PBL Netherlands Environmental Assessment Agency

Combining transitions case studies with transitions modelling: Mobility in the PATHWAYS project

PATHWAYS/SOER workshop
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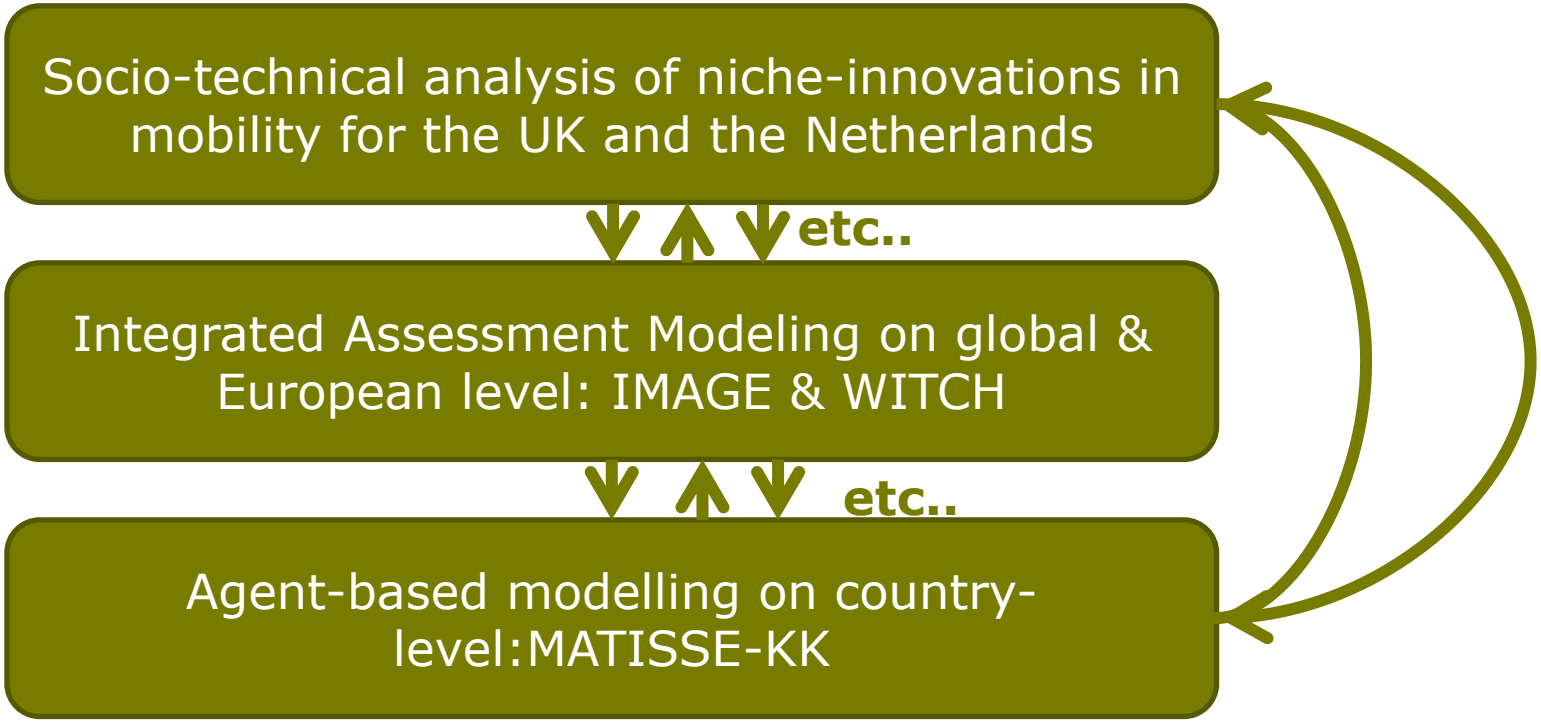
TRANSITION PATHWAYS TO SUSTAINABLE LOW-CARBON SOCIETIES

European Commission

Creating the scenarios: a joint effort



Two "ideal-type" pathways as basis

- Pathway A / Technical component substitution pathway:
  - adjustment of existing regime without a full reordening of the existing societal structures (for instance adding CCS to coal or gas-fired power plants or existing owners of the land broadening the services they provide)

