UNIVERSITÄT LEIPZIG

Universiteit Utrecht

Evaluating instruments stimulating sustainability transitions: promoting biomass boilers in Germany and the UK

10th March, 2021
Energy Evaluation Europe 2021

Alexander Morgan

Agenda

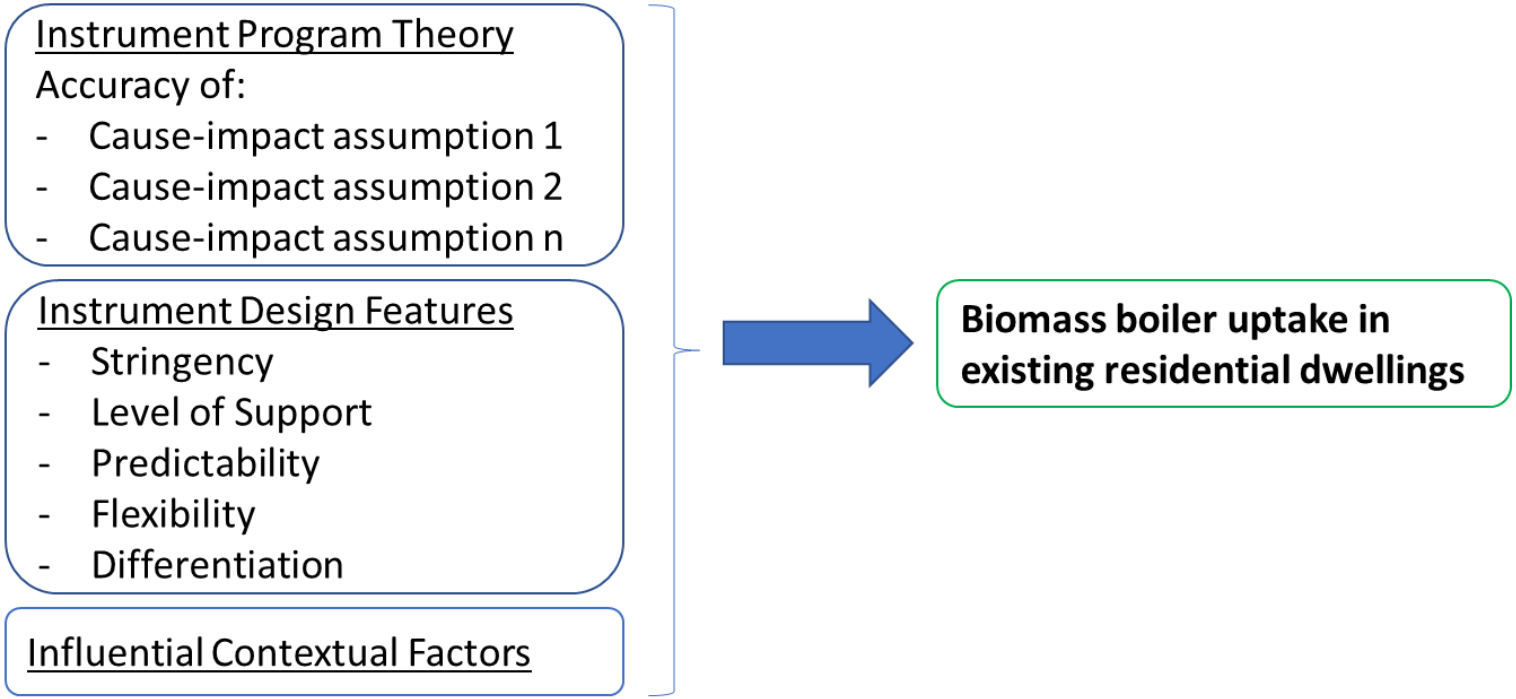
1. Research question
2. Method
3. Some key results
4. Conclusion

Research Question

	MAP (Germany)	Domestic RHI (UK)
Primary purpose and type	Demand pull - Economic instrument (upfront investment subsidy)	Demand pull - Economic instrument (feed-in tariff for 7-years post-installation)
Period active	In place since 1999. No scheduled end date	Launched April 2014. Funding committed until March 2022
Budget	€210.6 million (2017)	£90 million (€102 million) in 2016-2017
Target scope	Existing & new buildings	Existing buildings

"How do the key economic instruments promoting the uptake of small-scale biomass boilers in existing residential dwellings compare between Germany and the UK?"

