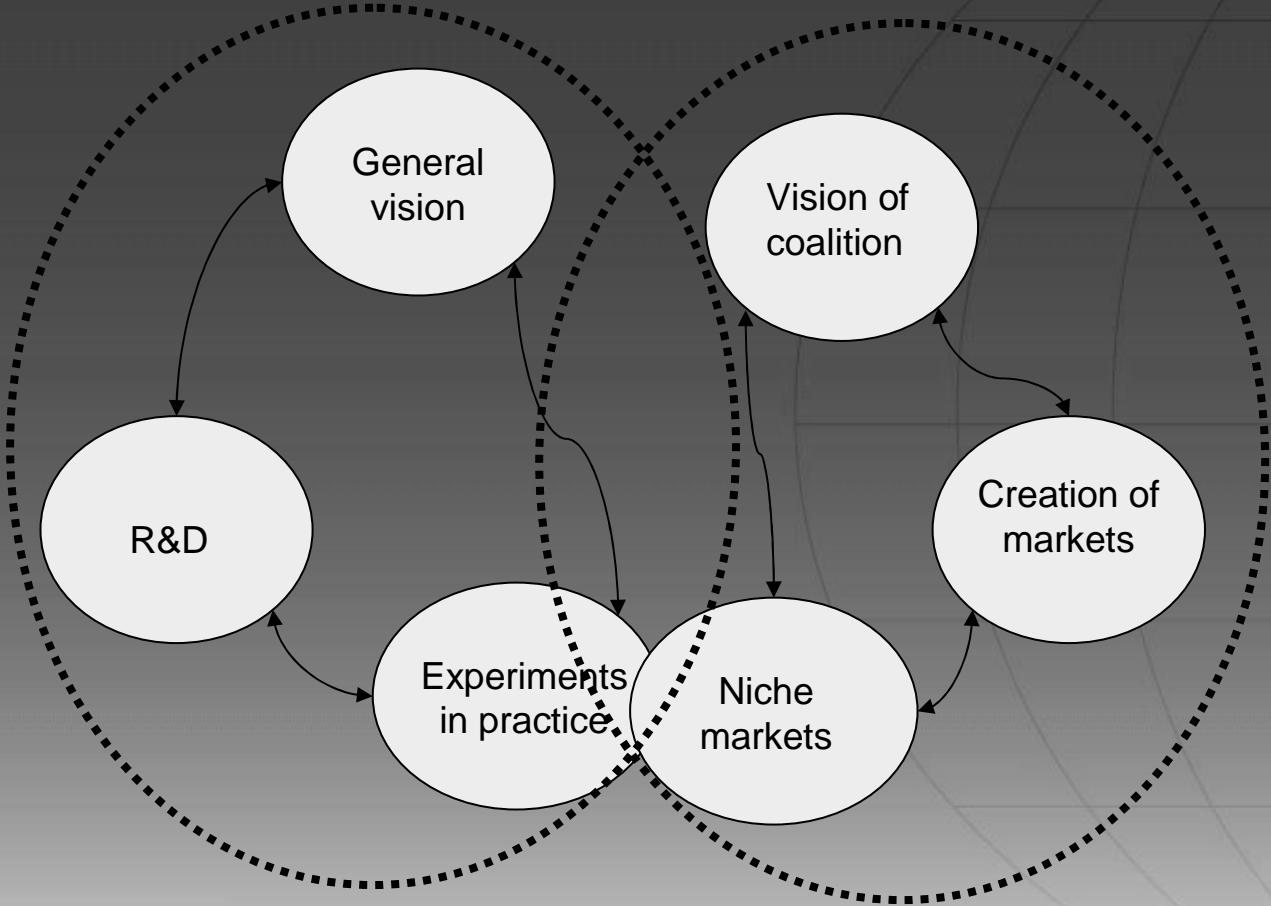
Research and development

Experiments in practice

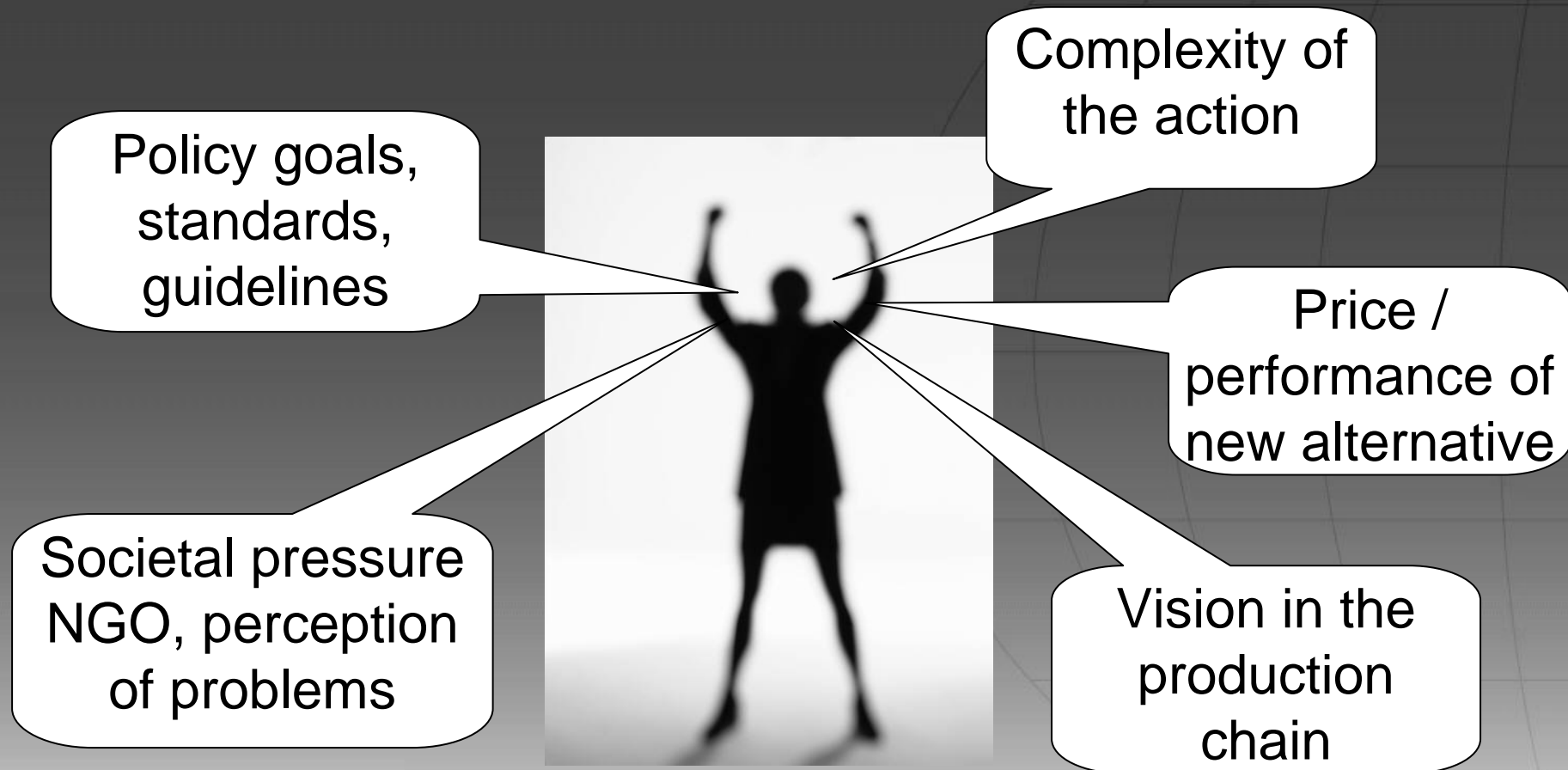


Activities of the first movers, their successes and failures

