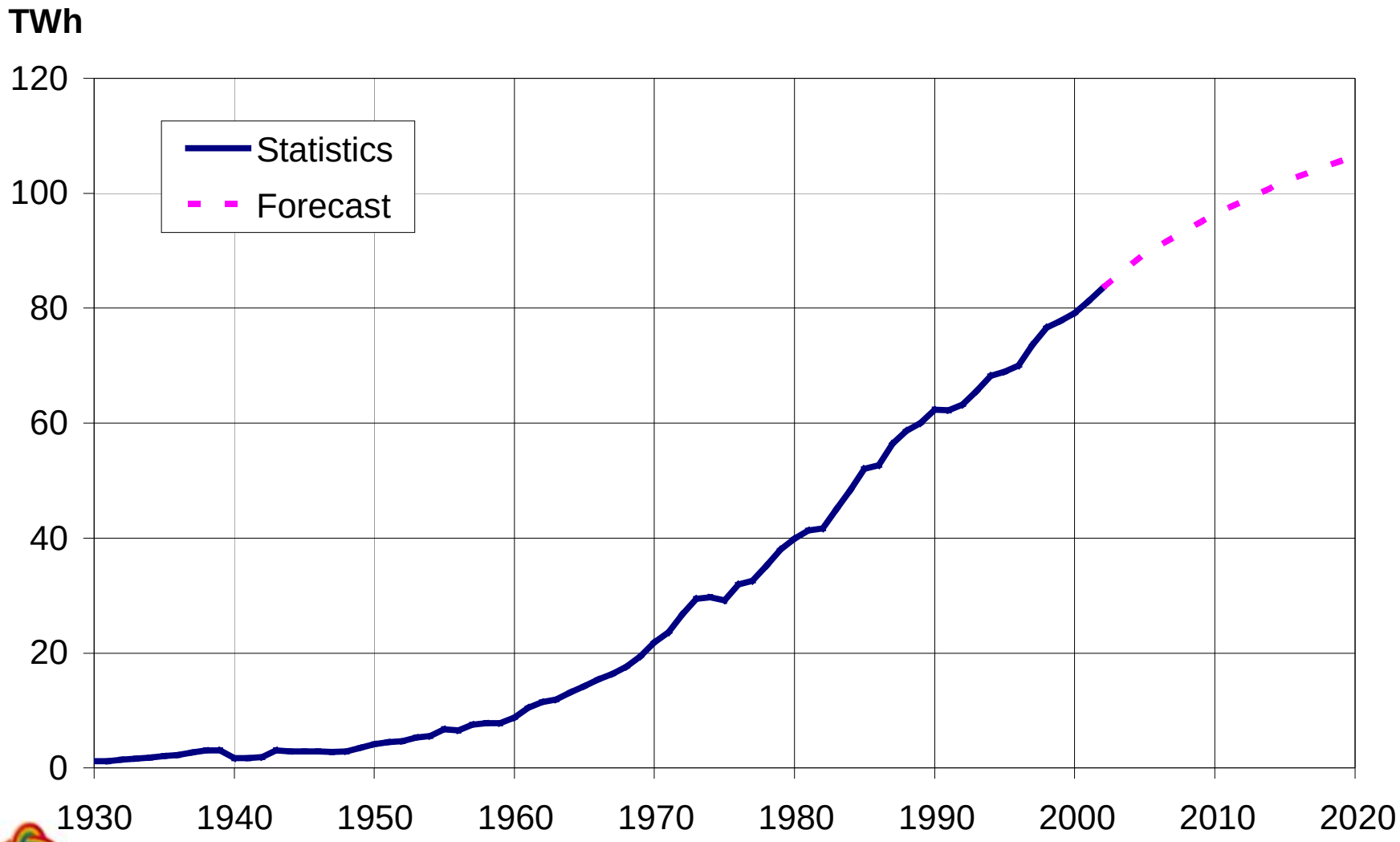
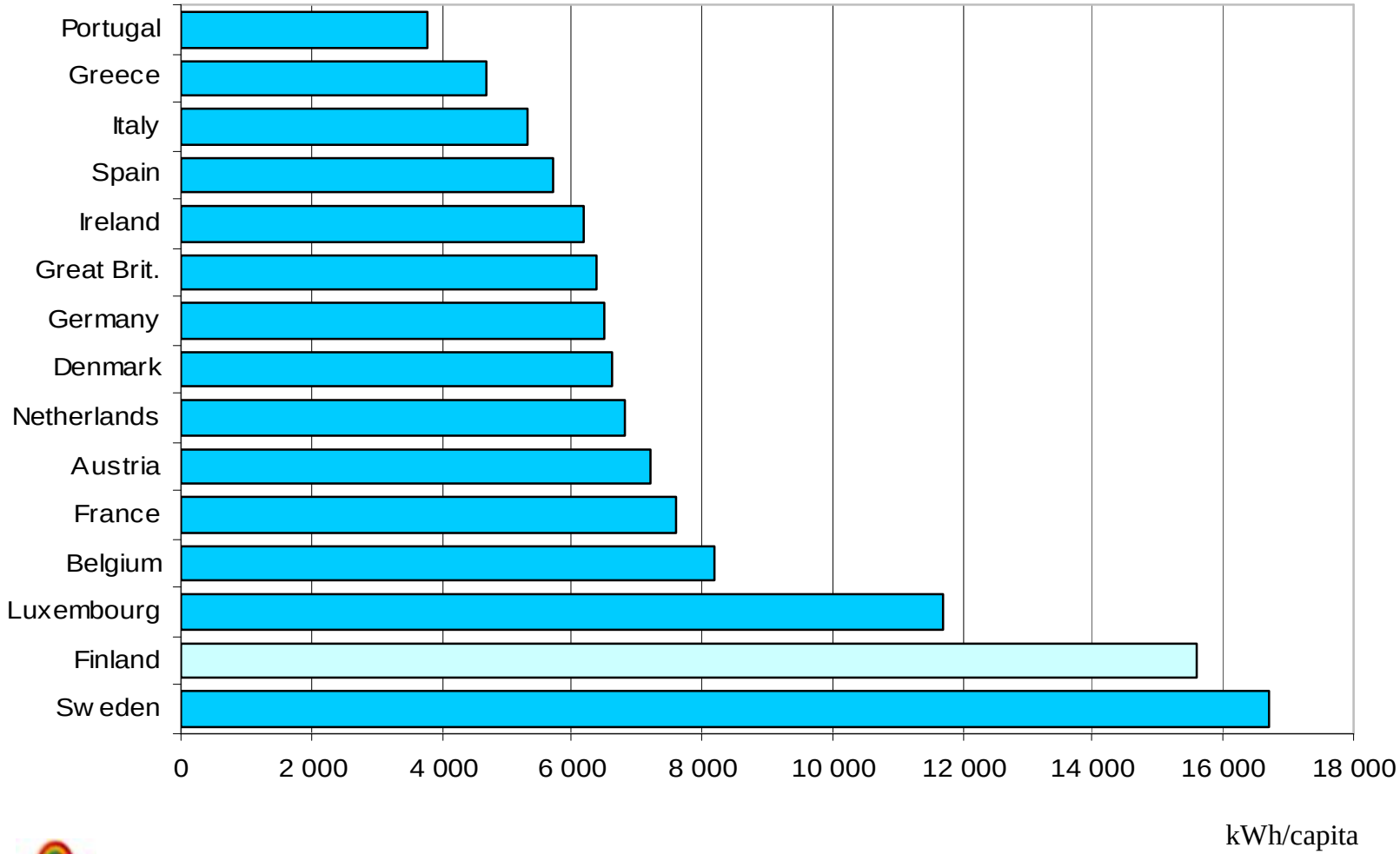
# Electricity Consumption in Finland




