



Advanced Model Development and Validation for the
Improved Analysis of Costs and Impacts of Mitigation Policies

Transitioning to electric cars

Interactions between *social*
learning and *technological*
learning

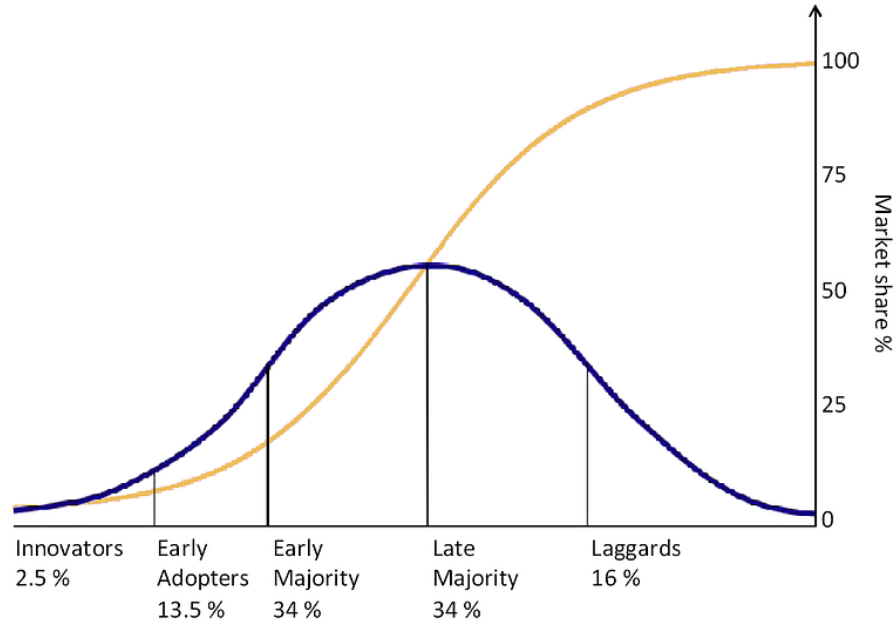
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The research leading to these results has received funding from the European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement n 308329 / ERC grant agreement n° 336155 - project COBHAM "The role of consumer behaviour and heterogeneity in the integrated assessment of energy and climate policies".

Same issue, different approach

Consumer behaviour in *electric* vehicle technology transition



- Focus on adopter groups

- Risk premium based on WTP studies

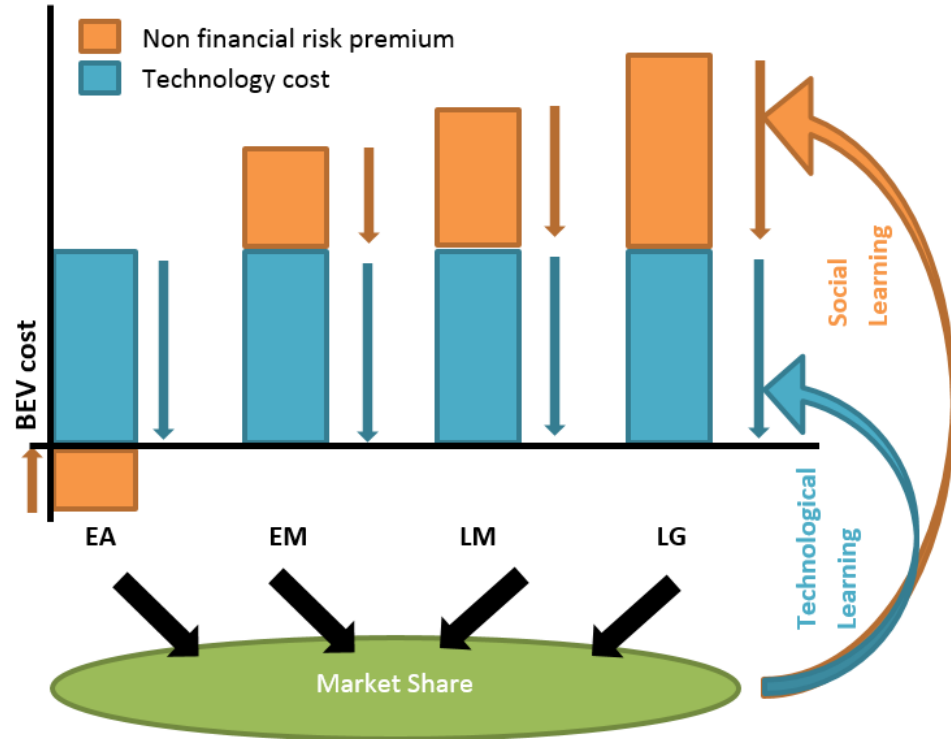
- Quantified social influence or *social learning*

