

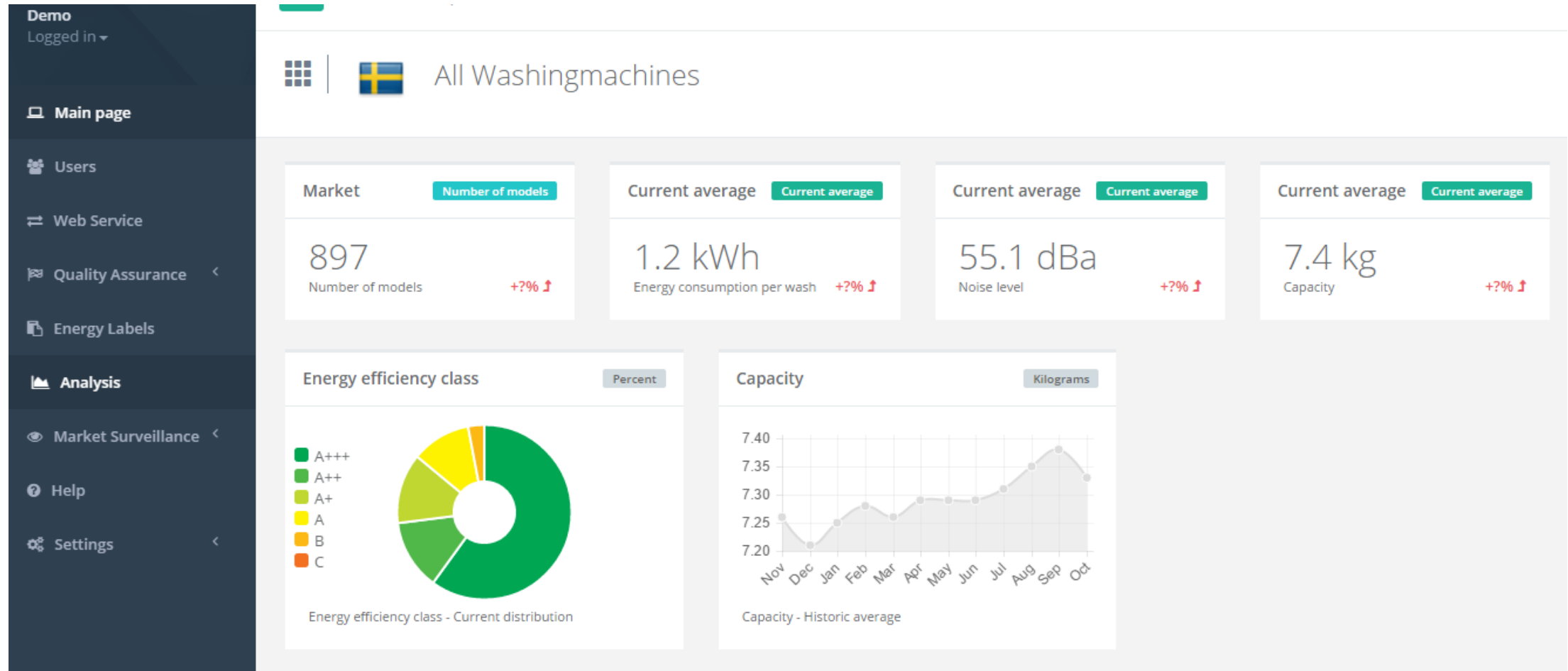
# Nordcrawl – A tool for product policy development, market surveillance and evaluation