finergy

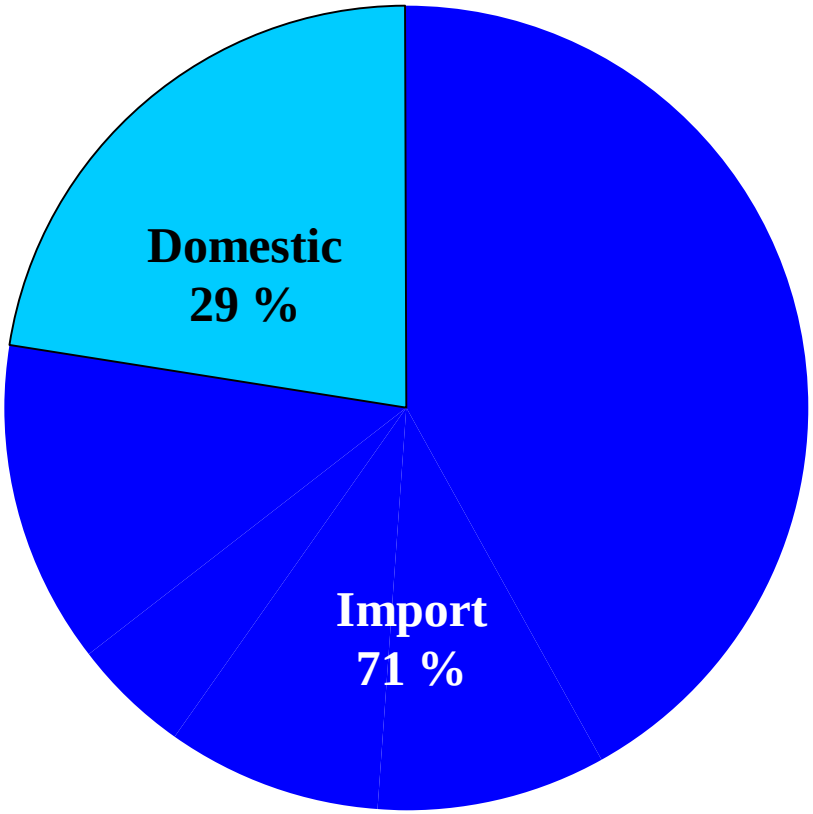
# Electricity Consumption per capita 2001