Implementation in IMAGE

➤ Heterogeneity of consumer preferences affecting learning

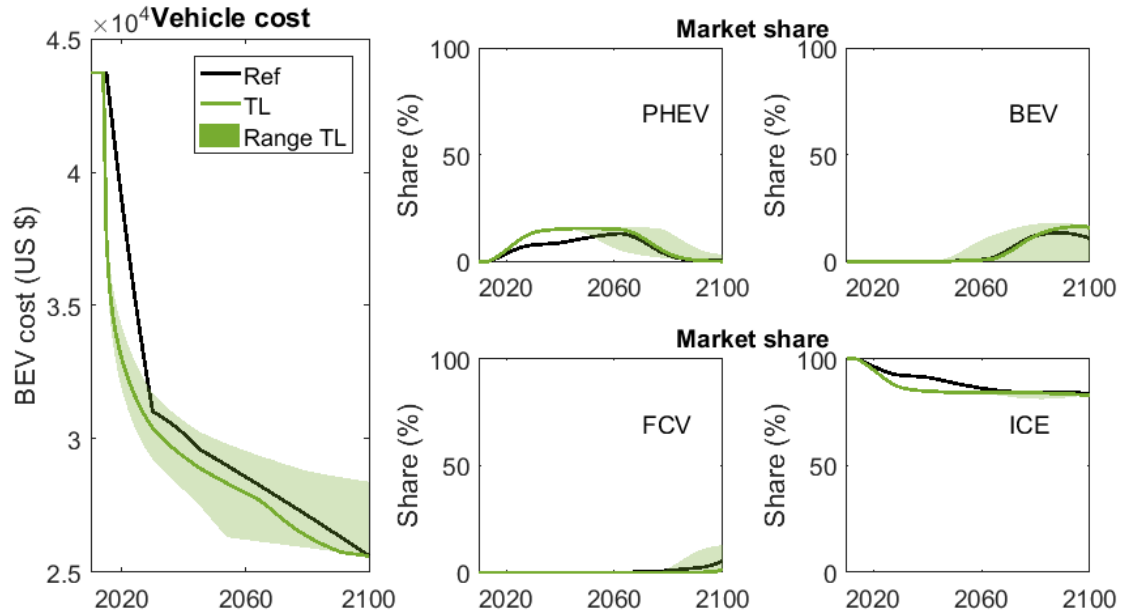
Implemented in
IMAGE vehicle
choice model

Learning compared
to exogenous
assumptions



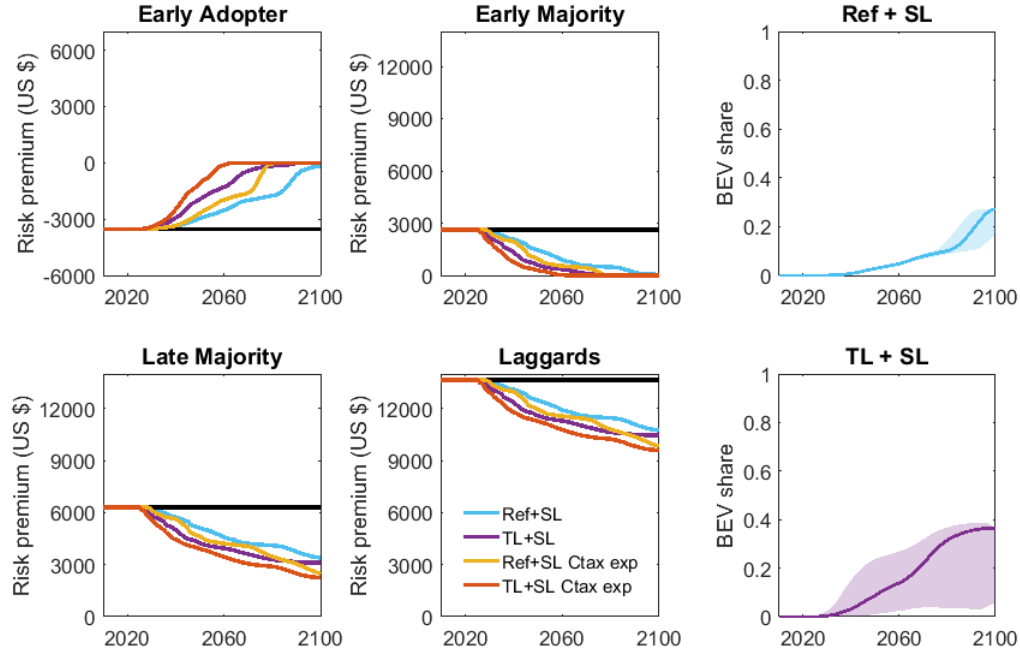
Technological learning

- The early adopter group and technological learning play an important role in initial phase