**Carlos Lopes - Swedish Energy Agency**

**Modernising Energy Efficiency through digitalisation  
International Energy Agency - Paris - 2019-03-26**

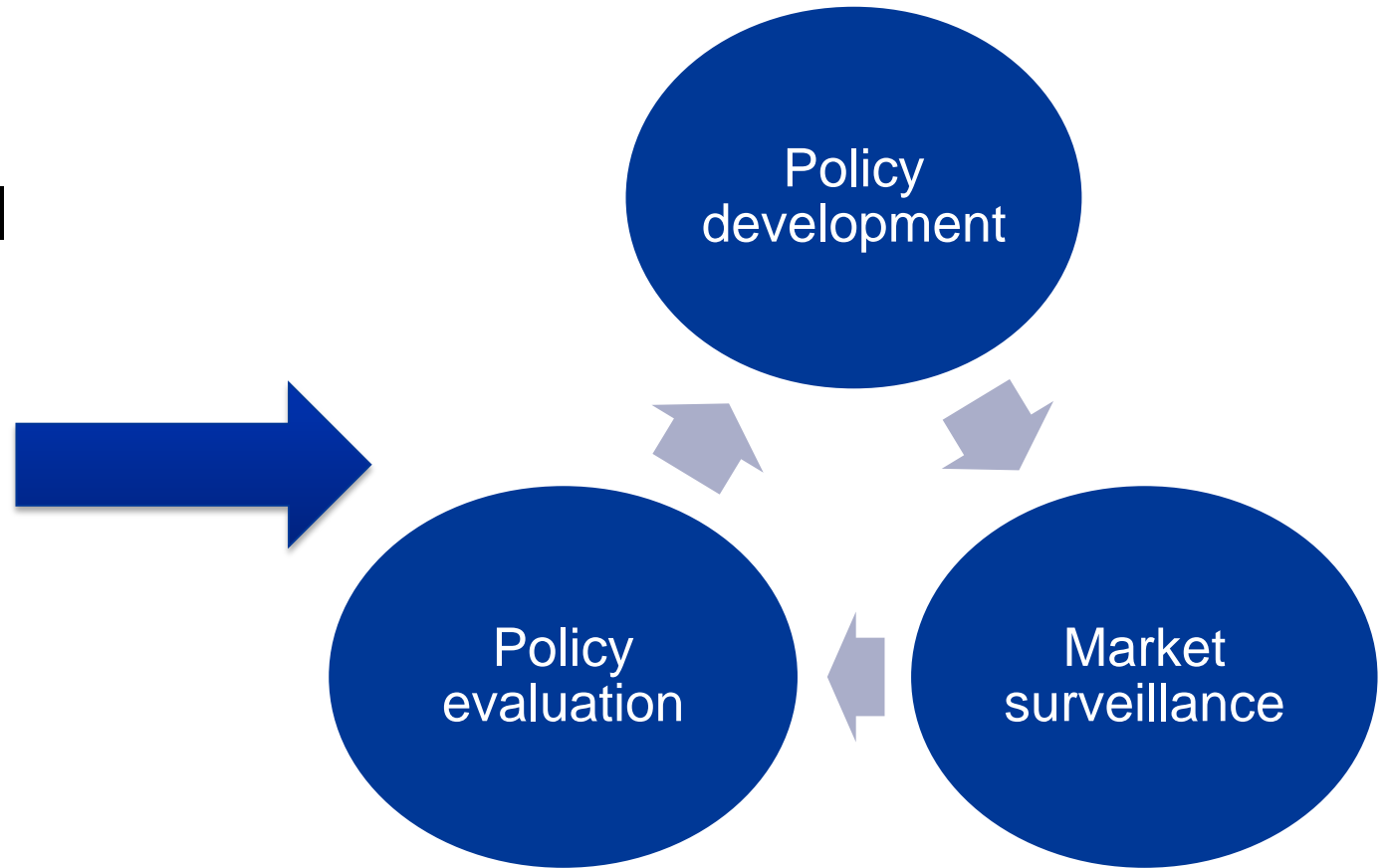


# What if... you could *watch* the market at *any instant*?



# Outlook

- Description of NordCrawl
- Applications
- Future activities



