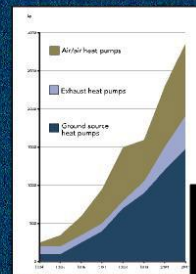


# Heat Pump Market in Finland

Jussi Hirvonen

Chair of the Finnish Heat Pump  
Association **SULPU** ry



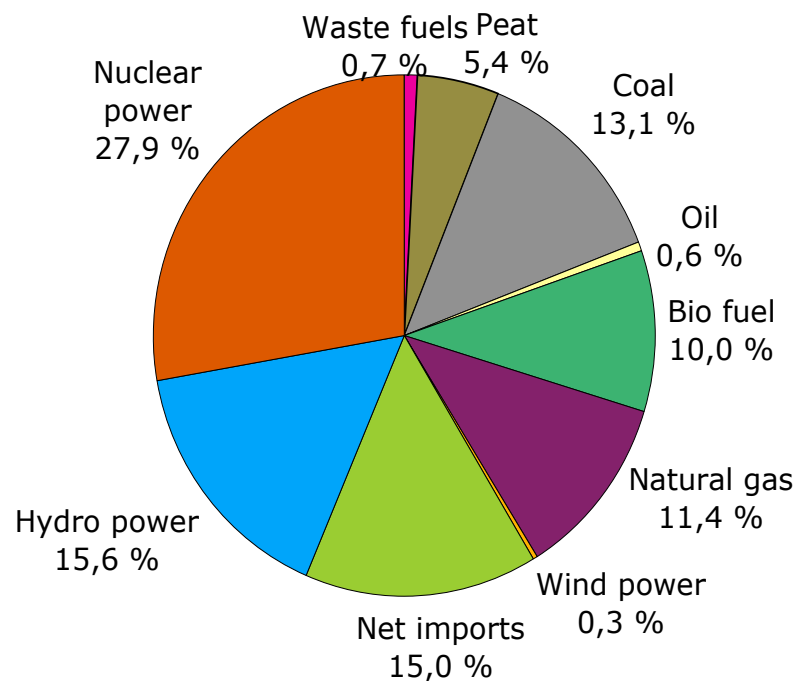
**FINLAND**  
**A Rapidly Growing  
Heat Pump Market**



Electricity Supply by Energy Sources 2009: 80,8TWh

## FINLAND

Population: 5,3 million,  
Area: 338 000 km<sup>2</sup>  
Capital: Helsinki  
Number of single/two-family houses: 1 100 000  
Average heat demand single/two family house: 20-25 MWh/year  
Number of all buildings: 1 400 000  
Share of energy from renewable sources in final consumption of energy 2005: 28,5%  
Binding target for the use of renewable sources by 2020: 38%  
Rate of new construction single/two family houses 2009: 8 000



# EU-RES Directive in Finland

- Renewables from 28,5 % to 38 % in 2020
- Total energy consumption in Finland is ~300TWh/a
- Directive means increase of 34TWh/a in renewables
- With today's over 250.000 HPs 2-3 TWh/a RES is used
- With 1.000.000 HPs 10-30% of the RES goal of Finland is achieved by HPs

