

UK Office of Climate Change

**Use of roadmaps for policy
making: an application to cars**

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IEA Roadmaps Seminar
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www.occ.gov.uk

**Office of
Climate
Change**

The Global Technology Project is looking at the role for international technology policy

UK Office of
Climate Change

- Our role is to support Ministers to develop future **UK strategy** and policy on **domestic** and **international** climate change.
- Small independent **analytical unit** within UK government.
- **Project** based work on cross-cutting policy problems.


Global
Technology Project

- Our project is considering the question: how can **international technology policy** help bring forward clean technologies in the least cost way possible?

Roadmaps can help design policy

Policy making process:

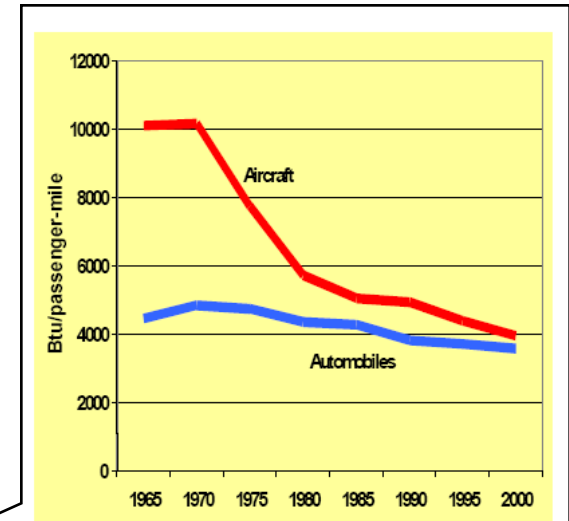
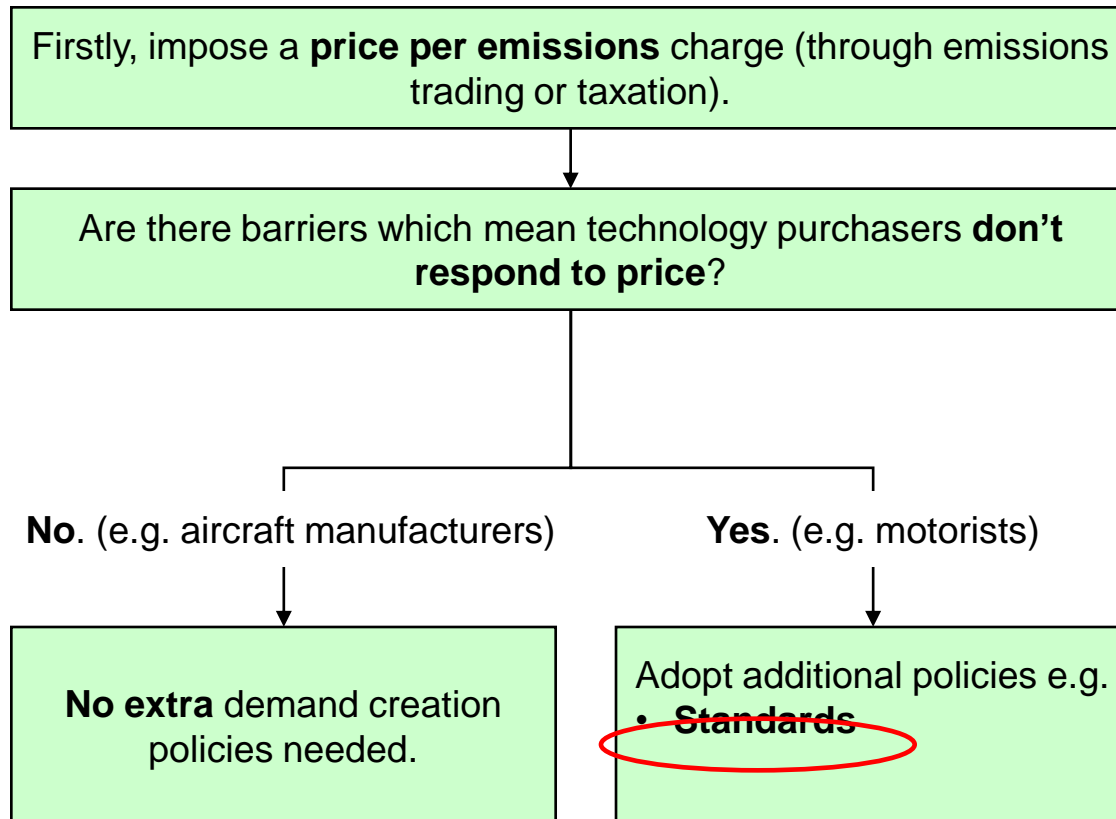
Firstly, decide the **nature of the policy intervention** required in a sector/technology.