## EU - Countries

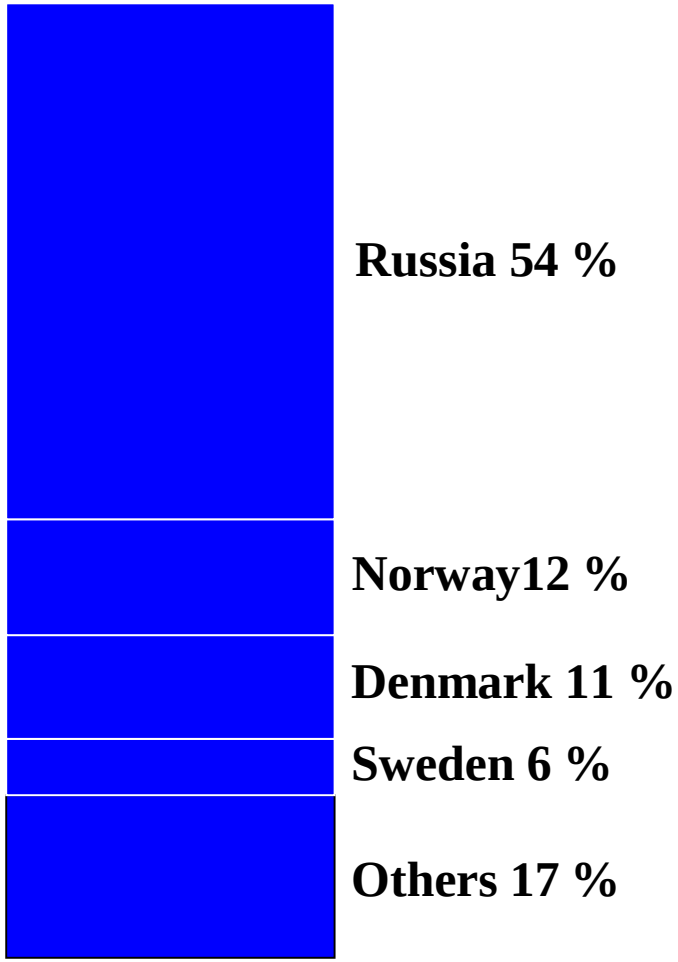



Sources: Eurostat, IAEA, Nordel Årsberättelse 2001

# Energy supply in Finland by countries of origin in 2001