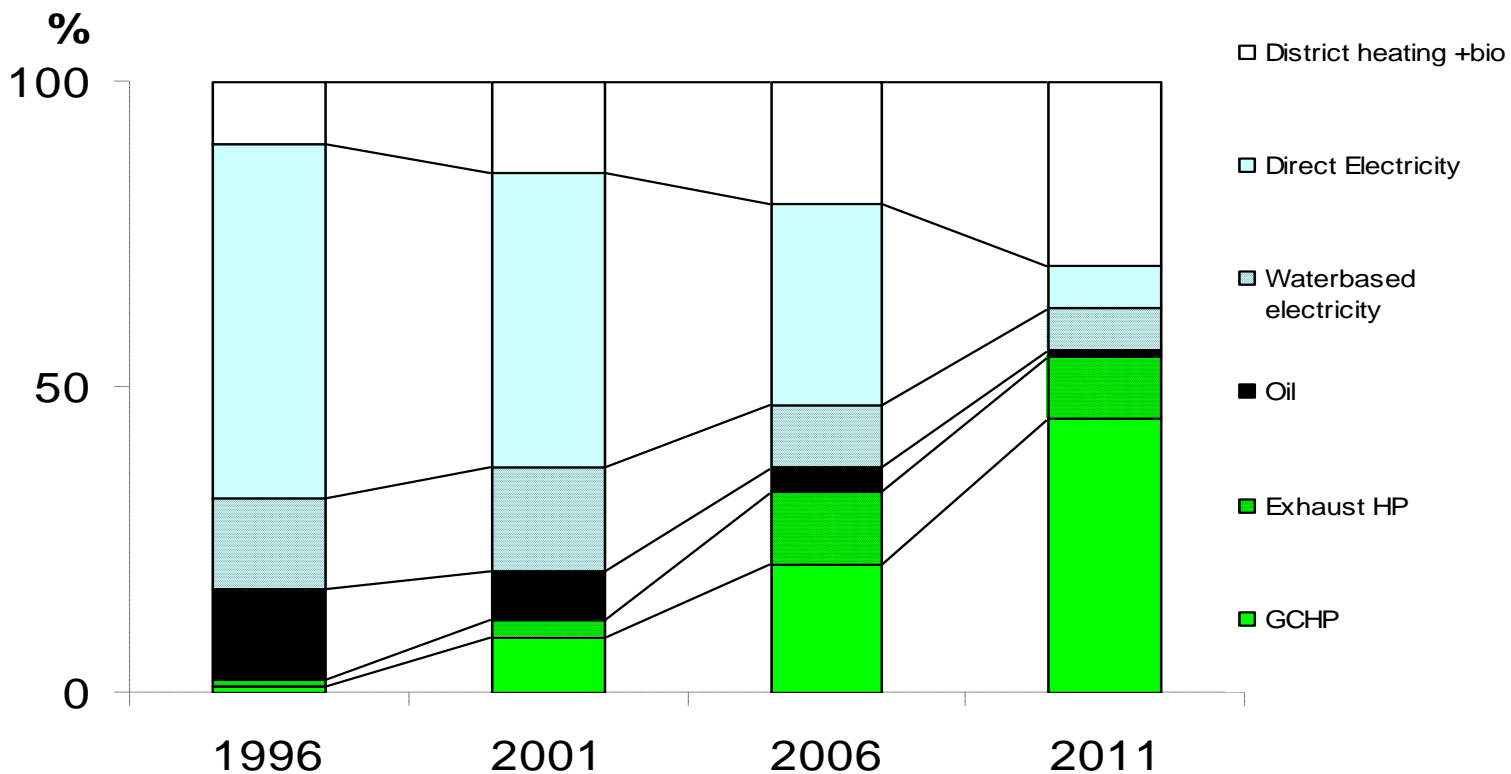
**SPF calculation method in RES DIR affects a lot what is HP RES in Finland  
2020**

## Energy prices:

Average end consumer prices  
including distribution and taxes  
1.1.2010:

Electricity:	10,8 euro cent/kWh
Heating oil:	6,3 euro cent/kWh
Pellets:	5,3 euro cent/kWh
District heating:	7,0 euro cent/kWh

## Heating systems of the new houses (10.000 pcs/2008) market shares 1996-2011 (2011 prognose by JH) %



# Replacement market

250.000 Oil heated houses  
150.000 Water based electric heated houses  
500.000 Direct electric heated houses  
500.000 Free time houses (electricity)  
100.000 Big estates outside district heating (oil, electricity, wood)