Secondly, consider whether **roadmaps** can help you **design policy** (e.g. set the stringency / direction).

A key way of driving clean technology in cars will be CO2/km standards

How should demand for low carbon technology be created?



Aircraft fuel efficiency has improved faster than **car** efficiency because **energy costs** are **more critical** to decisions about which technology to purchase than for cars.

Definition of a “roadmap”

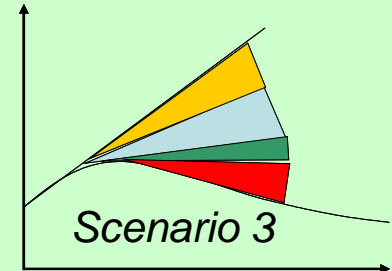
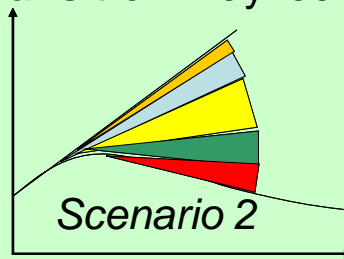
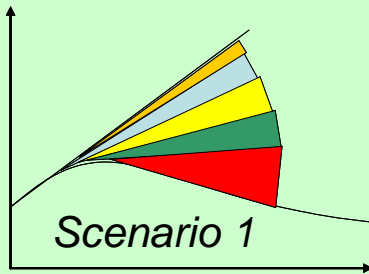
Roadmaps are an illustration of what a **least cost** transition to a low carbon economy might look like, under **various scenarios** about costs and socio-economic development.

Process for producing a roadmap: choice of scenarios is important here

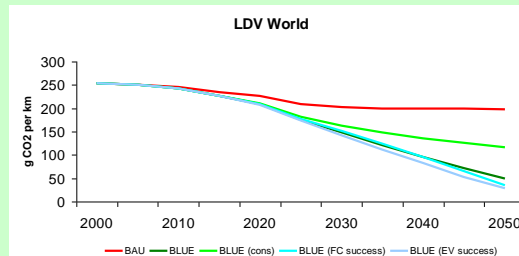
Need to cut **global emissions** by 50% by 2050

Identify factors that influence what a least cost transition could look like (e.g. abatement costs, oil price, etc). Create **scenarios** for them and run them in your model.

Global transition may look like this...



The **car roadmap** would look like this...



