Effectiveness of Voluntary Agreements on Energy Efficiency

Mirjam Harmelink

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Background

- Objectives:
  - Summarize available evidence from authorities sources on the effectiveness of VAs to improve energy efficiency of appliances & equipment
- Research questions:
  1. What is *success* and how do we evaluate it?
  2. How do VAs *compare* to regulatory instruments with respect to energy savings and other key factors?
  3. *What products, markets or industries are conducive* to VAs?
  4. What are the *essential elements* of successful VA?
  5. How do we ensure VAs deliver *more energy savings* than the base case (which could be regulations or business as usual)?

Research approach

1) Mapping VAs

2) In-depth analysing 4 case studies

3) Reviewing literature

4) Reporting

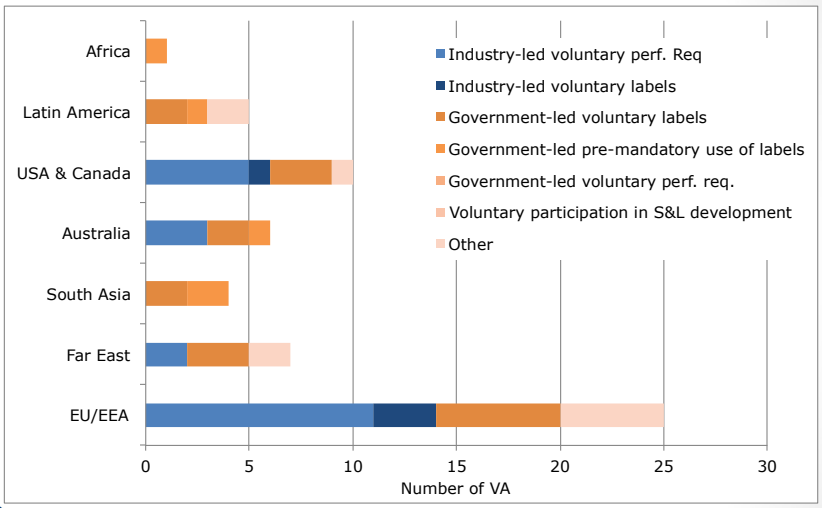
Mapping of VA's: type

Fully voluntary ⟶ **Full regulation**

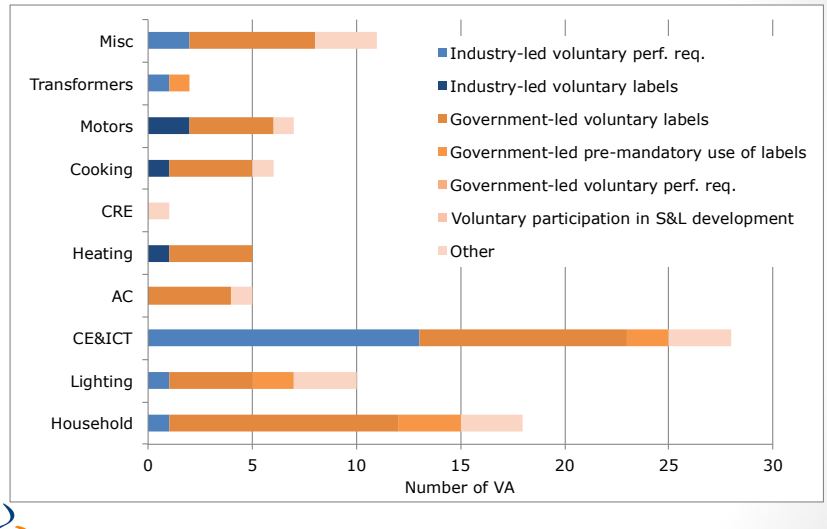
Types	Fully voluntary agreements	VAs concurrently to early regulation	Voluntary adoption of regulation	Negotiated agreements	
	Industry-led VAs to set minimum performance levels	Government-defined voluntary energy labels			Voluntary participation in regular, government-led S&L development
	Industry-led VAs to establish (a form of) labelling	Government-defined mandatory energy labels			
		Government-defined voluntary performance requirements			

Focus on: industry-led VAs, agreed between government and *group of market actors*, and pre-*dominantly self managed* by the market actors