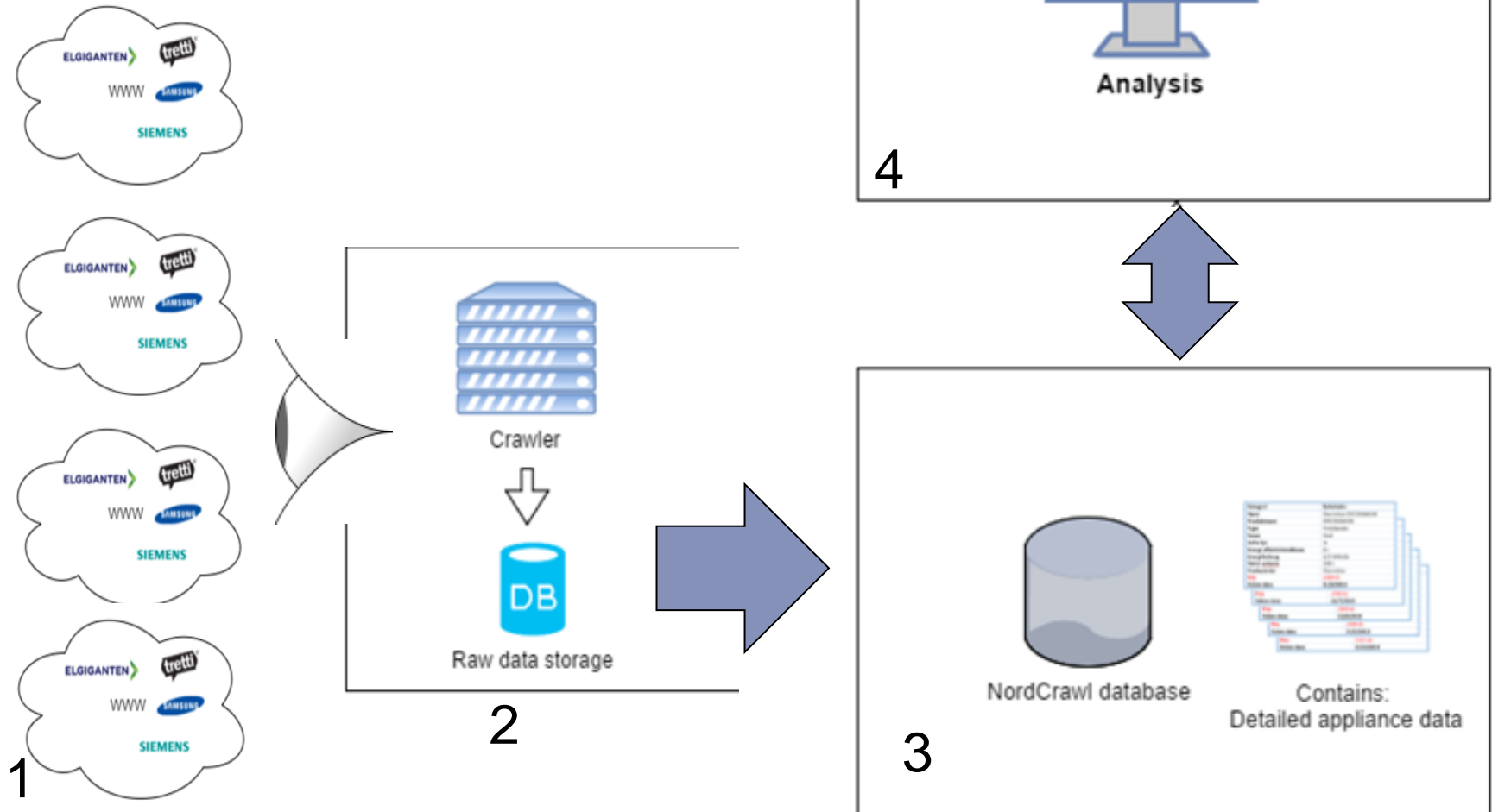
# Nordcrawl – a Nordic project to explore webcrawler as a tool for product policy development and market surveillance

- Funded by the Nordic Council of Ministers
- Nordic *energy agencies* joint project 2015-2018 to be continued
- **Goal:** Develop a *software platform* for MV&E using web crawler data