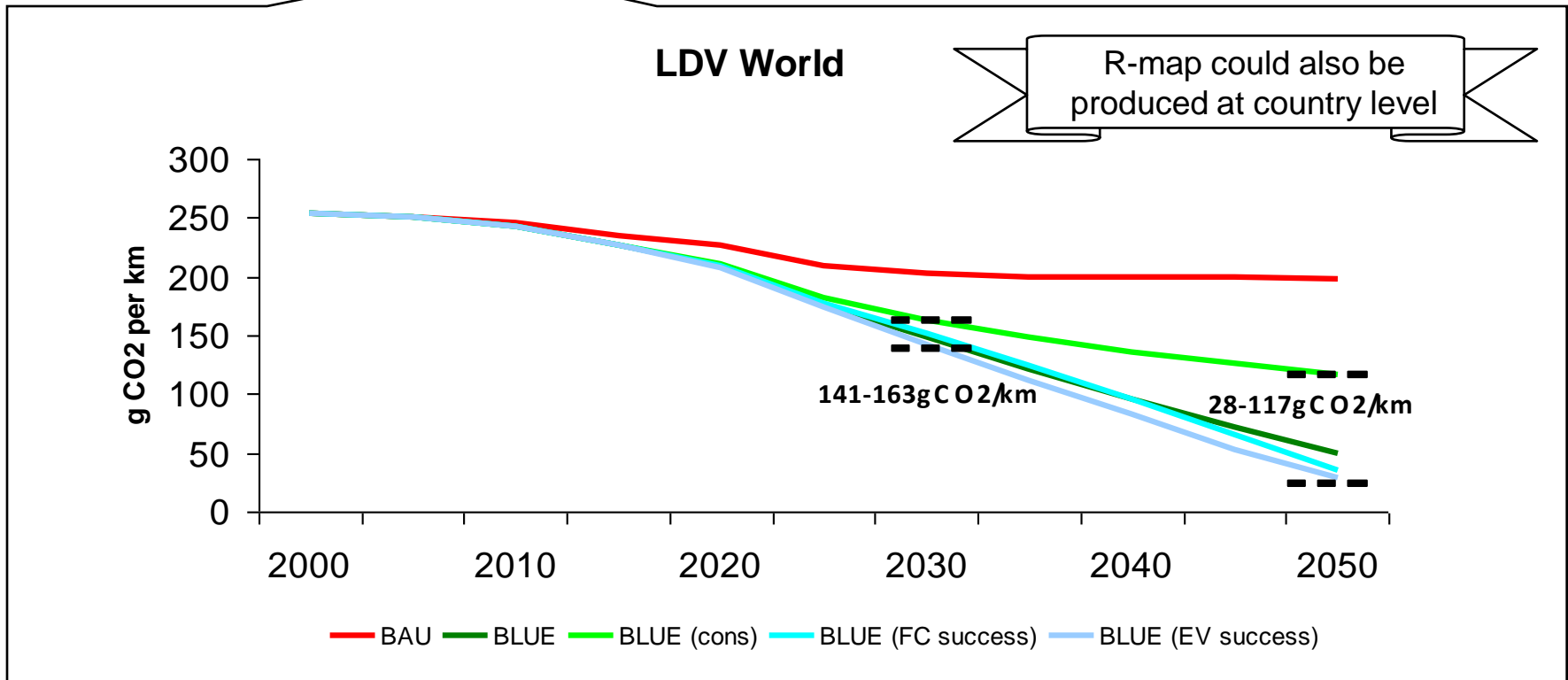
The cars roadmap provides a guide to whether the sector is on track, and how tight to set future standards

Roadmap tells you that in a range of **feasible scenarios**, an appropriate contribution from the transport sector would mean fuel efficiency should be 141-163gCO₂/km by 2030 and 28-117g/CO₂ by 2050.