- Pathway B / Broader regime transformation:
  - a shift to a new socio-technical system by also including wider behavioural and cultural changes, new user practices and institutions (for instance decentralised PV installation, car-sharing)

Summary from socio-technical analysis of niche-innovations

	Pathway	
Niche innovation	**Netherlands**	**UK**
(Plug-in-)Hybrid Electric Vehicles	A	A
Battery Electric Vehicles:	A	A
Biofuels	A	A
Hydrogen fuel Cells	A	A
Car sharing	B	B
Urban Cycling/Sharing Schemes		B
Inter-modal Ticketing (Smart Cards)		A / B

Momentum Legend

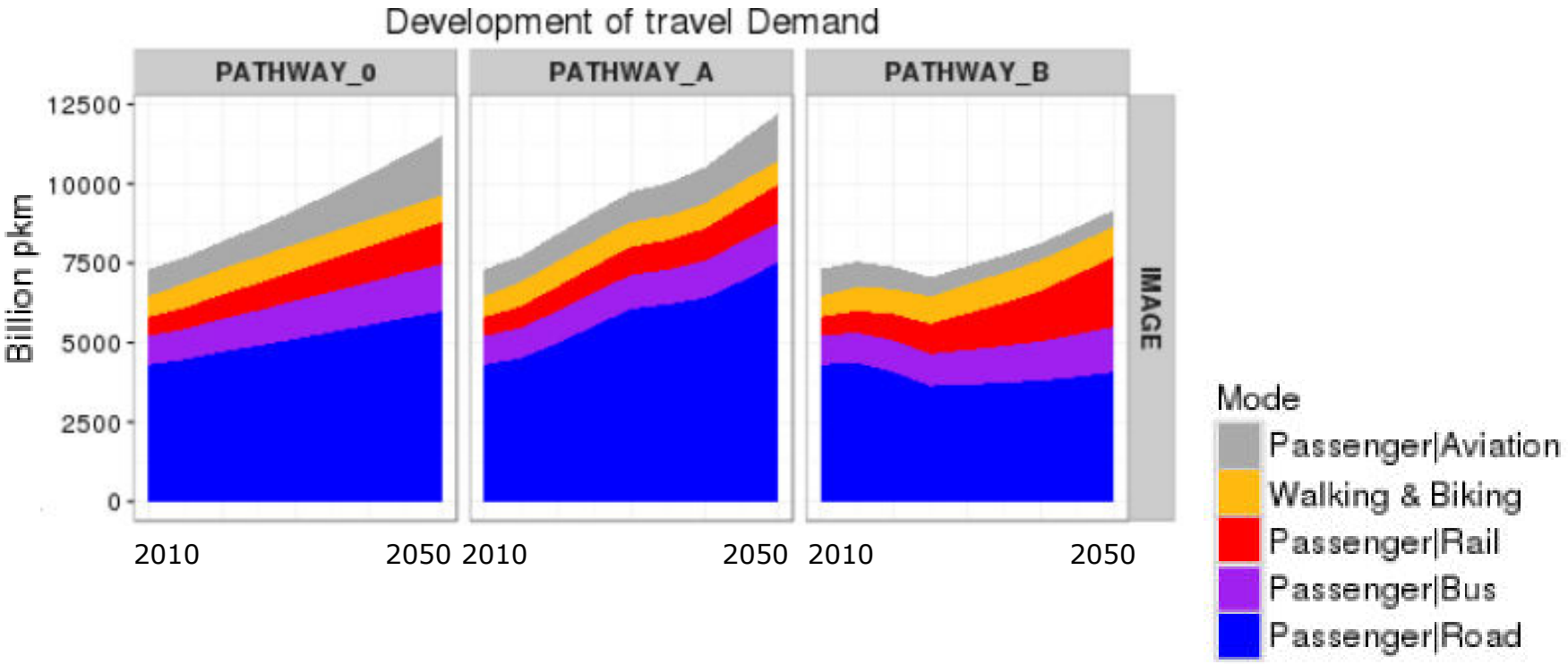
Very low
Low
Medium
High
Very High

	PATHWAY A			PATHWAY B		
	IMAGE	WITCH	MATISSE-KK	IMAGE	WITCH	MATISSE-KK
Electric (both BEV and PHEV)	25% purchasing price subsidy	+25% battery learning rate, +50% engine efficiency growth rate	Higher priority on environmental performance, increasing convenience as battery ranges improve and infrastructure develops			