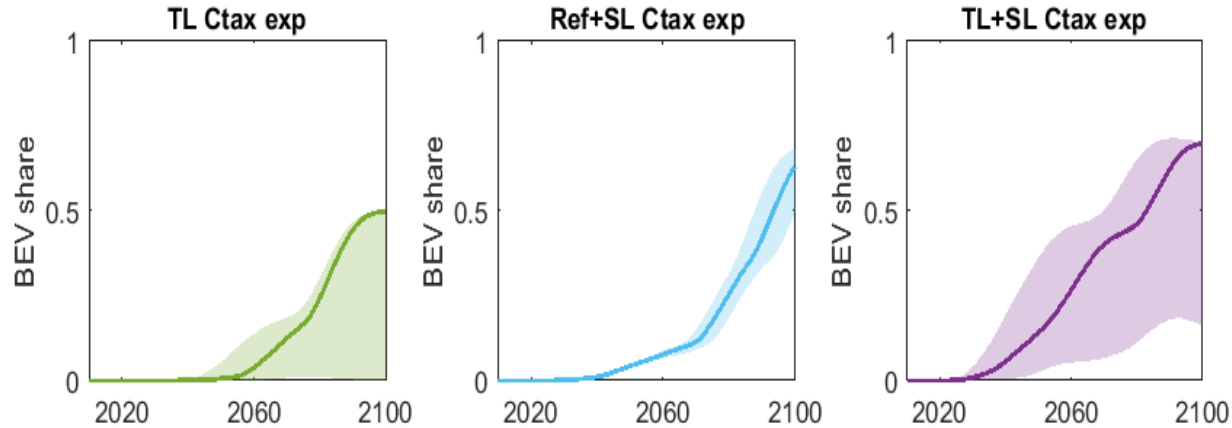
Technological and Social learning

- The effect of social learning is seen in the diffusion of BEVs from early adopters to the early majority



Technological and Social learning

- The effect of a carbon tax can be increased



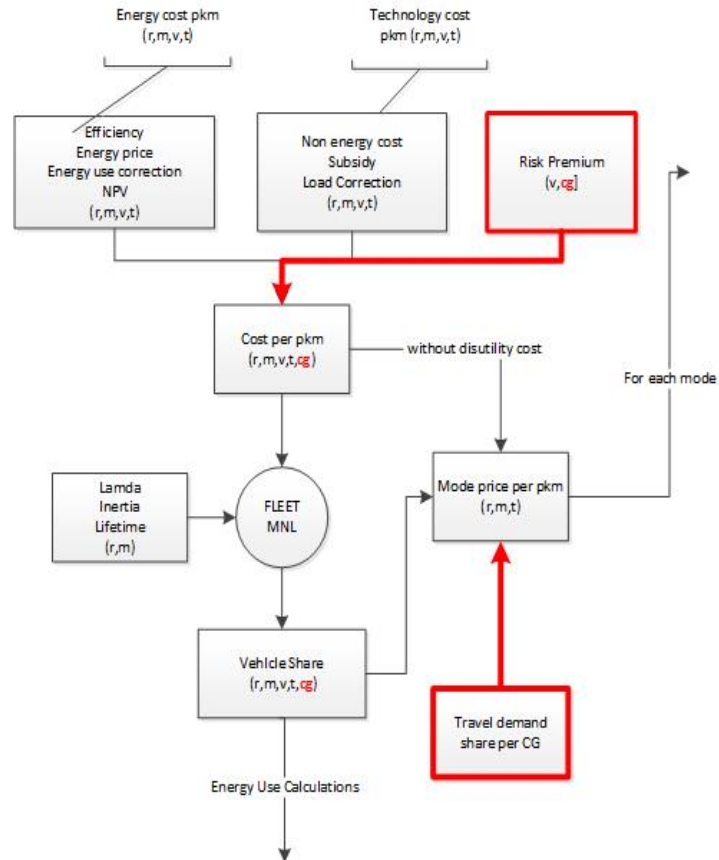
Technological learning and social learning processes can mutually reinforce each other

Discussion

- Technological learning affecting the initial phase, social learning affecting further diffusion.
- These roles can be traced back to their equational forms.
- Technological learning and social learning are successfully represented within an IAM framework.
- BEVs can become dominant if technological learning and social learning processes work to mutually reinforce each other.