Mapping of VA's: types across regions



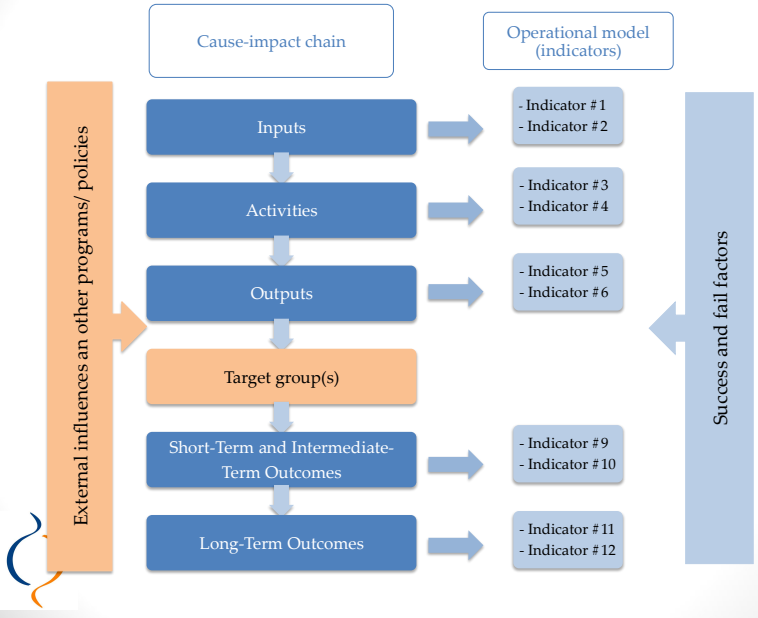
Mapping of VA's: types across products



Mapping of VA: selection of case studies

- Criteria for selection:
  - VAs have common characteristics to allow for comparisons between VAs
  - VA has enough relevance to policy makers
  - Availability of sufficient monitoring and evaluation information
- Selection
  - Category I: Industry-led performance requirements for CE&ICT:
    1. European Voluntary Agreement on CSTB / Code of Conduct for Digital TV Services
    2. Australia's Voluntary agreements with the game console suppliers
    3. US Set-Top Box (STB) Voluntary Agreement
  - Category II: Industry-led energy labels for products without government S&L:
    4. Eurovent Certified Performance

Assessment of effectiveness: Drafting a theory of change for the case studies



Case #1: EU VA on Complex Set-Top Boxes (CSTBs): overview

- VA for CSTBs is a successor to the Code on Conduct on Digital TV Service Systems established in 2001
- VA in place since 2009
- Pushed by the threat of regulation under the Ecodesign Directive
- Signatories include hardware manufactures, software producers and the services industry
- VA should cover 70% of the market
- 90% of its CSTBs placed on the market by signatories should comply with energy consumption targets set under the VA

Case #1: EU VA on Complex Set-Top Boxes (CSTBs): findings

- It cannot be determined if the VA led to additional energy savings
- What can be observed:
  - It is highly unlikely that in the absence of the VA CSTBs would haven been regulated
  - Market coverage cannot be exactly determined, but 70% target is likely not met
  - Energy saving targets are not very ambitious: Tier 1 levels were met by >98% of the products put on the market in the first year, this slightly dropped when tier 2 levels took effect
  - On average, energy consumption allowances are generous and there is significant room for further improvements

Case #2: Australian Code of Conduct on Video Game Consoles: overview/findings

- Government investigated possible VA since 2011
- In 2013 proposal for VA from industry was rejected by the government, no common ground could be found on the level of performance
- Government decided not to pursue a VA with the game console industry
- All 3 global manufacturers participated in working group, but constructive dialogue was difficult due to fear of inadvertently informing their competitors

Case #3: US Voluntary Agreement Set-Top Box (STB): overview

- Preparation of the VA started in 2012, completed in 2013
- VA in place since 2014
- Based on earlier work by Energy Star
- Pushed by the threat of Federal and State rulemaking and/or action by Congress
- Signatories include all major service providers and several major technology providers
- Covers ca. 92% of the representative market
- 90% of products placed on market must comply with VA requirements

Conclusions (1/2)

- There is not a single VA which exists in parallel with regulation in another economy
- VAs typically used for products that are difficult to regulate
- VAs are best seen as a separate policy tool, not as a replacement of regulation
  - For example when there are regulatory hurdles, unusual markets, lack of information, lack of government resources
  - When policy action is desirable but regulation currently not feasible or practical

Conclusions (2/2)

- Energy performance impact of VAs is poorly understood
  - All achieve some improvement over starting position
  - None provide clarity about how much is achieved in addition to autonomous developments
  - Doubtful that VAs observed drive market to cost-optimal level of energy performance, however
  - Impossible to say if other policy options would have done better
- Well-designed and monitored VAs can help policy makers better understand markets and technologies
  - Provides policy makers with more options in later years

More information

Full report "Effectiveness of Energy Efficiency Voluntary Agreements" and the Policy brief – Voluntary agreements can be found on the IEA-4E website https://www.iea-4e.org/publications

Mirjam Harmelink
m.harmelink@sqconsult.com