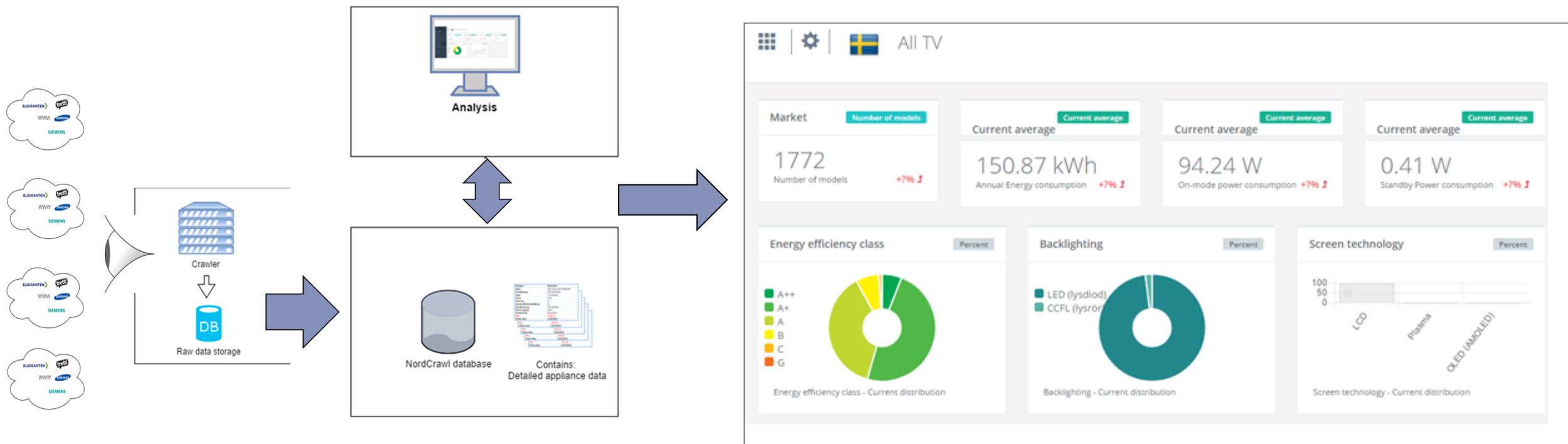


# A sophisticated tool for cleaning, sorting, linking and analysing crawled data

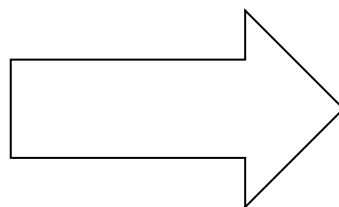
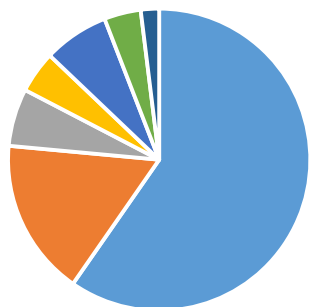
1. Data on products, stored at various publicly available web sites.
2. The web crawler engine and a temporary raw data storage.
3. A product data base containing processed data.
4. The analysis module (a program), which access and display the data in various ways.



# Provides enhanced knowledge for more effective market surveillance, policy development and evaluation

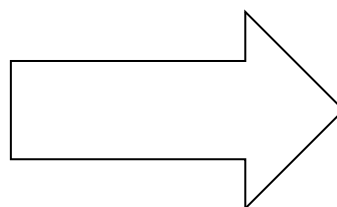
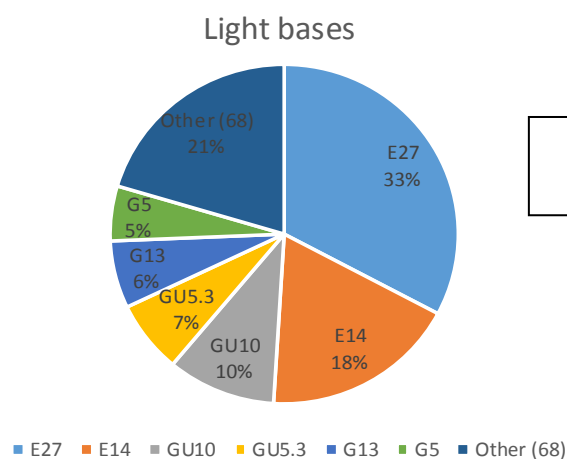
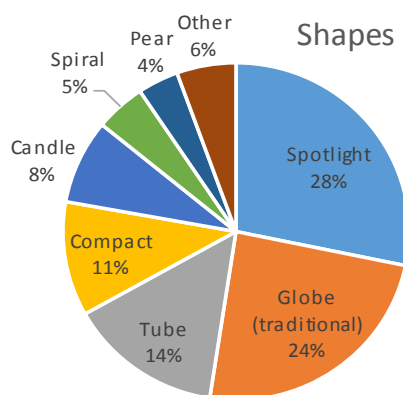


# Facilitates accurate and effective sampling



Whole market compliance rates

or sub-sectors/product characteristics...



Allowing focusing on risk

# Market surveillance – Example 1

## Missing energy labels

- Finds retailer product pages where the energy label is missing
- Extracts energy label image-link/image-element
- Analyse => missing label or not

### Example of energy label links

#### WHAT THE CUSTOMER SEES













#### WHAT THE CRAWLER SEES






```
<div class="Pricebox-energyInfo u-nbfc">
  <a href="/api/ProductAsset/EnergyLabel?code=925501033" target="_blank" class="u-pullleft u-marginTsm u-marginRxsm">
    
  </a>
  <a href="/api/ProductAsset/EnergyFiche?code=925501033" target="_blank" class="Pricebox-energyFolder u-linkBorder u-marginRxsm">Produktblad</a>
</div>
```



# Market surveillance – Ex. 1 Missing energy labels (cont)

Refrigerator-Freezer			
	Avg non-compliance	Best retailer	Worst retailer*
 Denmark	3,66%	Shop1 0%	Shop5 18,5%
 Sweden	7,68%	Shop8 0%	Shop14 27,4%
 Norway	2,22%	Shop19 0%	Shop22 3,0%
 Finland	34,8%	Shop25 0%	Shop27 100%
 Iceland	-	-	-