Bio	25% purchasing price subsidy	+50% engine efficiency growth rate	Improved environmental performance			
H2	25% purchasing price subsidy	(Not considered in WITCH)	Improved environmental performance, high cost, lower convenience through lack of infrastructure (chicken and egg problem)			
Car sharing				Increased vehicle occupancy	Increased vehicle occupancy	
Other				Reducing available travel budget per person Increased preference for public transport	Lower travel demand and vehicle ownership growth	Change in lifestyle, with less car use, more emphasis on environment, more emphasis on mixed zones and public transport

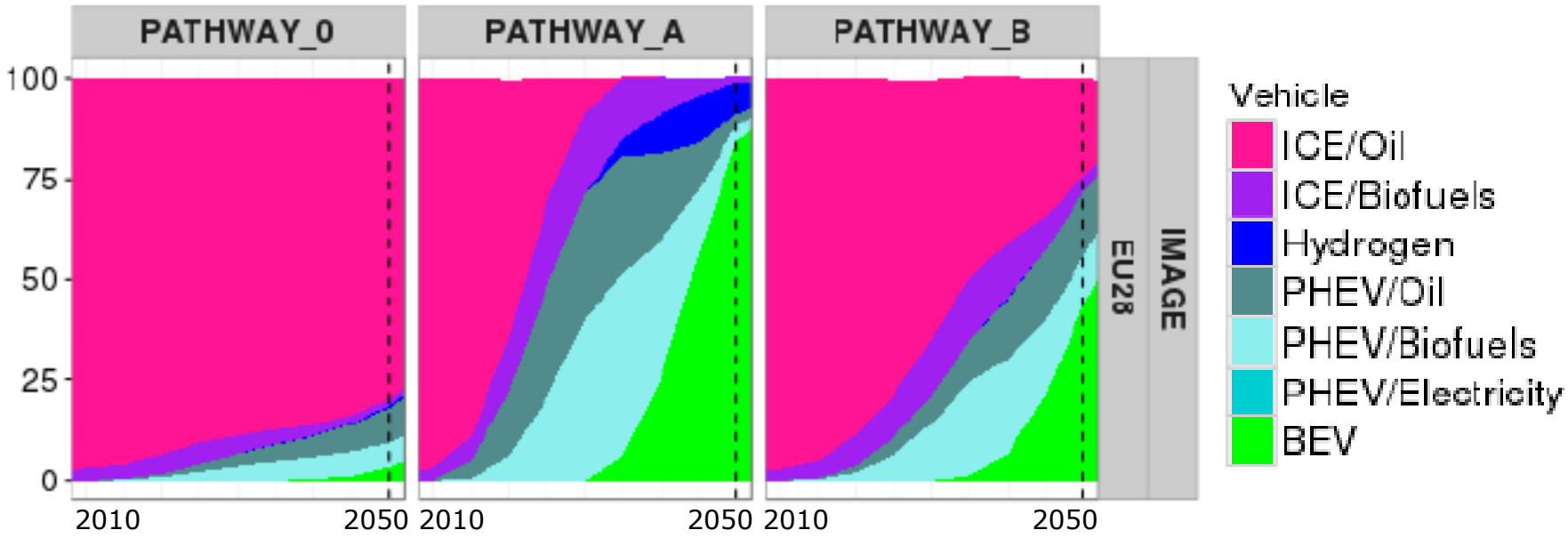
Not modified relative to PATHWAY 0
Social and behavioural change (demand, preferences)
Regulatory change (intervention, governance)
Technical change (acceleration)
Shock (Shift away)

