

System analysis for problem structuring

Part 1B: the mono-actor perspective - example

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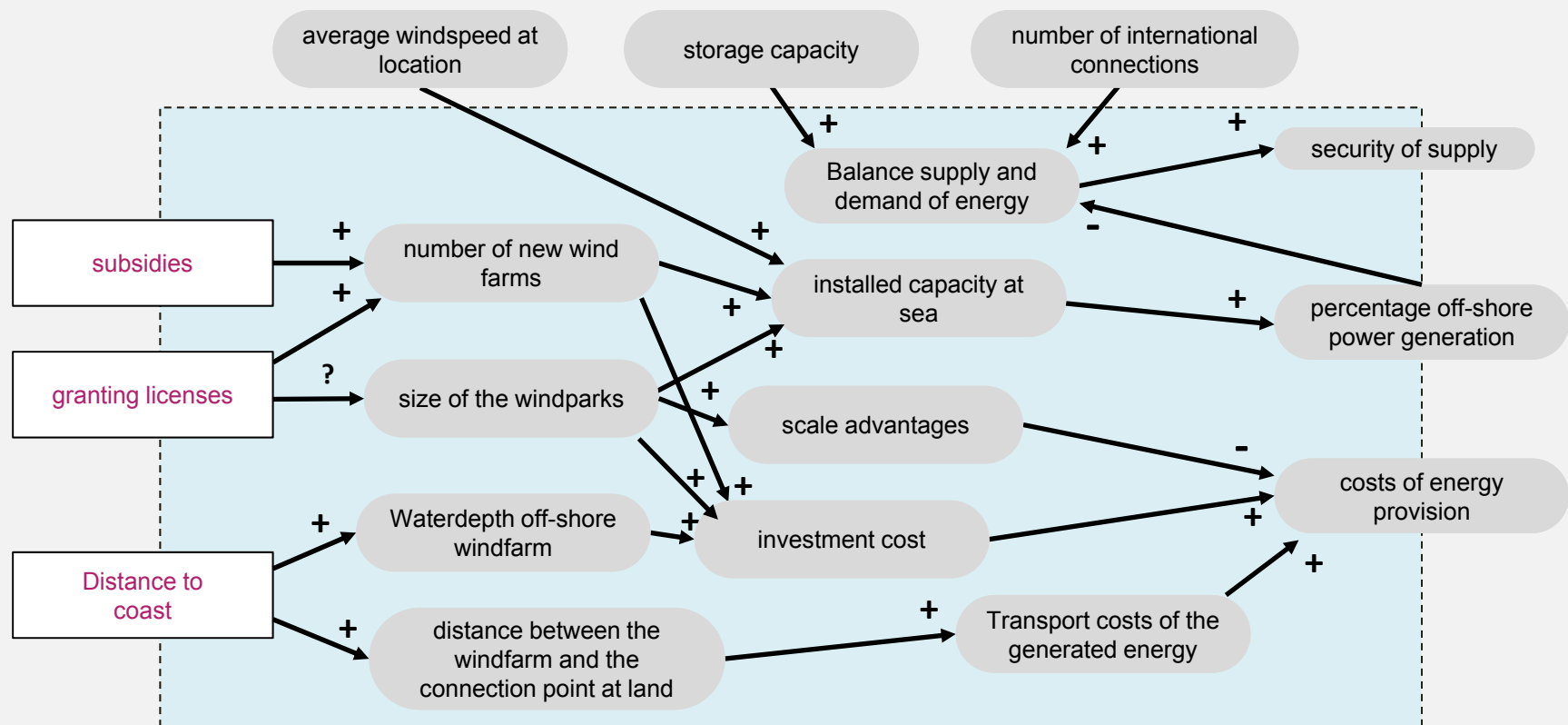
The mono-actor situation

1. Functions of basic system analysis
2. The system or problem diagram
3. How to construct a system diagram?
4. Interpretation and uses of a system diagram
- 5. Example: wind power**
6. conclusions