Refrigerator			
	Avg non-compliance	Best retailer	Worst retailer*
 Denmark	9,50%	Shop1 0%	Shop6 28,9%
 Sweden	11,64%	Shop11 0%	Shop14 29,0%
 Norway	5,44%	Shop19 0%	Shop23 7,3%
 Finland	18,6%	Shop26 0%	Shop27 100%
 Iceland	-	-	-

Freezers			
	Avg non-compliance	Best retailer	Worst retailer*
 Denmark	5,98%	Shop2 0%	Shop6 21,6%
 Sweden	13,70%	Shop11 0%	Shop14 43,5%
 Norway	1,36%	Shop19 0%	Shop21 1,7%
 Finland	21,3%	Shop26 0%	Shop27 100%
 Iceland	-	-	-

# Market surveillance - Example 2

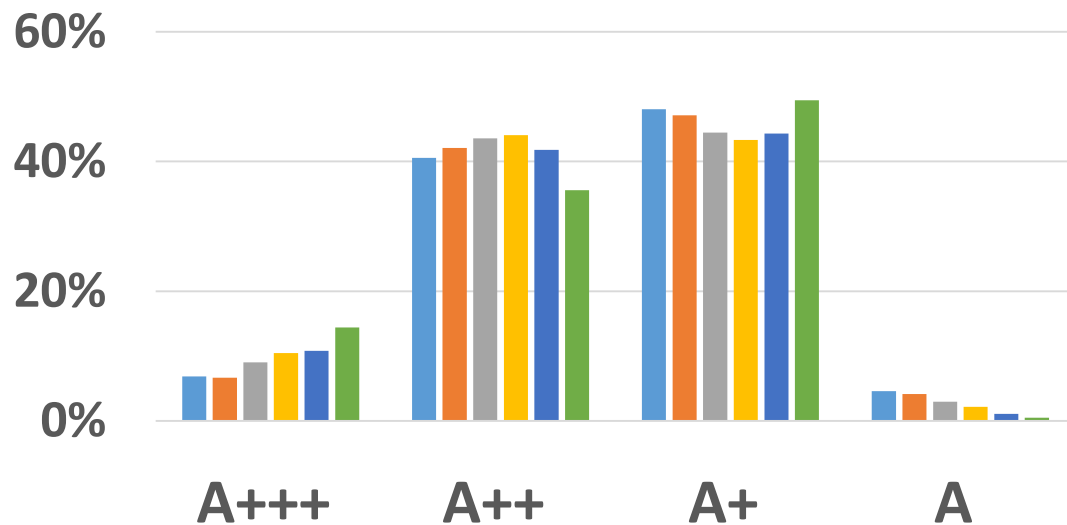
## Energy classes banned by MEPS

% of products in energy classes banned by MEPS  
(Ecodesign)

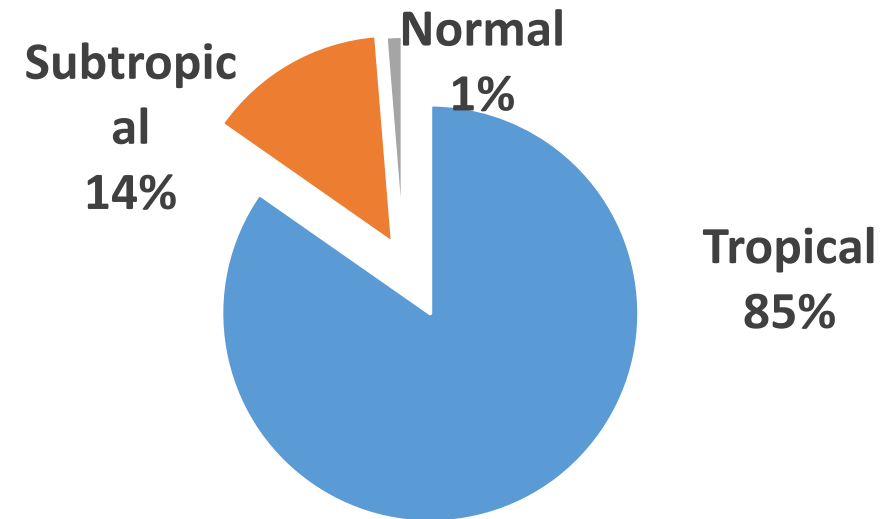
	Minimum	 DK	 SE	 NO	 FI	 ICE
<b>Washing machines</b>	A+	0,75% (4)	1,36% (7)	0,44% (2)	0,67% (1)	0% (0)
<b>Vacuum cleaners</b>	D	1,86% (6)	0,6% (1)	0% (0)	5,22% (7)	0% (0)
<b>Range hoods</b>	F	0% (0)	0% (0)	0% (0)	0% (0)	-
<b>Ovens</b>	C	0% (0)	0% (0)	0% (0)	0% (0)	-
<b>Refrigerator-Freezer</b>	A+	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
<b>Refrigerator</b>	A+	1,19% (9)	0% (0)	0,83% (4)	0,36% (1)	0% (0)
<b>Freezers</b>	A+	0,22% (1)	0% (0)	0% (0)	0% (0)	0% (0)
<b>Chest Freezers</b>	A+	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)