Scenario adaptations according to socio-technical assessments

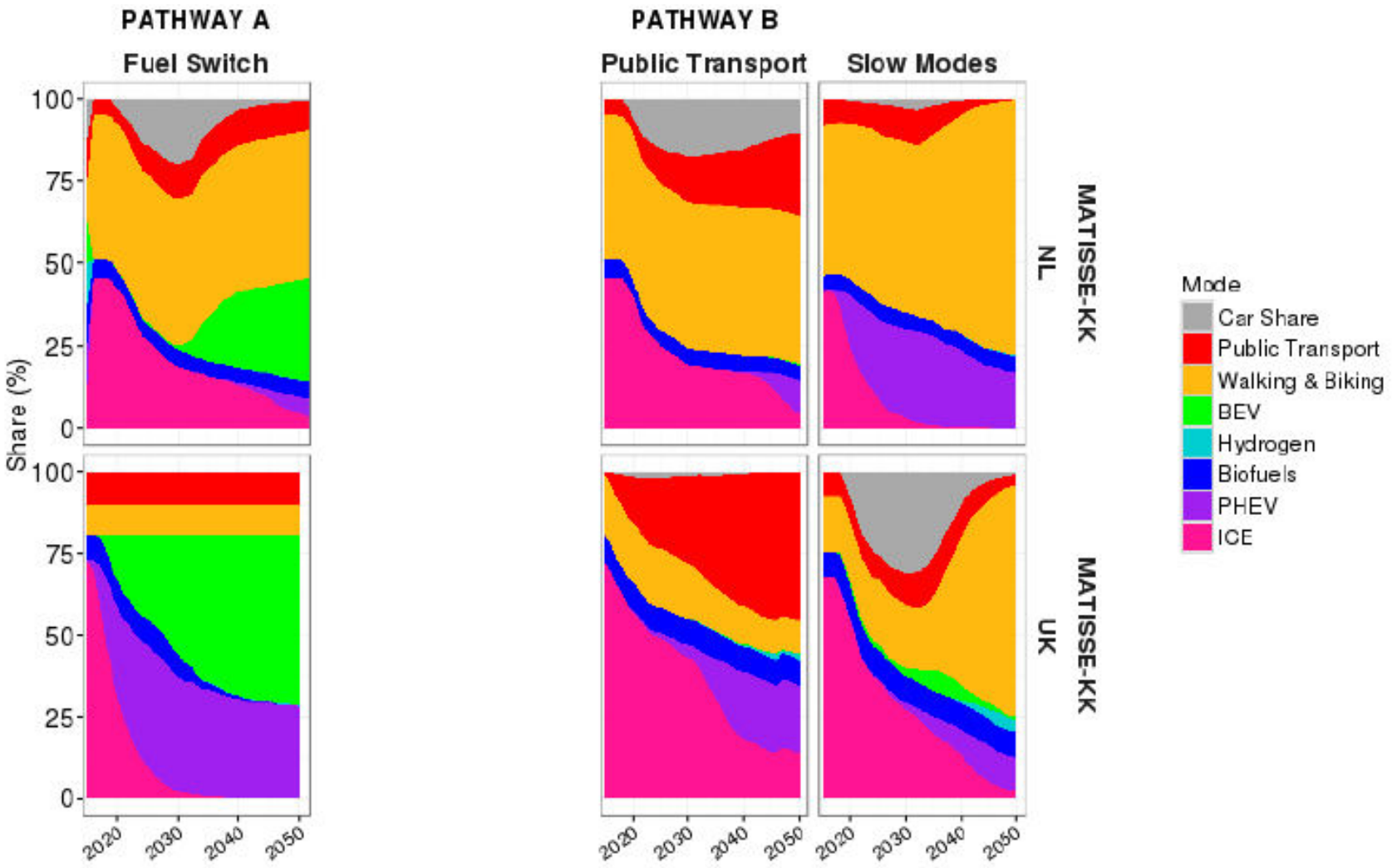
Scenario results: passenger kms

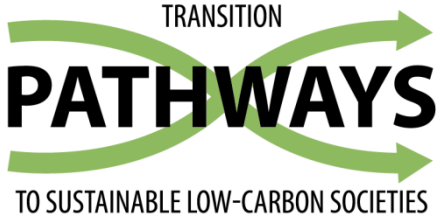


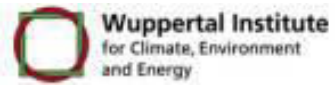
Scenario results: share of vehicle types



Scenario results: Share of mobility lifestyles







http://www.pathways-project.eu/ email: pathways@pbl.nl PATHWAYS_EU

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