Example: Wind Power at Sea



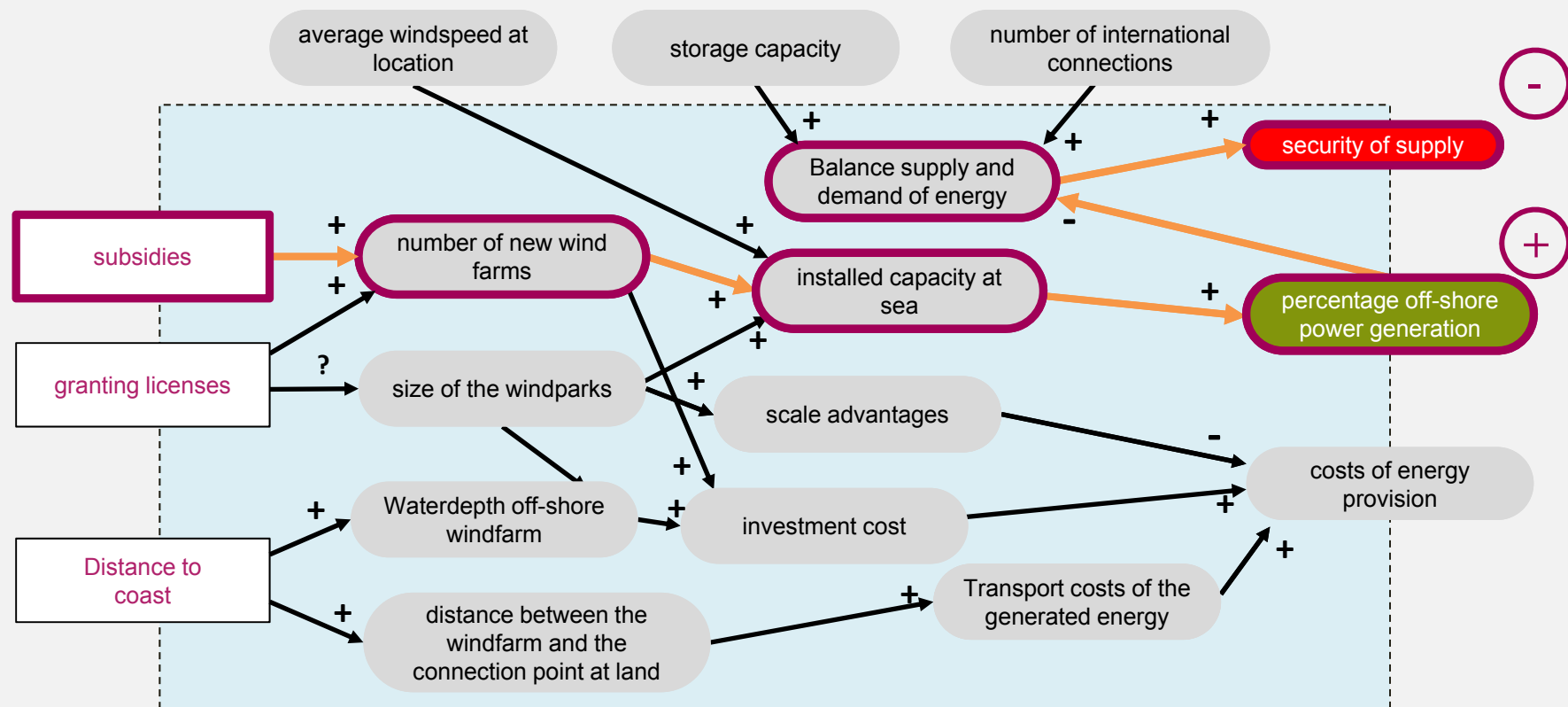
Wind power at sea



Uses of a system diagram

- **Does the client face intrinsic dilemmas?**
 - Actions or changes that are good for some goals but bad for other goals
- Are actions effective?
 - Can the client attain all of his goals?
 - How much control has the client over his criteria??
- Are criteria sensitive to external influences? Might the client's goals be attained without taking action?
- Are there any important knowledge gaps?

