

## Topic: Changing electric or hydrogen vehicle policies and their effect on firm strategies

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**Potential internship:** *Allego* may open an internship position for this research (this will be decided early November at the latest; all communication goes through [j.h.wesseling@uu.nl](mailto:j.h.wesseling@uu.nl))

Most industrialized countries have implemented policy to support the development and/or diffusion of zero emission vehicles (ZEVs) like electric and hydrogen vehicles. The societal demands or policy goals for these policies however differ and may include reducing CO<sub>2</sub> emissions to meet 2050 emission reduction targets, reducing local air pollution in cities for better health, and creating or maintaining economic competitiveness in the automotive and related emerging industries (e.g. batteries or fuel cells) (Wesseling, 2016). In addition, the rationale for policy intervention may differ and range from fixing market failures, to fixing structural system failures and fixing transformative system failures (Weber and Rohracher, 2012). These rationales may conflict as structural failures focus on optimizing existing innovation systems and transformative failures on changing or even replacing existing innovation systems (Alkemade et al., 2011).

These different goals and rationales each translate into different (mixes of) policy measures. Although the goals and rationales for policy intervention may change over time, changing existing policy instruments tends to be harder (Howlett and Rayner, 2013). Therefore, over time, inefficiencies may develop in the overall mix of policy instruments (Flanagan et al., 2011). This may have posed some problems over the past decade, as in many countries the policy rationale has been changing.

Using this theoretical framework, this study intends to analyze 1) how the policy mixes affecting ZEVs have changed over the past 20 years; 2) how these changes can be explained (through policy goals, rationales and lobbying); 3) if policy learning effects can be identified; 4) how these changing policy mixes affected the emerging technological innovation systems of ZEVs; and 5) how these policy mixes contribute to meeting their goals.

The study can be delineated in various ways, such as an in-depth analysis of one or two countries, or a broader analysis of a larger range of countries. Theoretical sampling can be based on Wesseling (2016) that quantitatively analyzed the mix of policy instruments for 13 countries.

## References

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