# Policy evaluation and policy development

*Refrigerators becoming more “efficient” but ....*

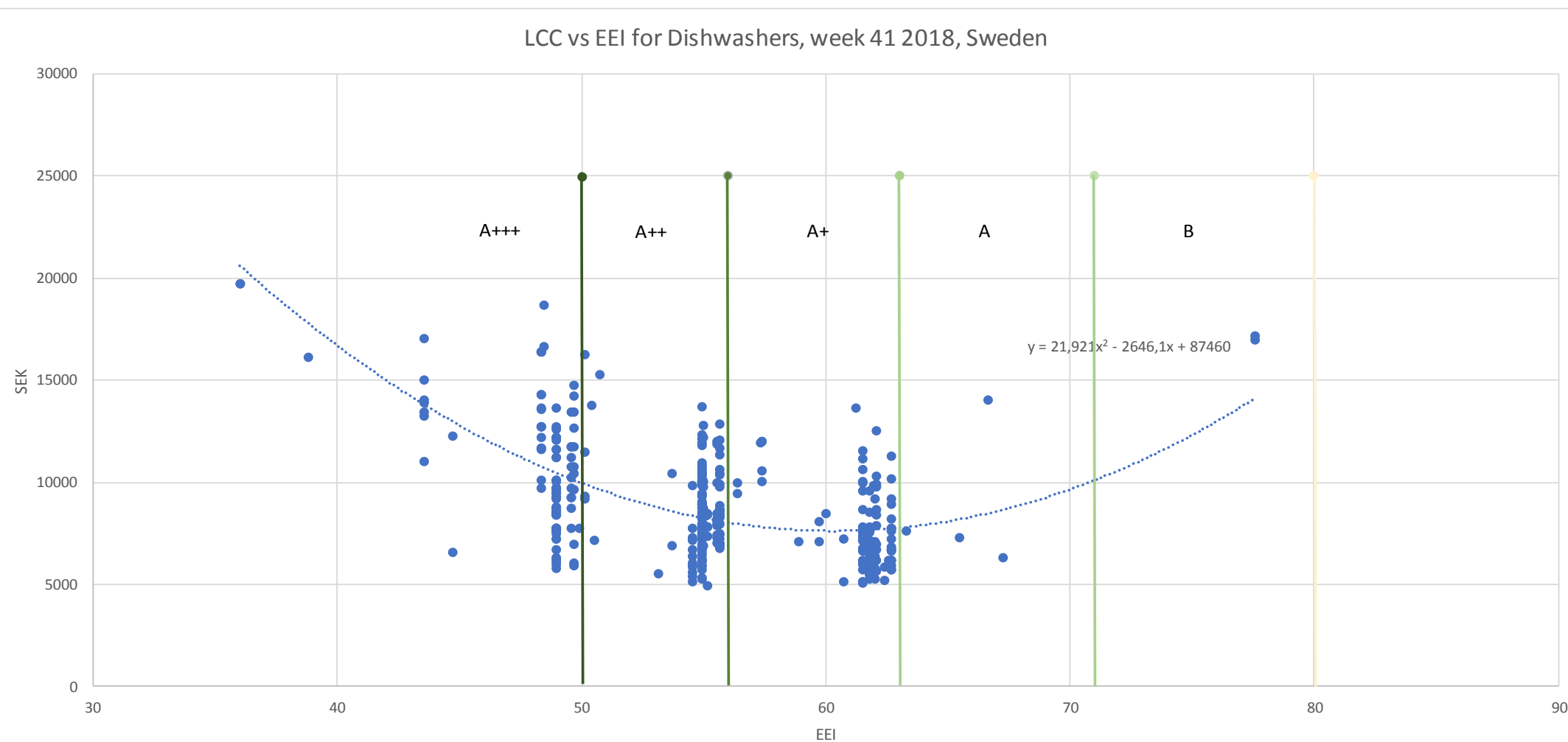