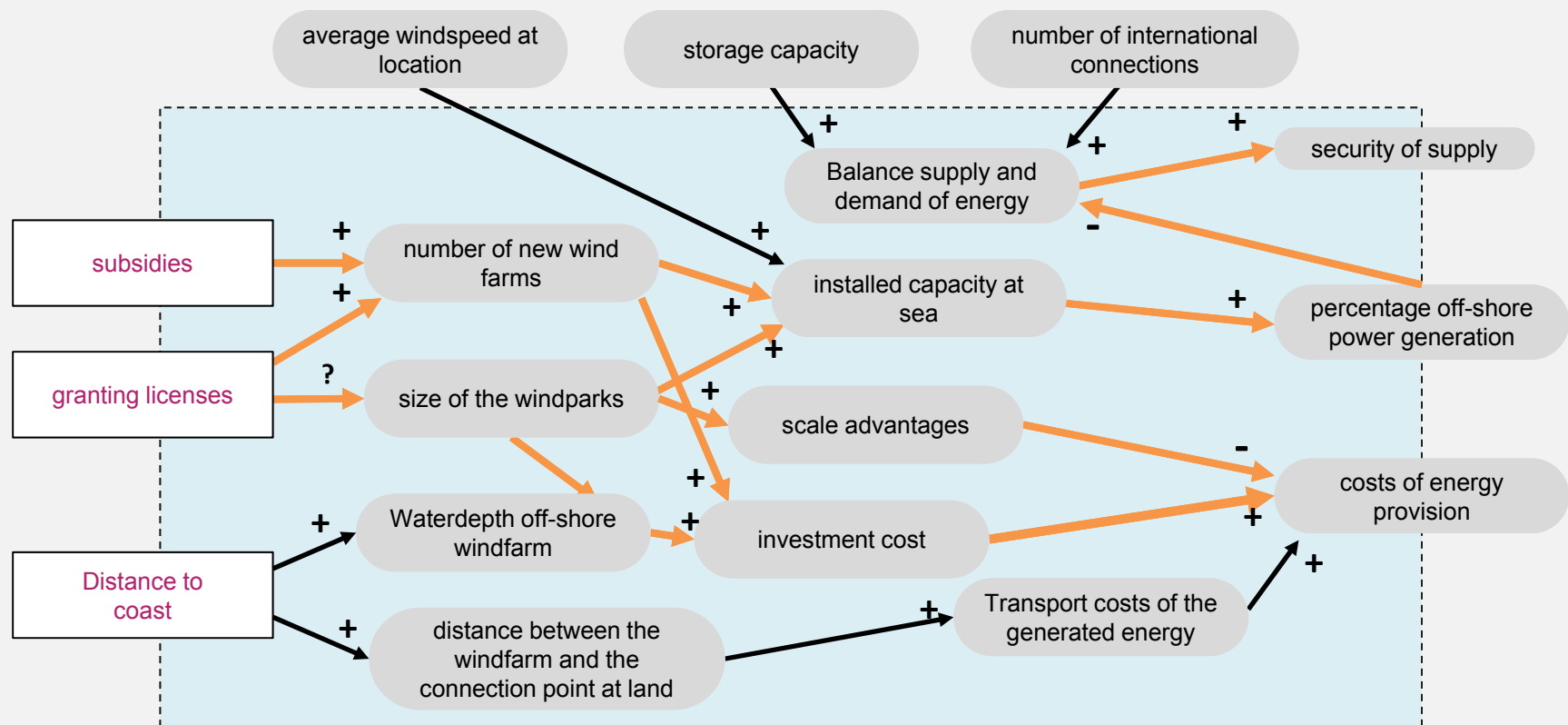
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