Swedish BAPV and BIPV installations

Maria Haegermark, PhD student
Building Services Engineering, Chalmers

Background
- Swedish BIPV and BAPV systems
  - 400 systems >10kwp
  - Mounting systems
  - Roofing material
- Interview and questionnaire survey
  - Property owners
  - System suppliers

SolEl-Programmet
How before 2010?

- Flat roofs
  60% tilted attached

- Sloped roofs
  90% parallel

- Facades
  60% shadings

How 2013?

- Flat roofs
  tilted attached and ballasted

- Sloped roofs
  98% parallel

- Facades
  Mostly vertical facade
How?

- Most common
- Full size modules
- Very few >10kWp

BIPV 10% of larger systems 2013
The share is decreasing

Mounting systems

- We install PV on all roofs!
- No installations on asbestos cement!
- Avoid fixing devices screwed only to the metal sheet!
Mounting on flat roofs

Arguments for tilted panels
- Increased efficiency
- Dirt runs off
- No accumulation of water
- Less accumulation of snow

Arguments for horizontal panels
- Simpler
- Less expensive
- Lower wind loads
- More area efficient
- Esthetics

Some conclusions
- Successful development on the Swedish market
- Most property owners satisfied with the suppliers
- Few problems with installations
- Thanks to the developed European market!