Method



- Review of academic and grey literature as well as semi-structured expert interviews

Key Result 1: ‚Dirty' biomass

Stringency – *"The ambition level of an instrument with respect to its innovative push; the greater the stringency, the greater the incentive to change"*

	Particulates upper limit	CO upper limit	NOx upper limit	Minimum efficiency (LHV)
MAP	20mg/m^3	200mg/m^3	500mg/m^3	89%
Domestic RHI	130mg/m^3	1,000mg/m^3	640mg/m^3	75%

MAP places an emphasis on promoting innovation

- Higher subsidies for boilers with condensation technology and secondary particulate separation

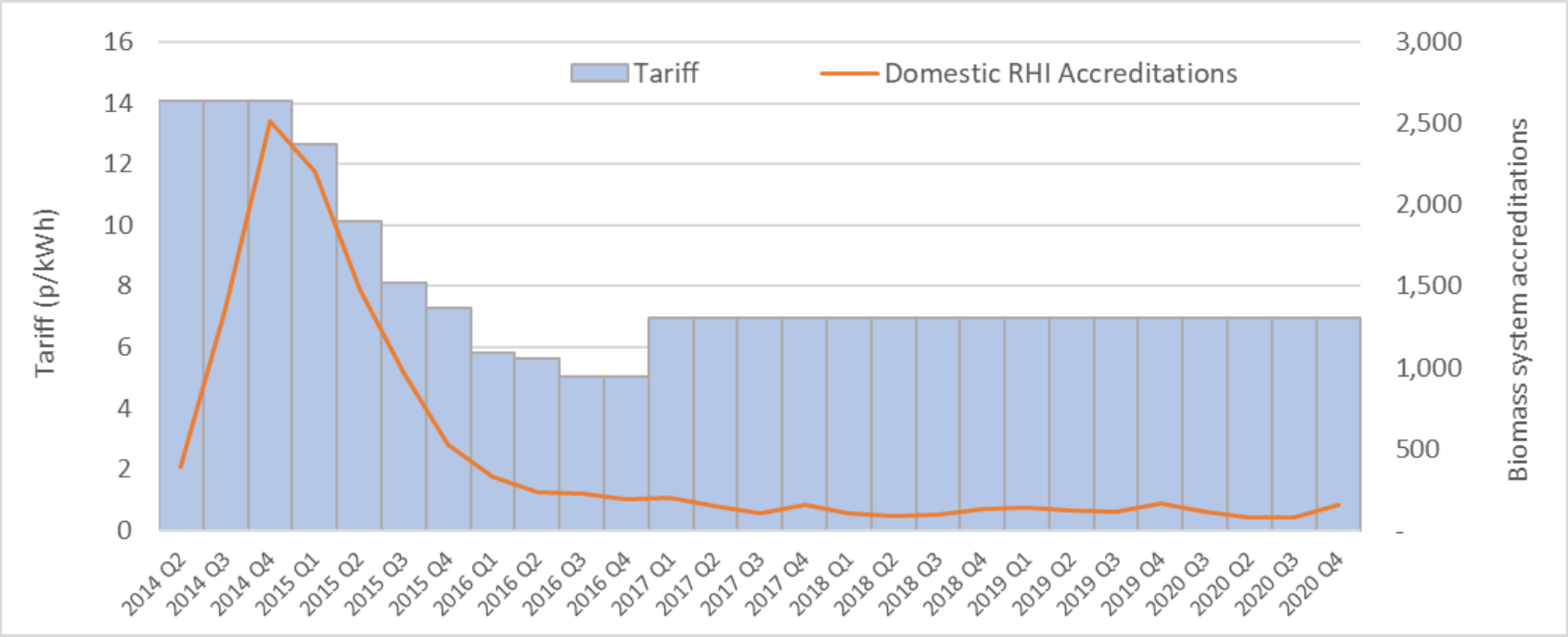
UK performed poorly with respect to stringency

- Possible consequence: Proposed ban of biomass boilers from gas-connected urban areas in 2018