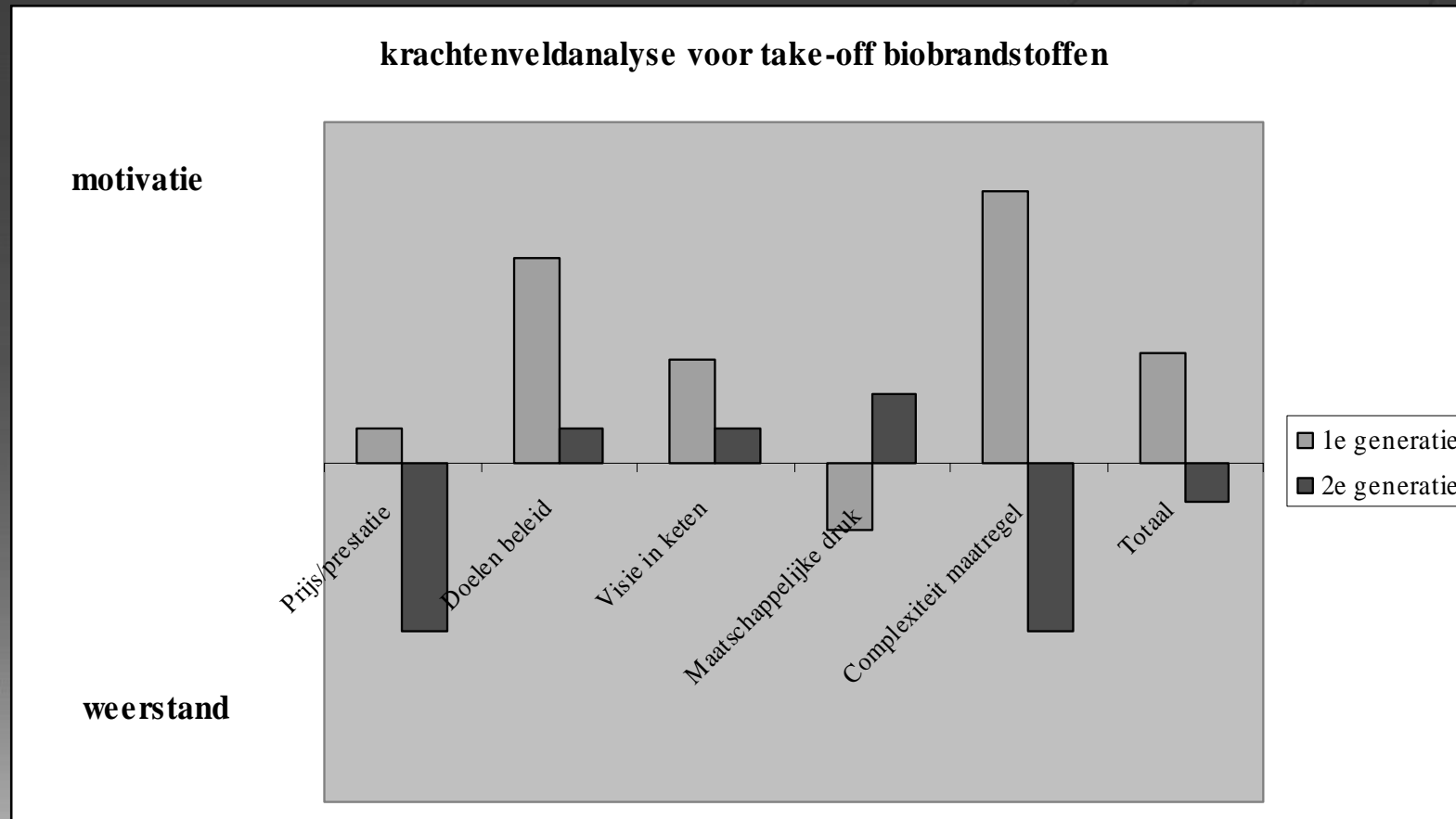
Innovation engines



Analysis of driving forces: actor / action



Example for biofuels



Network analysis: players / issue