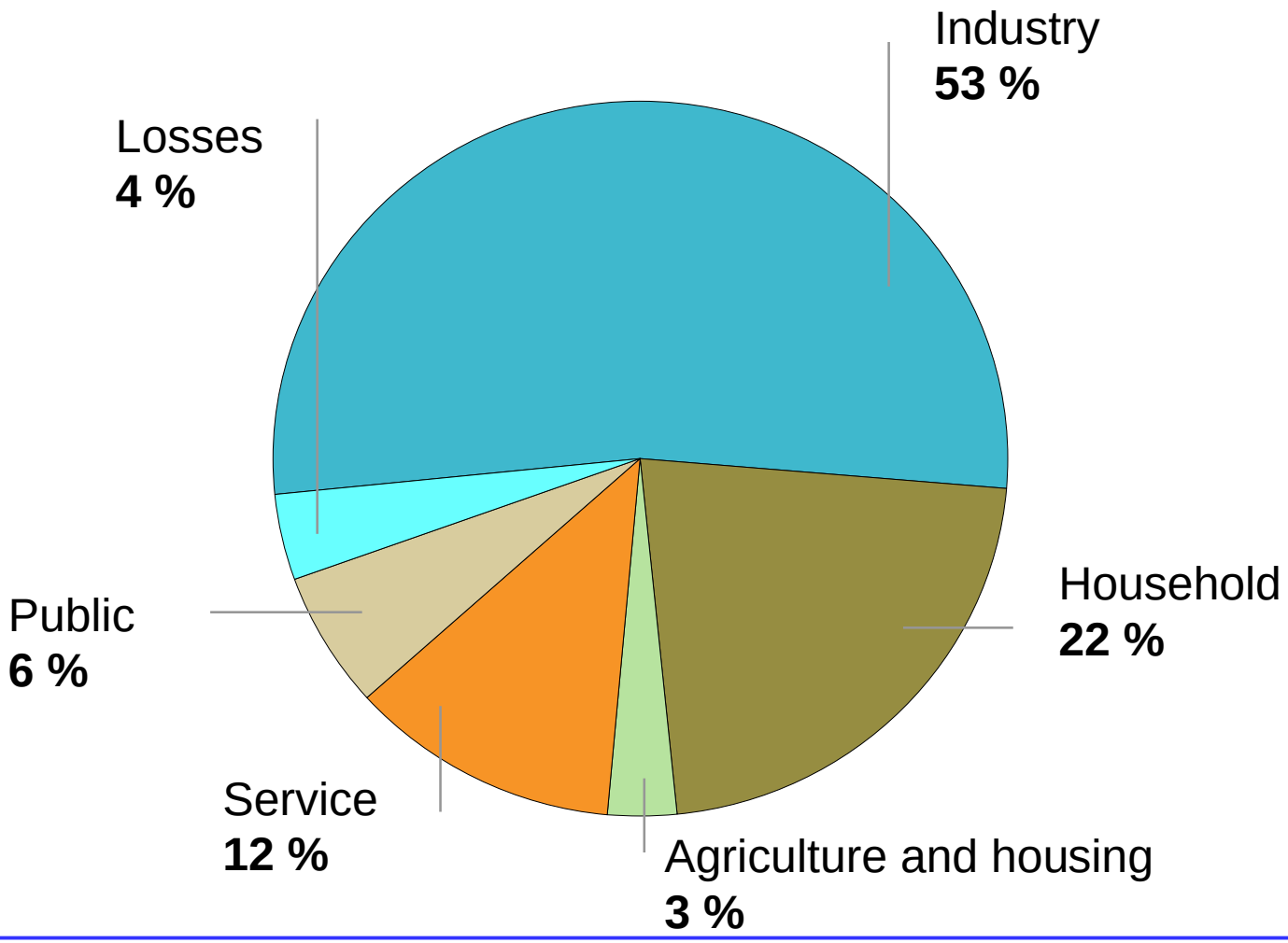

In total 33,5 Mtoe




finergy

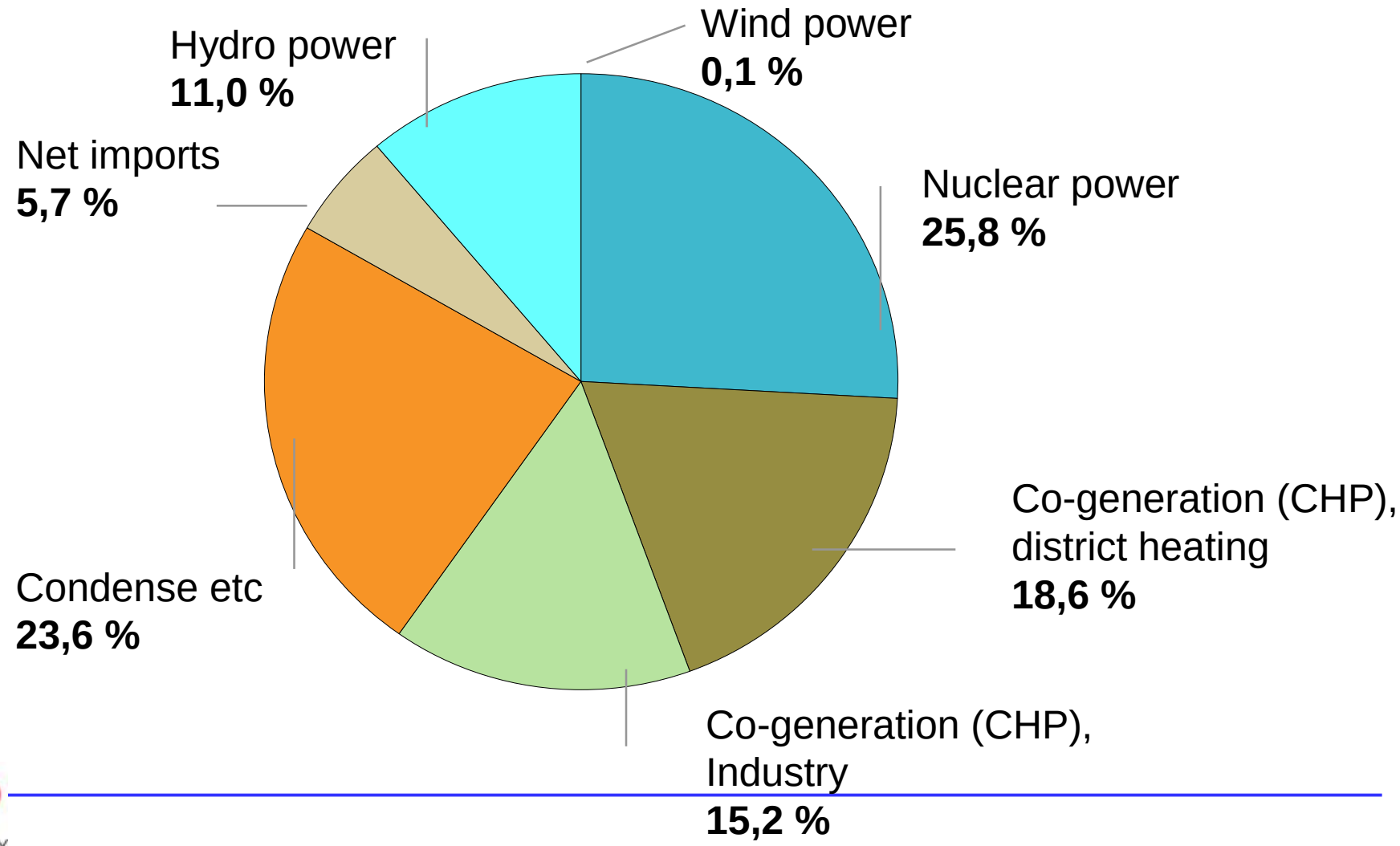
# Electricity Consumption 2003

## 84,7 TWh



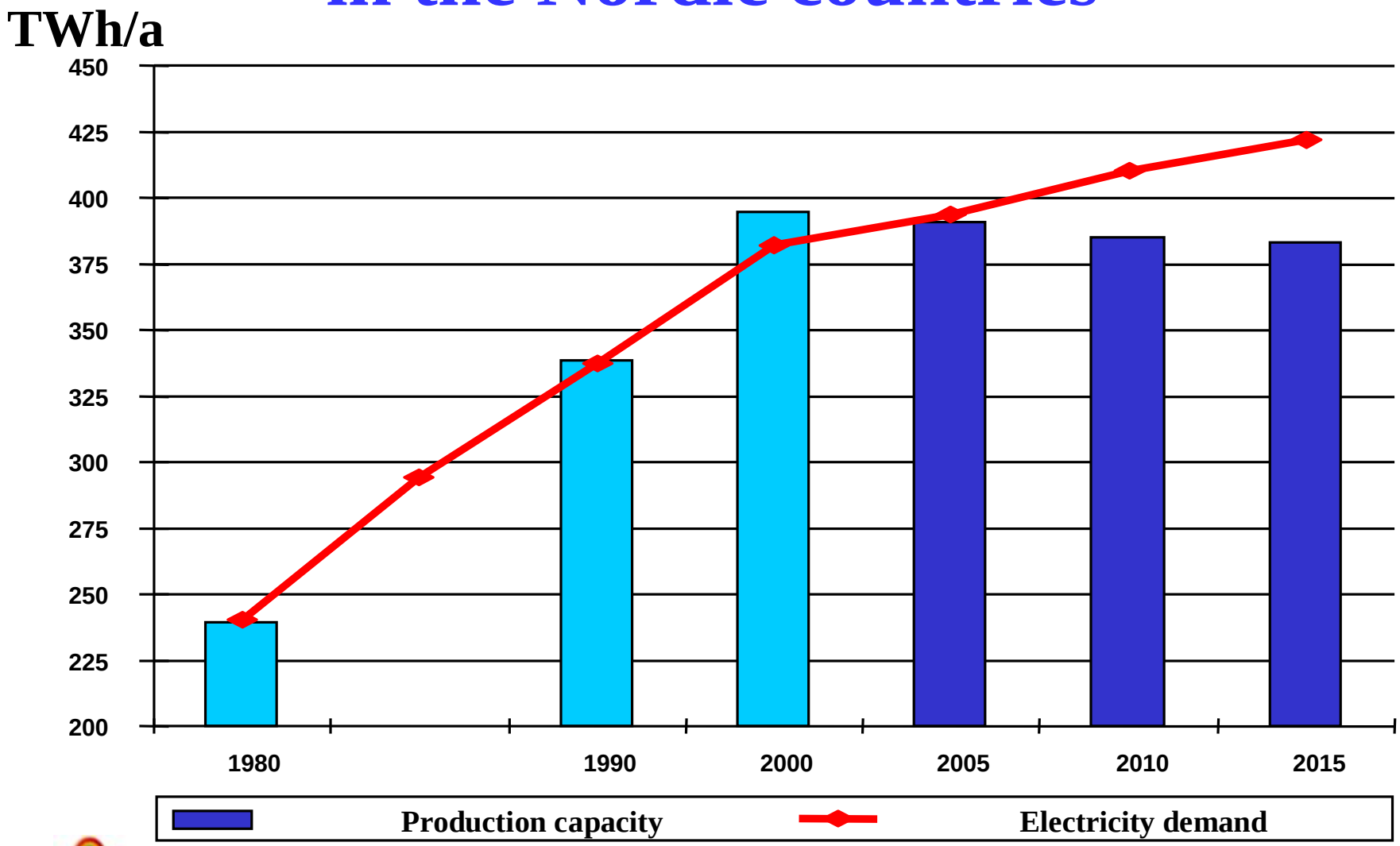