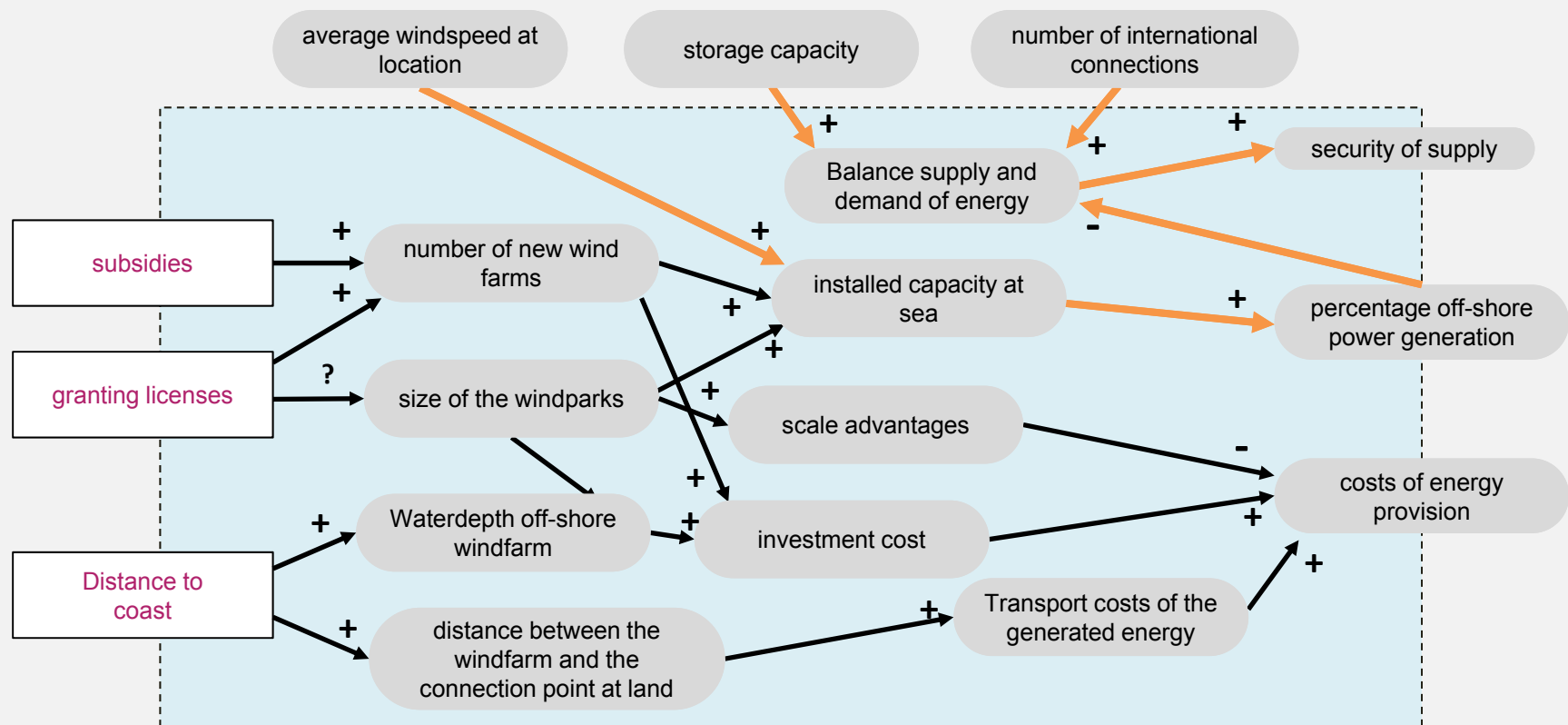
Score card