*But for Nordics, wholly inappropriate*

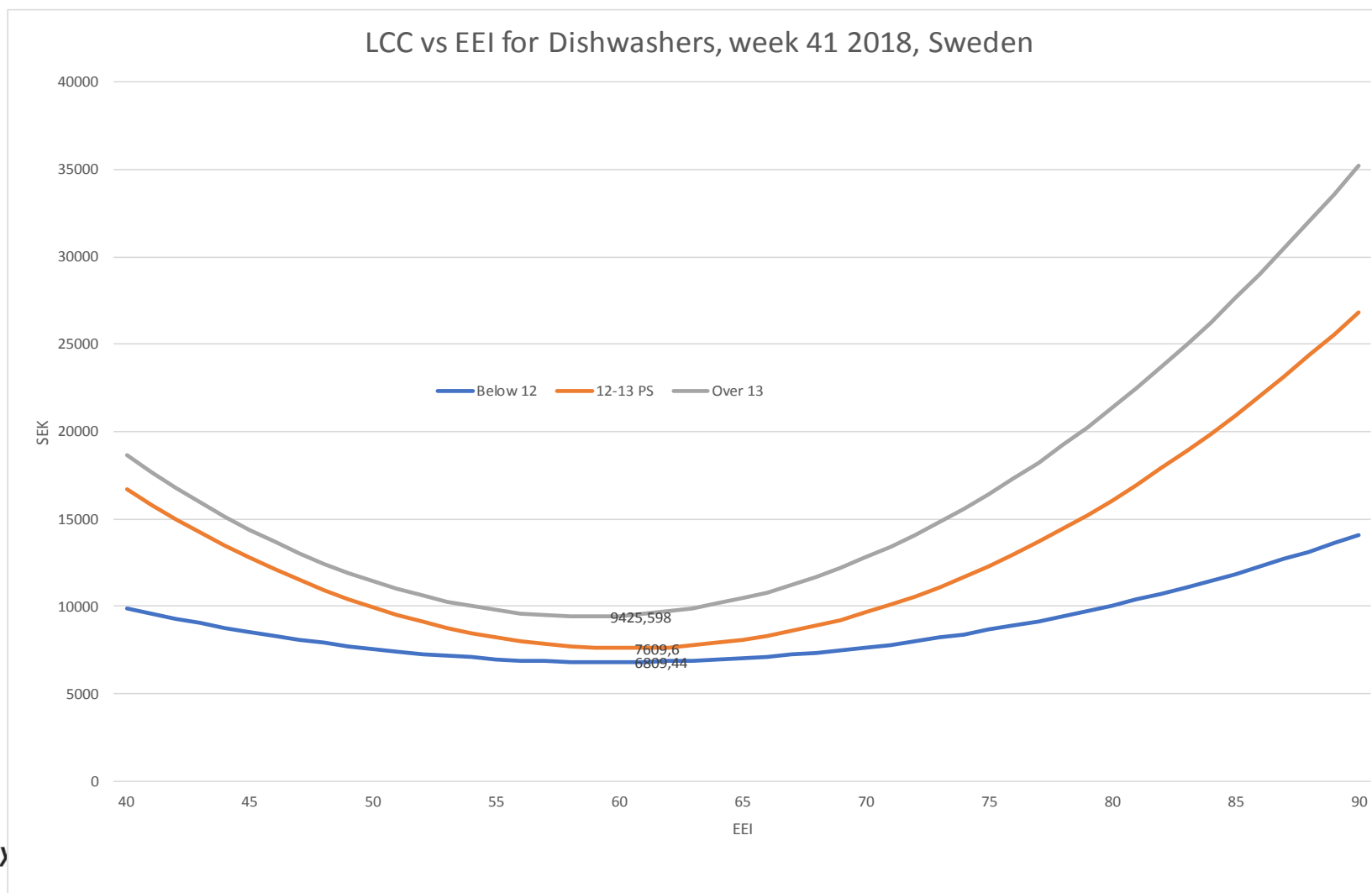


Is this allowance needed?