=====

1.500.000 houses potential for

- **heat pumps**
- **bio/pellets**
- **district heating**
- **solar ?**

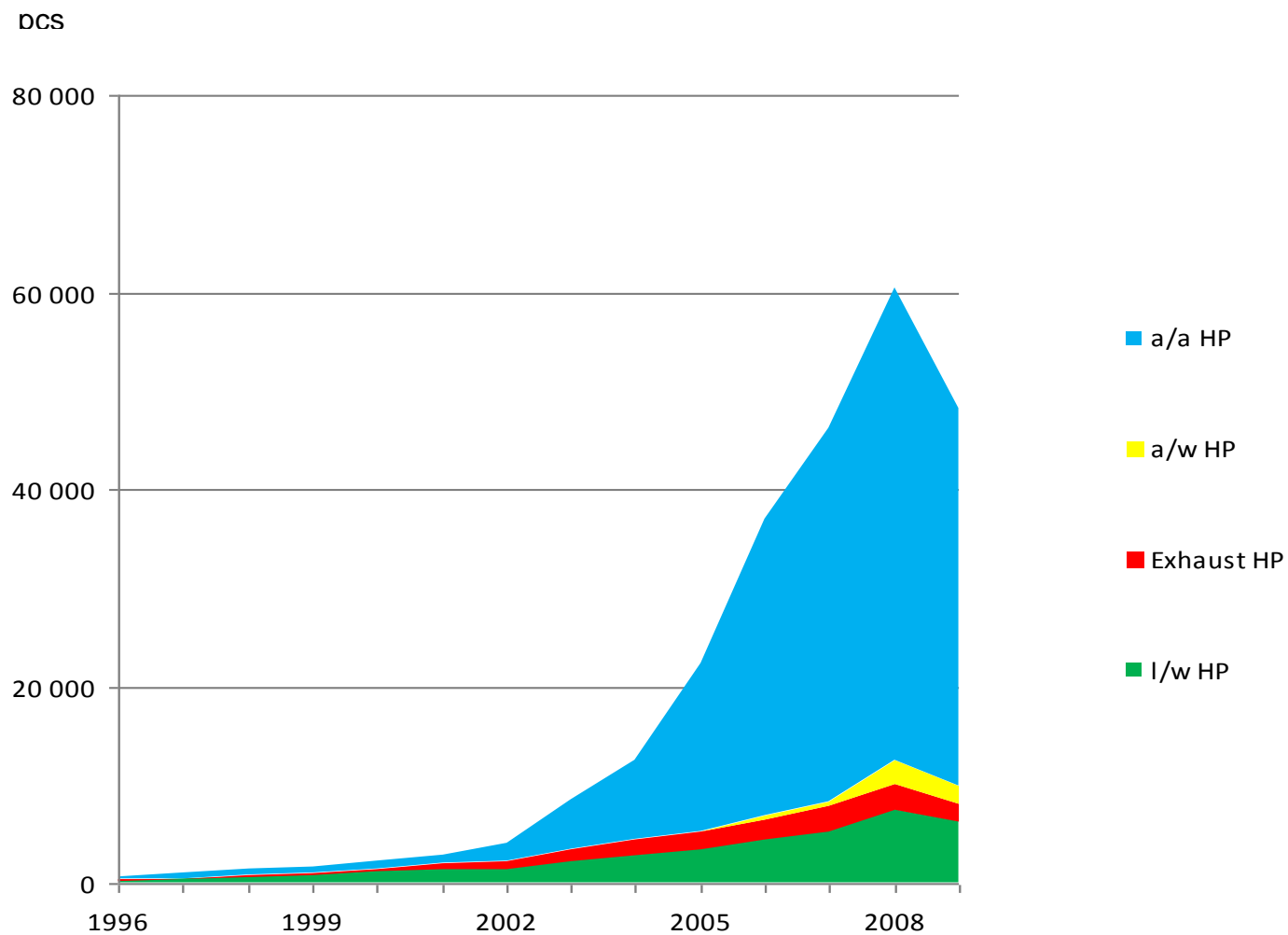




## Solar Power in Finland

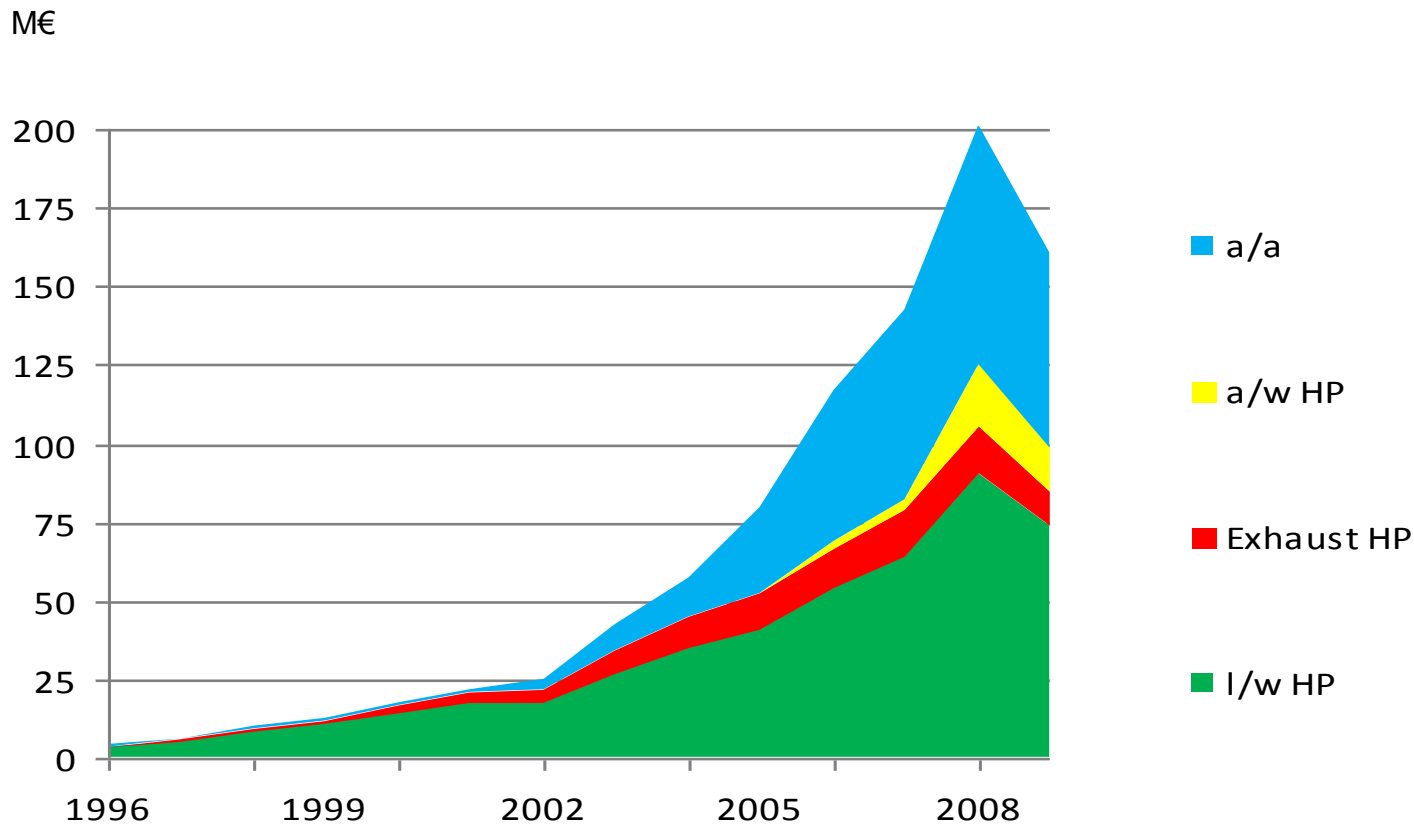


## Installed HPs 1996-2009



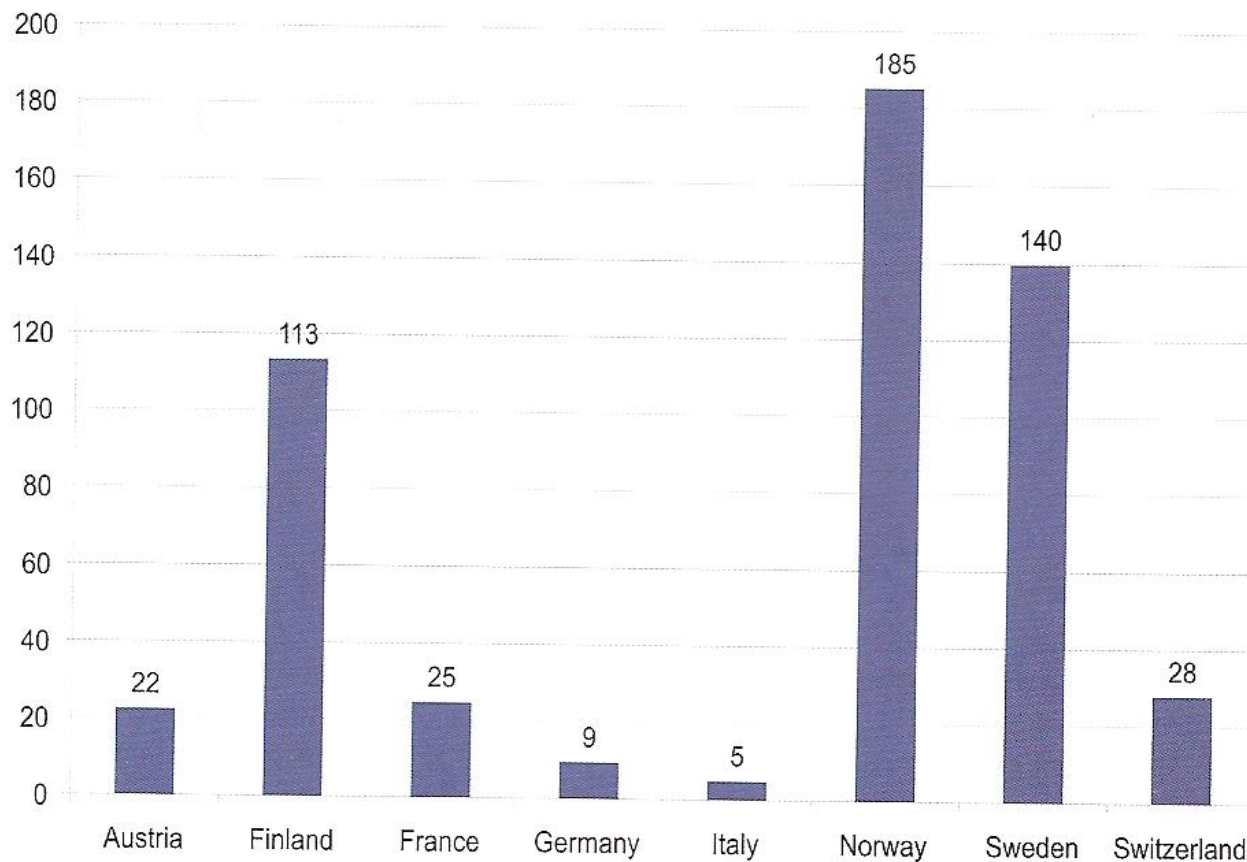