→Criteria ↓ Means	Security of supply	Percentage off- shore power	Costs of energy provision
Giving subsidies	-	+	?
Granting licences	-	+	0?
Distance to coast	0	0	+

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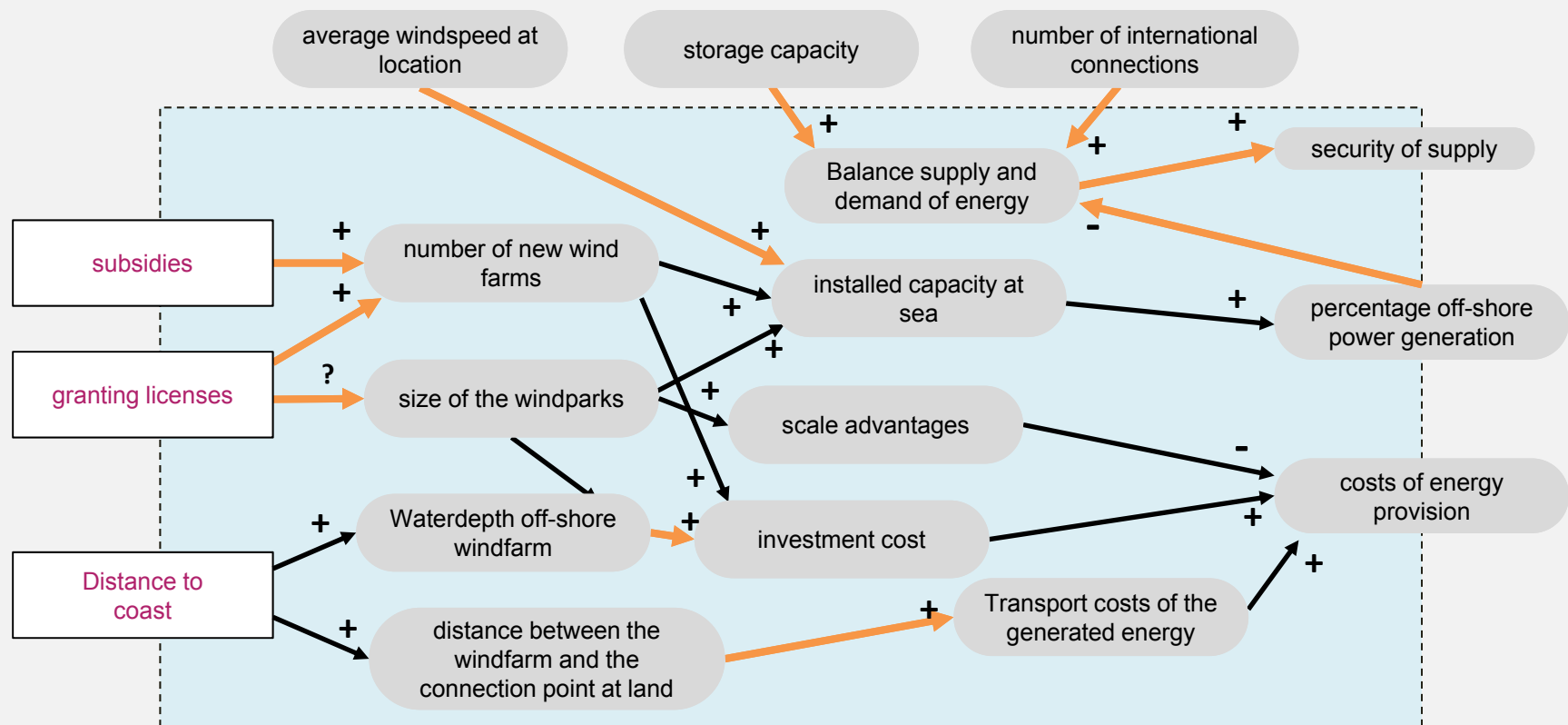
Wind power at sea



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Wind power at sea



Conclusions on wind power

- The ministry faces an intrinsic dilemma: wind power versus reliability of supply
- Effectiveness of the client's actions is not clear, and may depend on exogenous factors
- Attainment of the client's goals will also depend on other actors (location choice, energy companies, energy network managers)
- More insight is needed:
 - impacts of subsidies/permits on the willingness of energy companies to invest
 - Influence of location choice on costs
 - Possible influence of external factors
 - Influence on security of supply

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Thank you for your attention!