# Policy development – Trends allowing LCC-analysis for setting MEPS and energy classes



# Policy development – Trends allowing LCC-analysis for setting MEPS and energy classes



# Real time data and time series for policy development and evaluation

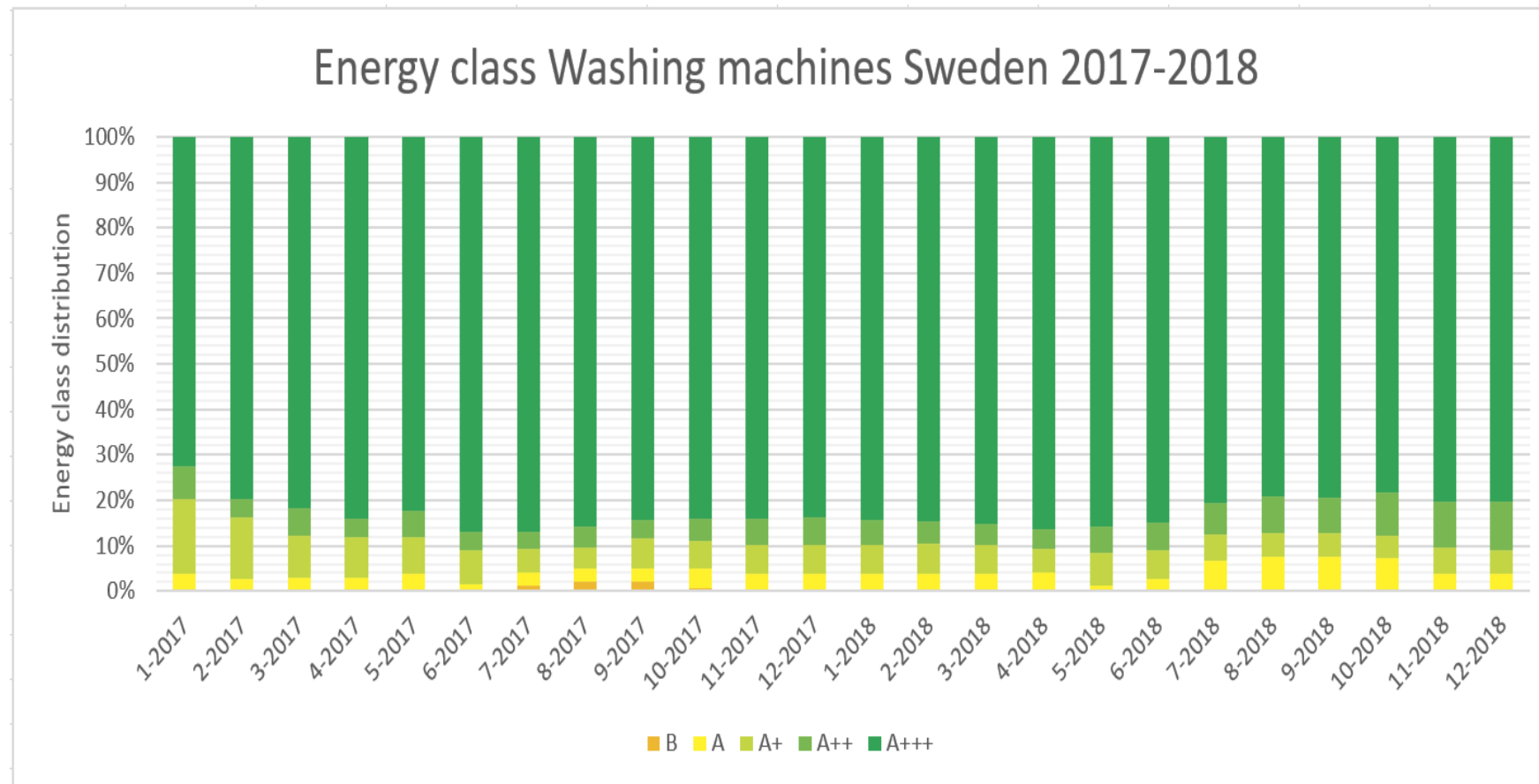
## Review labelling scale:

When to trigger a review?

- class A >30%
- class A&B >50%

## Policy evaluation:

Impact assessment of MEPS and labelling



# **(Near)future developments**

- Create module for ex-post evaluation of impact of ecodesign and labelling, incl. market response to change in legislation
- Extend product coverage
- More sophisticated algorithms to identify non-compliance
- Refine the estimation of sales
- Integrate with the Database “European Product Registration for Energy Labelling”
- ...

# Questions?

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