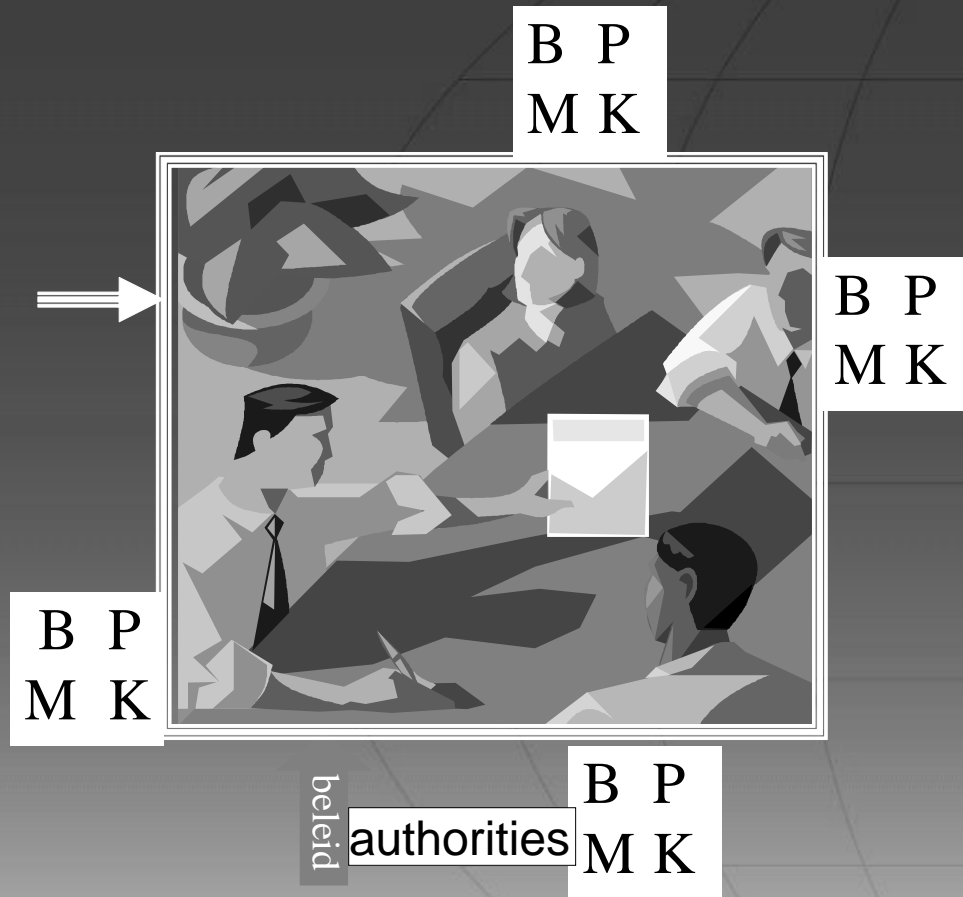
Position (P)

Interest (B)

Power (M)

Knowledge (K)

Cooperation



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