finergy

# Net Supplies of Electricity 2003
# 84,7 TWh




finergy

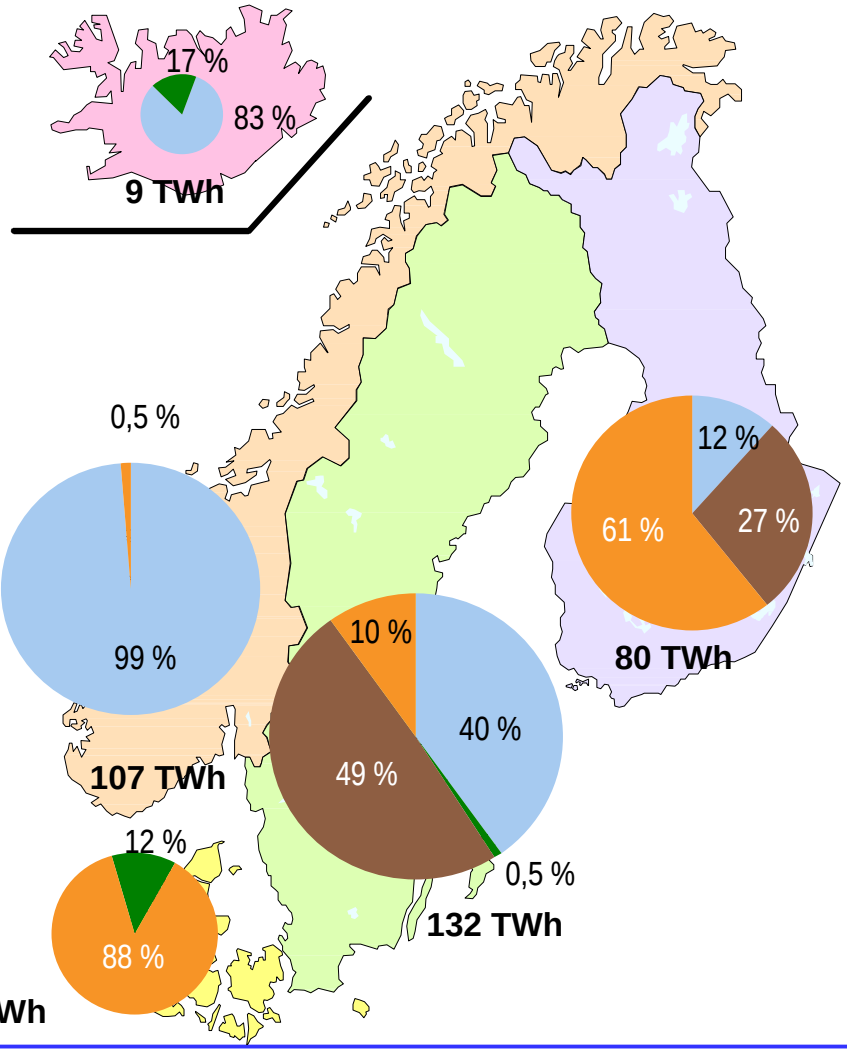
# Need for additonal electricity production in the Nordic countries