Thanks for your time

Adding risk premiums



Vehicle choice model

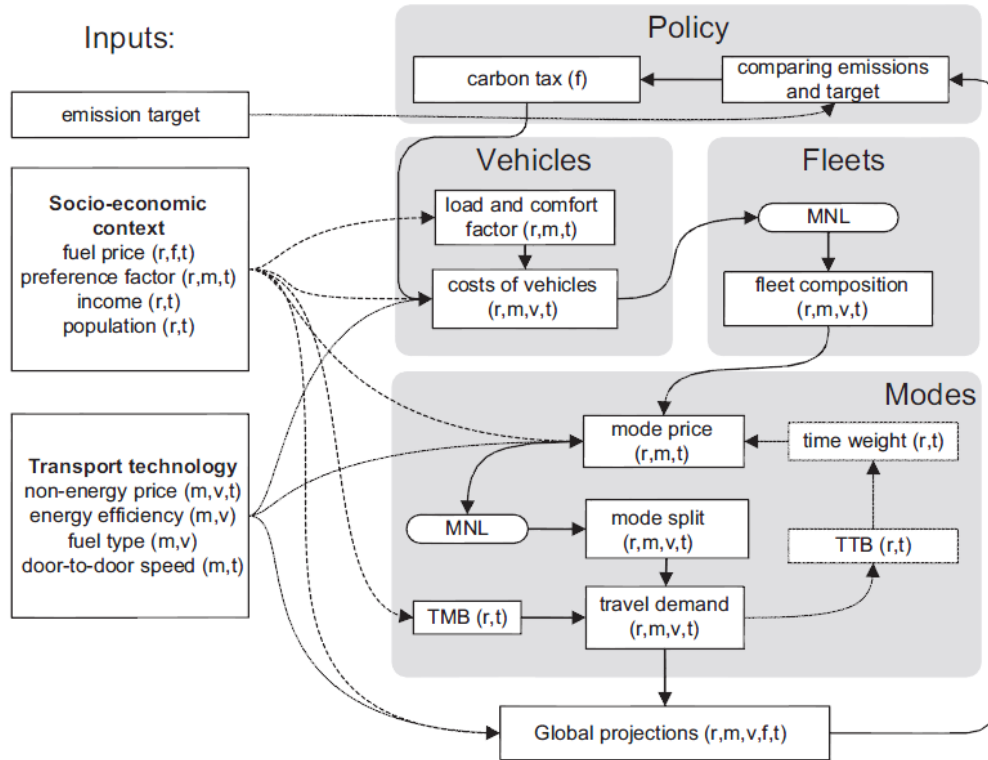
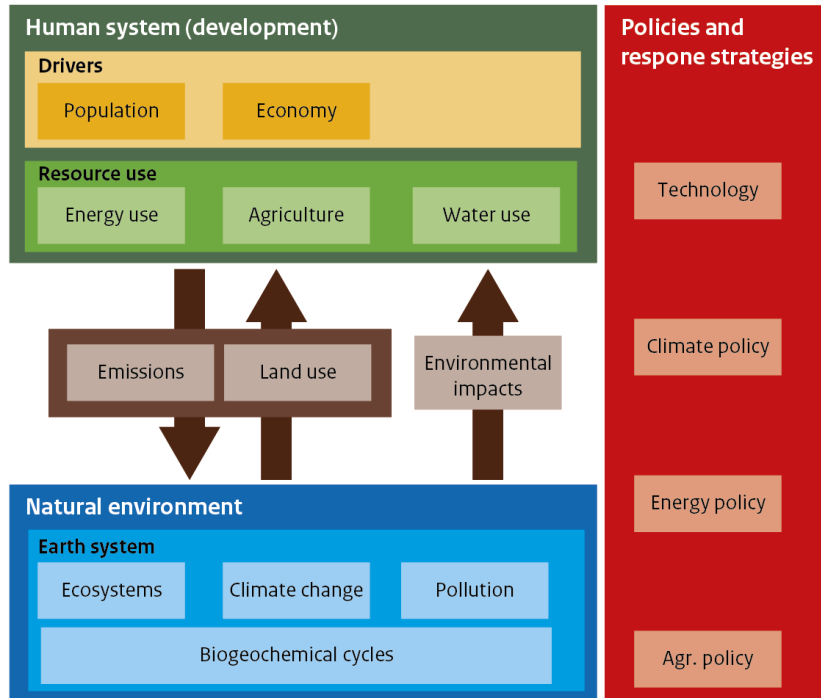


IMAGE model



- Interaction of earth system and **environmental system**
- Integration across different issues and disciplines
- Focused on decisions processes (assessment)