**Finland , Heat pumps, in Euros, 1996-2009  
(as installed with VAT)**



GSHP 18.000€   Ex HP 6.000€   A/W HP 11.000€   A/A HP 1.800€

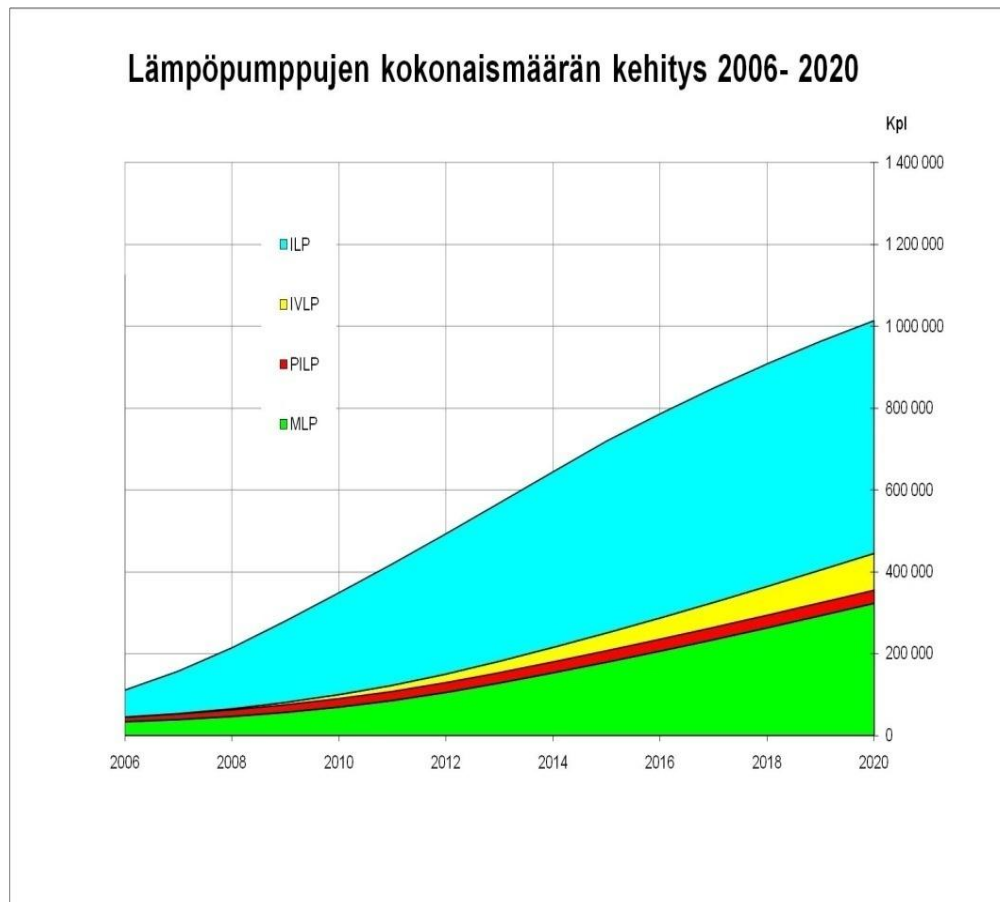
## Lämpöpumppujen myynti Euroopassa per 10.000 asukasta



*Figure 8: Heat pump sales  
per 10.000 inhabitants 2008.*

## ”Vision Machine 2020” :

Development of the total amount of HP types in Finland





Key for success:

# System Quality

- Information
- Marketing
- Sales
- The choice of HP type
- Dimensioning
- Delivery agreements
- Installing
- Start-up
- End-user guidance
- Guarantee
- Service
- Updates of products, accessories



**Eurooppalainen sertifioitu  
Lämpöpumppuasentaja**





# Award of RES Action to SULPU