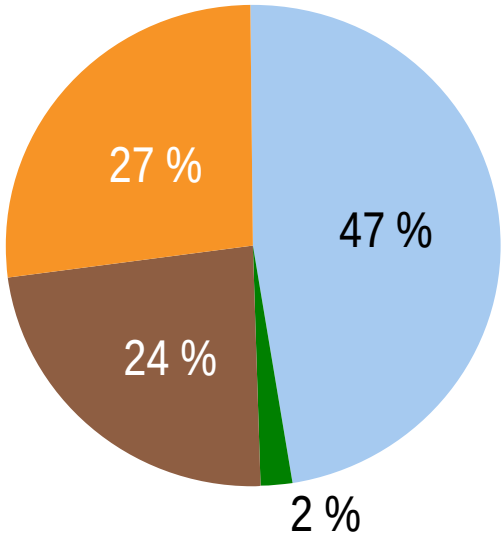



finergy

# Generation in the Nordic Countries 2003

**preliminary**



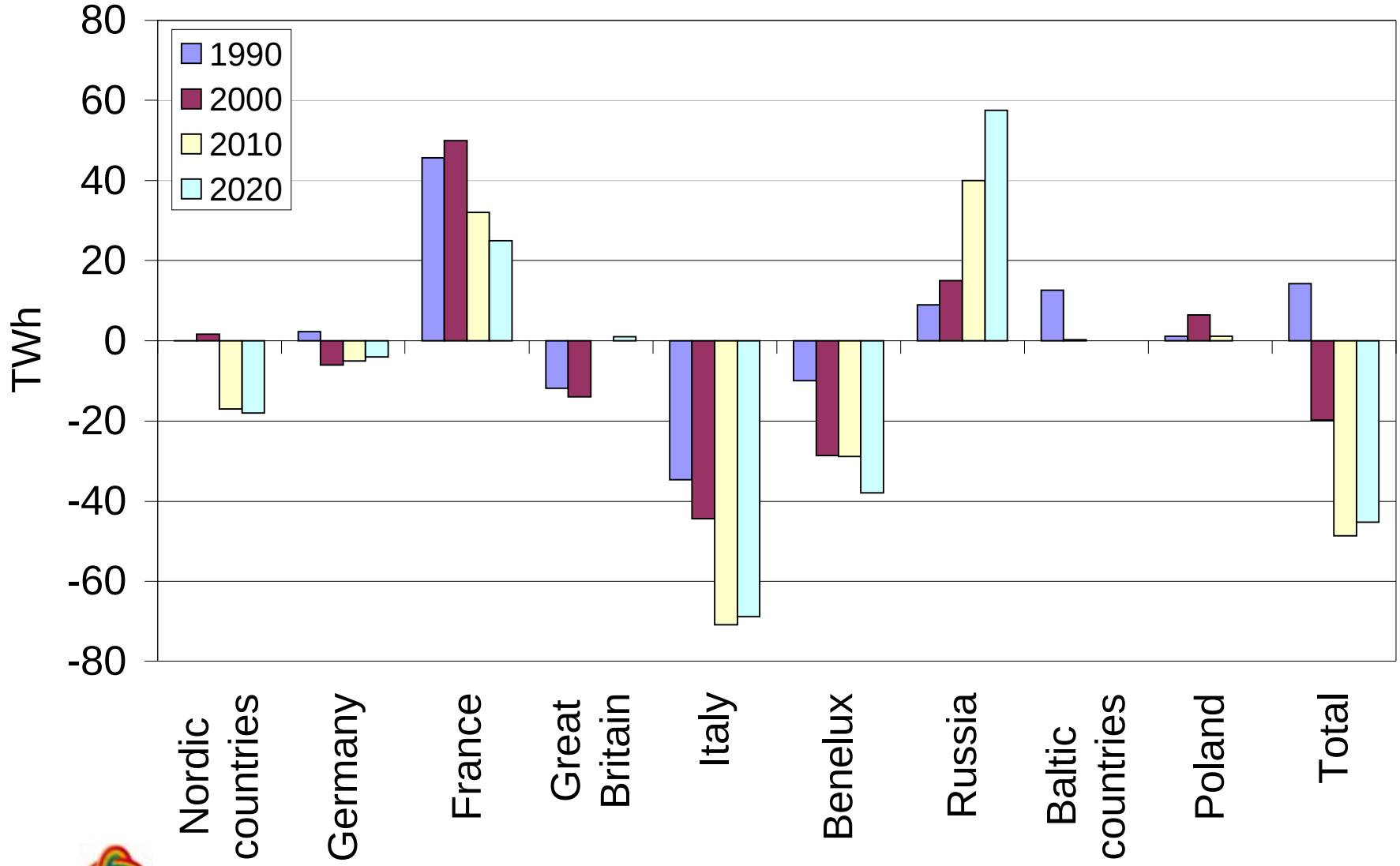

**371 TWh**

- Hydro power
- Wind and geothermal power
- Nuclear power
- Thermal power

finergy

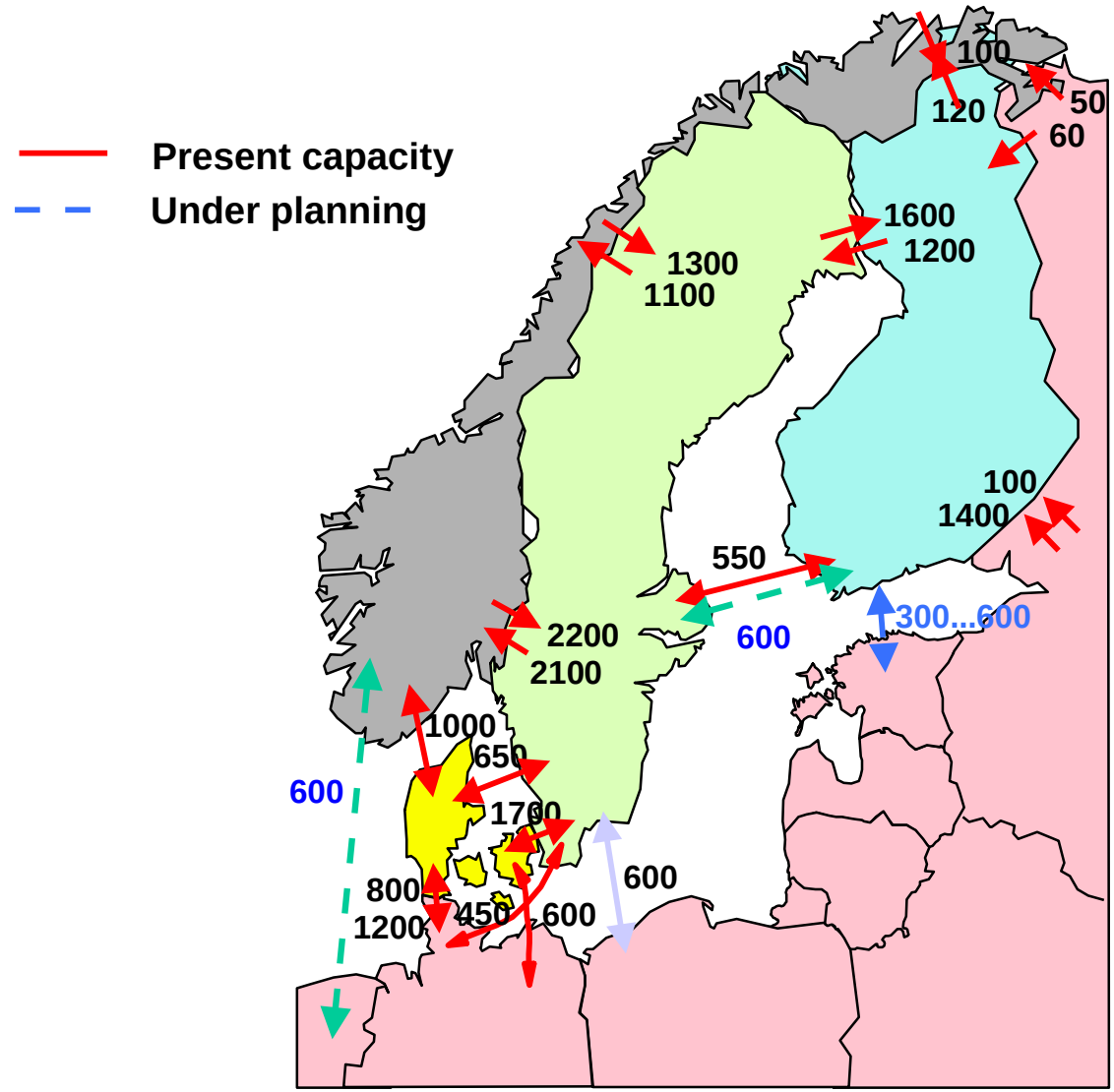
# Electricity balance

**Electricity balance = production - consumption = net exports (+) / net imports (-)**
**Primary sources: /Eurelectric, 2001a; Energy Strategy of Russia, 2000/**