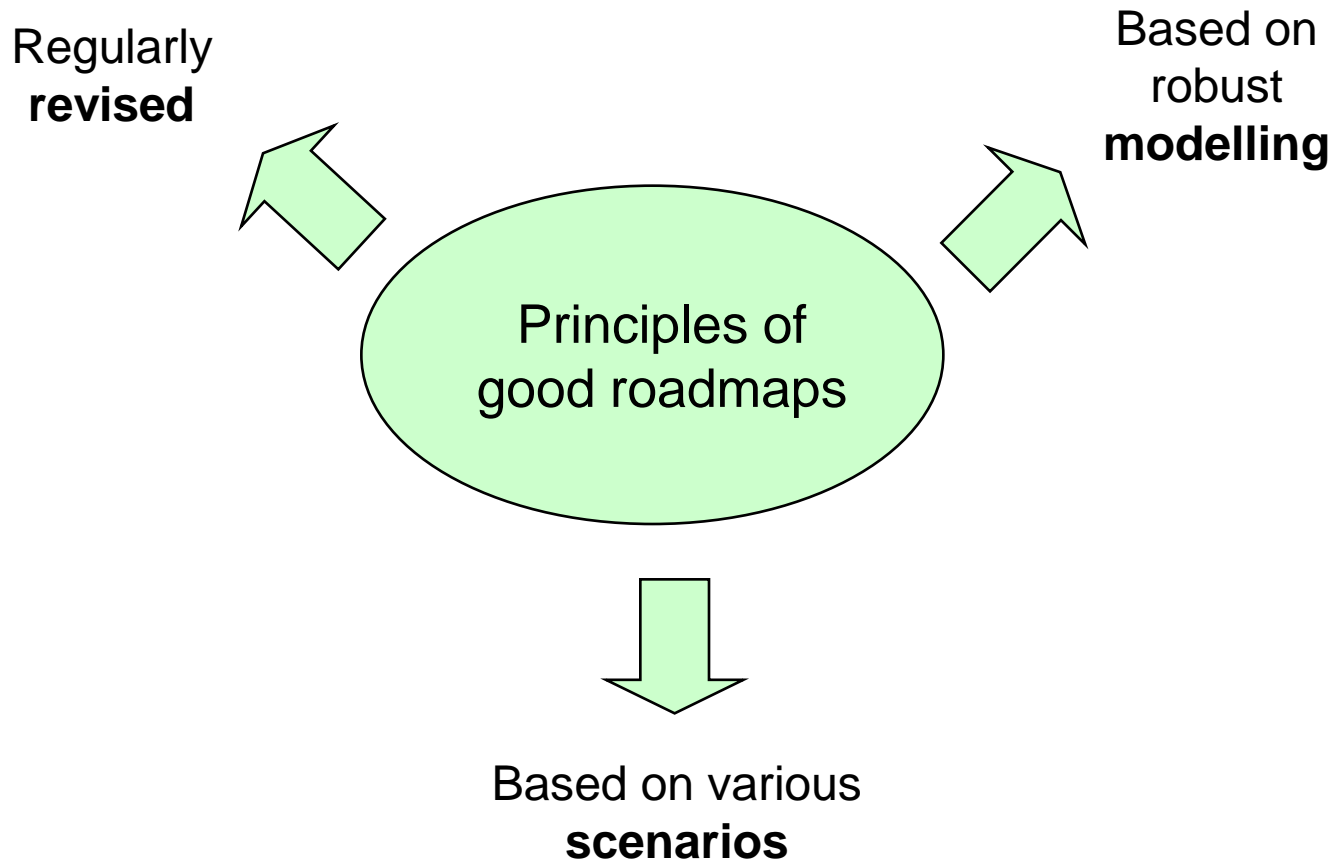
Are we **forecast** to achieve this?

No

Put **tighter standards** in place



There are three key principles of good roadmaps



The policy maker should use roadmaps to help design policy

Nature of policy intervention

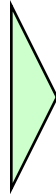
How can roadmaps help design policy?

Standards are a good way of bring down the cost of low carbon cars.



Roadmaps can help set the **level of standard**.

There is a case for government to provide **R&D support** for clean transport technologies. But government may not have the best information on which ones to back.



There are **risks** to using roadmaps to decide what to spend R&D on.

Key messages from this presentation

- 1** • Policy maker should firstly decide what **type of intervention** is needed for a given sector/technology.
- 2** • Roadmaps can then be helpful for informing how to **design the policy**.
 - Especially useful for setting standards.
 - But risks of using roadmaps to guide R&D expenditure.
- 3** • **Principles** of good roadmaps
 - based on lots of scenarios
 - good modelling
 - regularly revised.