Key Result 2: Predictability

Predictability – *"The degree of certainty associated with an instrument and its future development for impacted stakeholders"*

United Kingdom

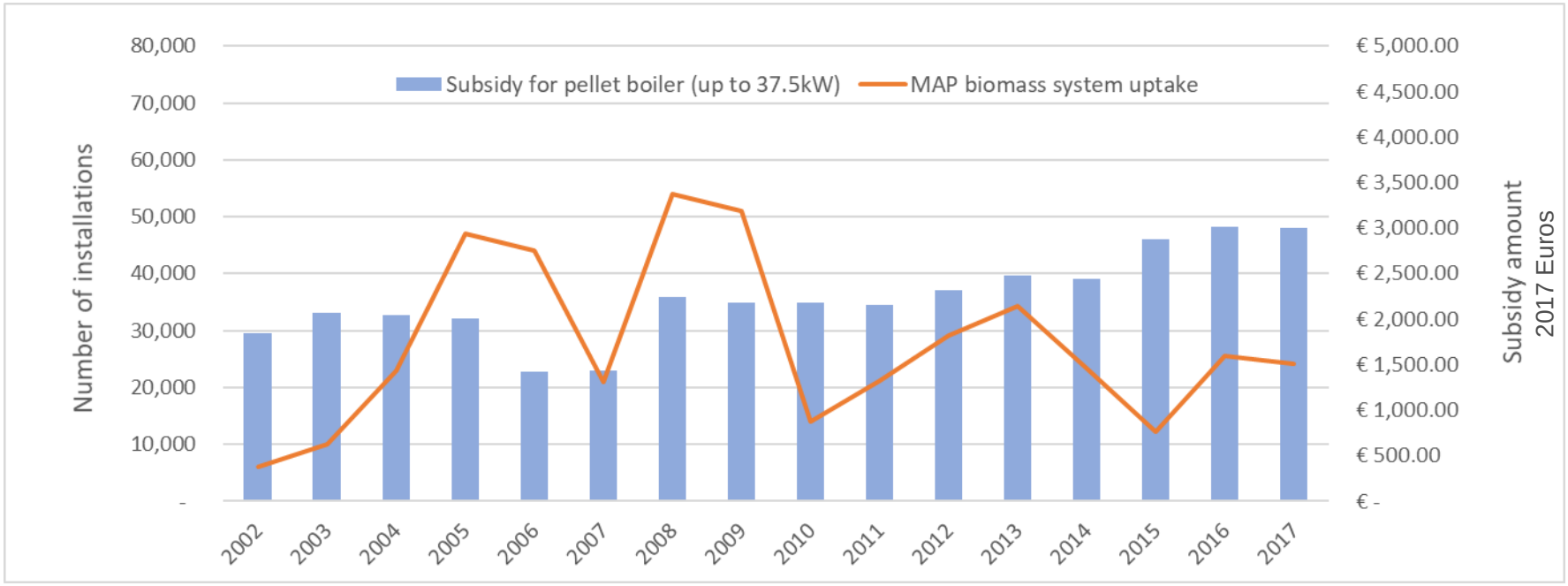


- Error in setting the original tariff level
- Inflexible instrument design - time-consuming parliamentary approval required for scheme modifications

Key Result 2: Predictability, cont.

Predictability - *"The degree of certainty associated with an instrument and its future development for impacted stakeholders"*

Germany



- 17 changes to the funding amounts or eligible technologies between 2001-2012
- Funding shortage in 2006 & 2010

Key Result 3: Challenges for uptake in the UK

Level of support in UK is significantly higher, but uptake is 10 times lower. Why?

Possible barriers:

- **Lack of awareness** - Between 2015 and 2017 only 18% of homes off the gas grid were aware of the Domestic RHI
- **Upfront cost barrier** - Upfront cost was a key concern for 62% of Domestic RHI applicants
- **Competition within the scheme** – comparatively much higher subsidy support for heat pumps

Conclusion

"How do the key economic instruments promoting the uptake of small-scale biomass boilers in existing residential dwellings compare between Germany and the UK?"

Some key results:

1. Higher stringency in Germany than UK – greater innovative push
2. Lack of predictability in both countries impacted uptake
3. There are challenges for biomass boiler uptake in the UK even though level of support significantly higher