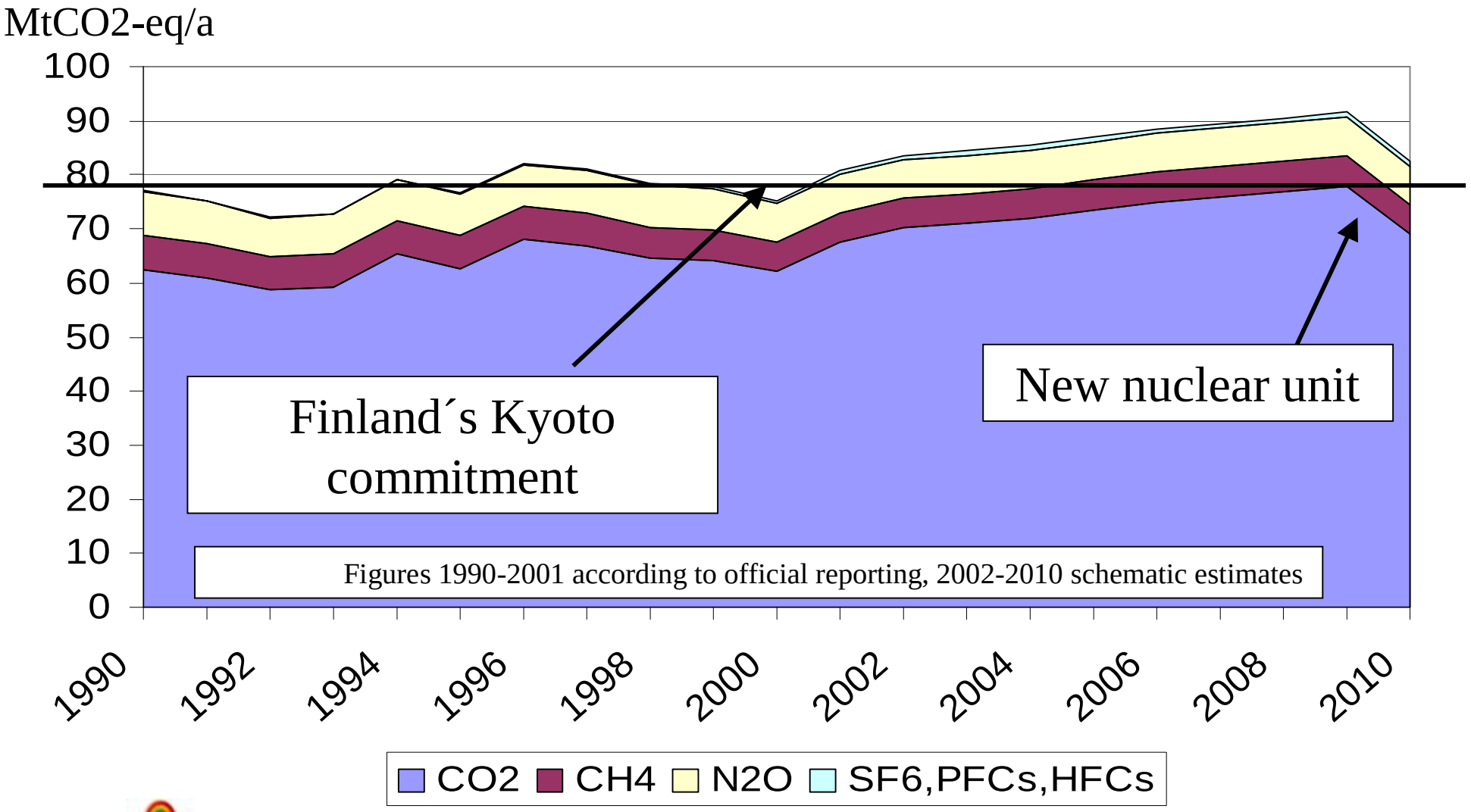


# NORDIC TRANSMISSION CAPACITIES (MW)

## 2004



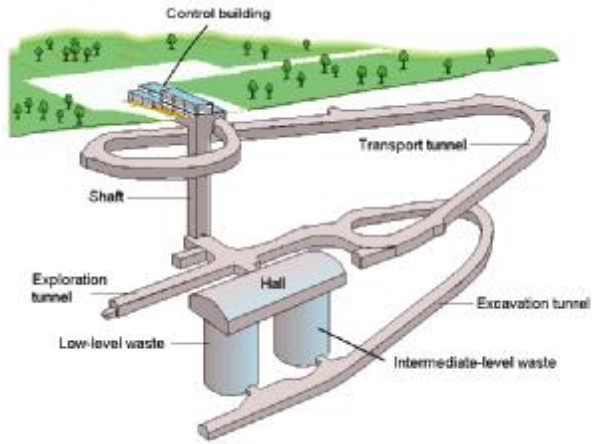
# Finland´s greenhouse gas emissions

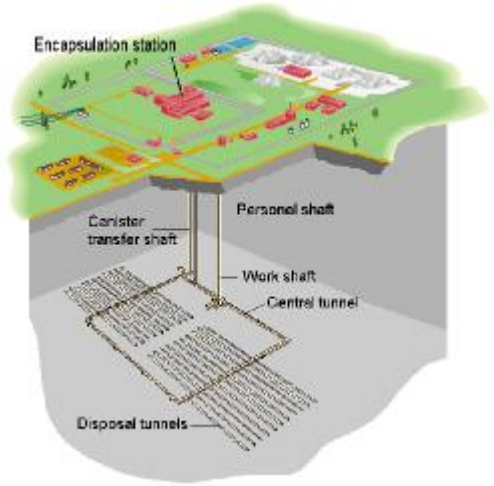



finergy

# Nuclear Waste Management in Finland

- Interim storage of spent fuel
  - Loviisa 1983
  - Olkiluoto 1987
- Final repository for low and intermediate level waste
  - Loviisa 1997
  - Olkiluoto 1992
- Final repository of spent fuel
  - Olkiluoto site selected 1999
  - Governement Decision in Principle ratified by the Parliament in May 2001




Source: TVO 2002

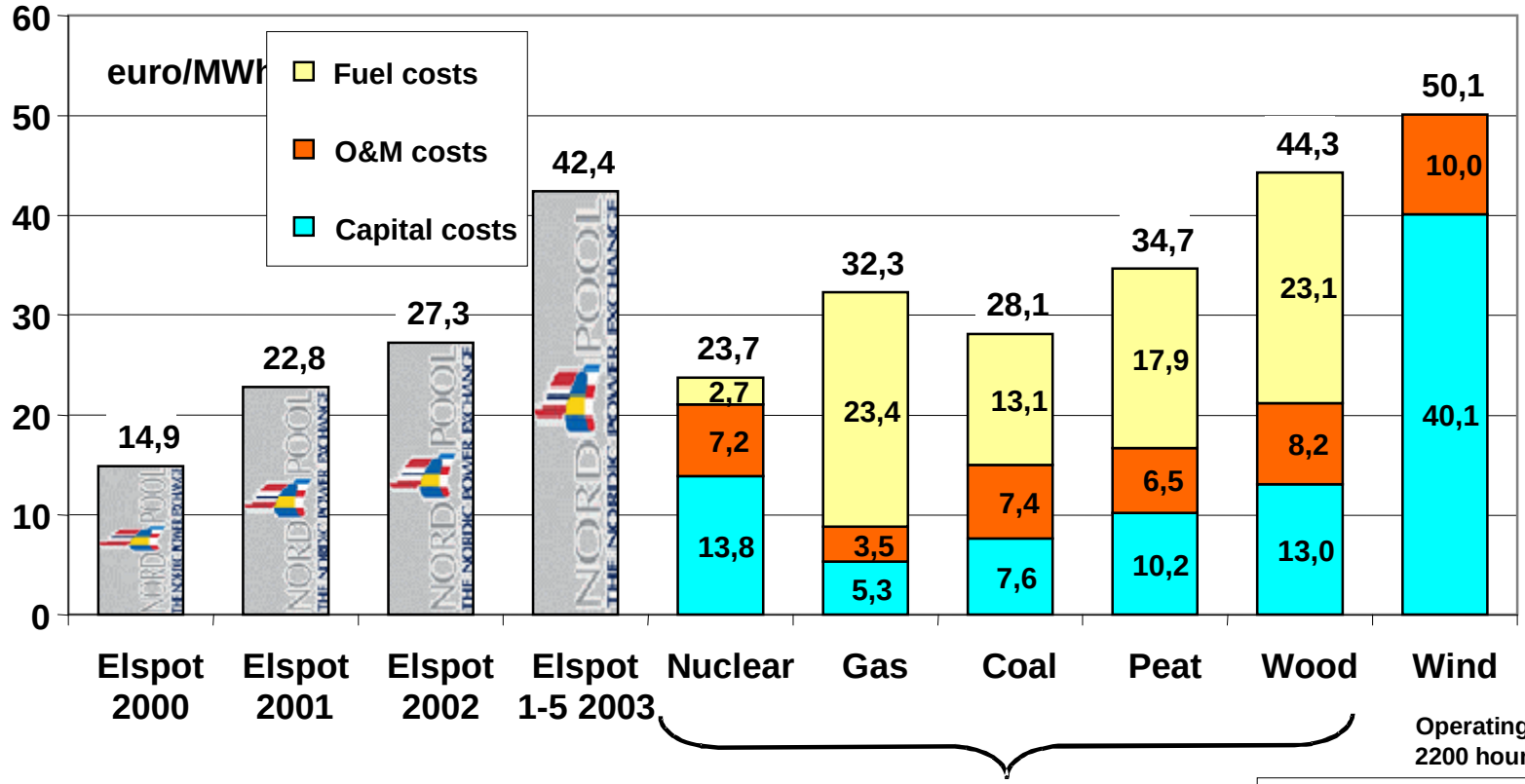
# Why additional nuclear power?

## New nuclear power plant

- **covers partly the additional electricity demand and replaces old power plants**
- **enables, together with renewables, the fulfilment of the Kyoto commitments**
- **secures stable and predictable electricity price**
- **reduces the dependence on electricity import**

finergy

# Electricity generation costs, without emission trading Case Finland




**Real interest rate 5,0%**
**March 2003 prices**

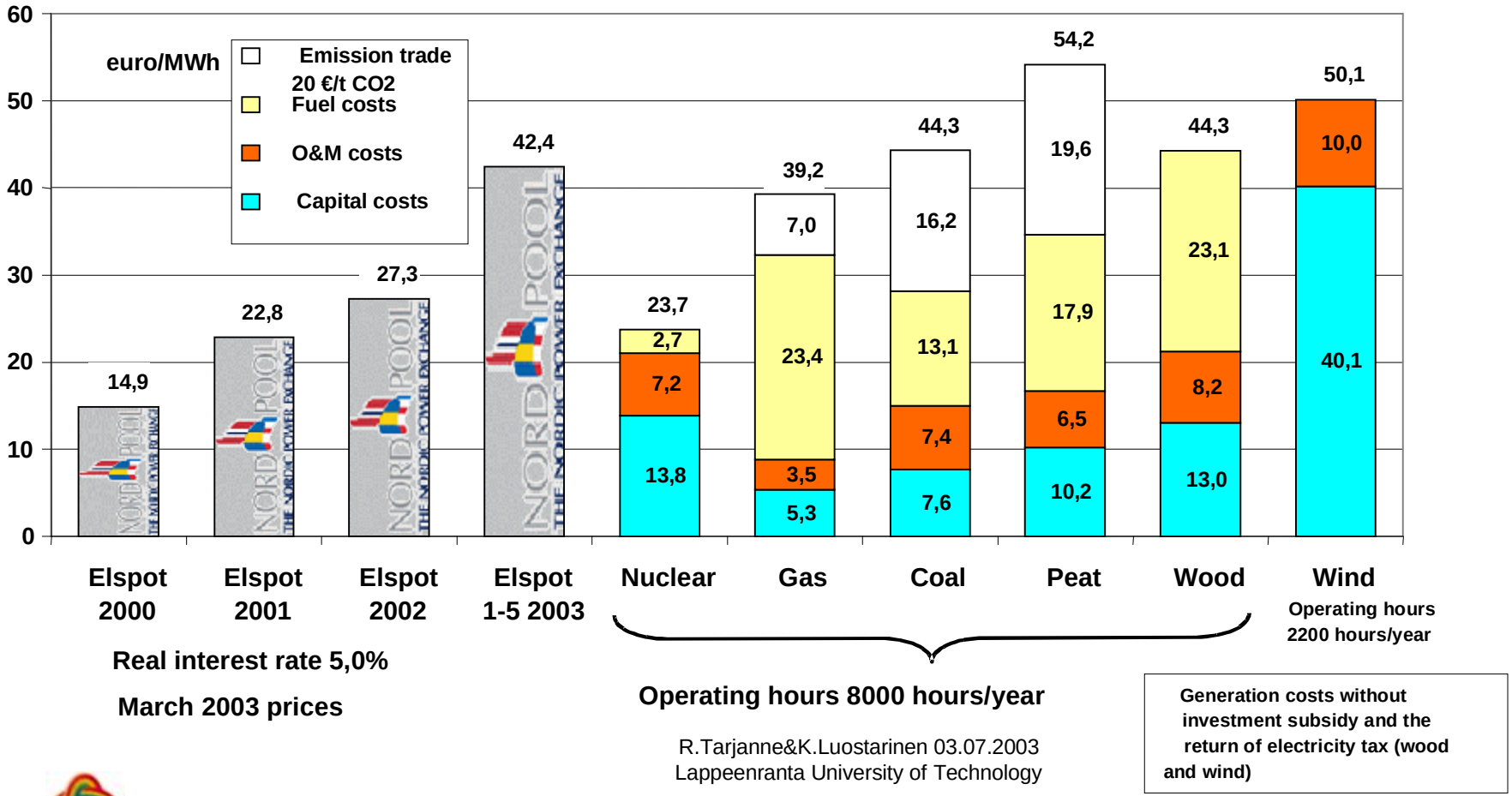
**Operating hours 8000 hours/year**

**Generation costs without investment subsidy and the return of electricity tax (wood and wind)**

R.Tarjanne&K.Luostarinen 03.07.2003
Lappeenranta University of Technology

finergy

# Electricity generation costs, with emission trading Case Finland




R.Tarjanne&K.Luostarinen 03.07.2003
Lappeenranta University of Technology

finergy