



**EFFLOCOM**

Energy efficiency and load curve impacts of commercial development in  
competitive markets  
**EU/SAVE 132/2001**

---

## **Phase 1 – Basis for Load Management**

---

David Cooper, Load Research Manager – Electricity Association  
(UK)

# Introduction – Basis for Load Management



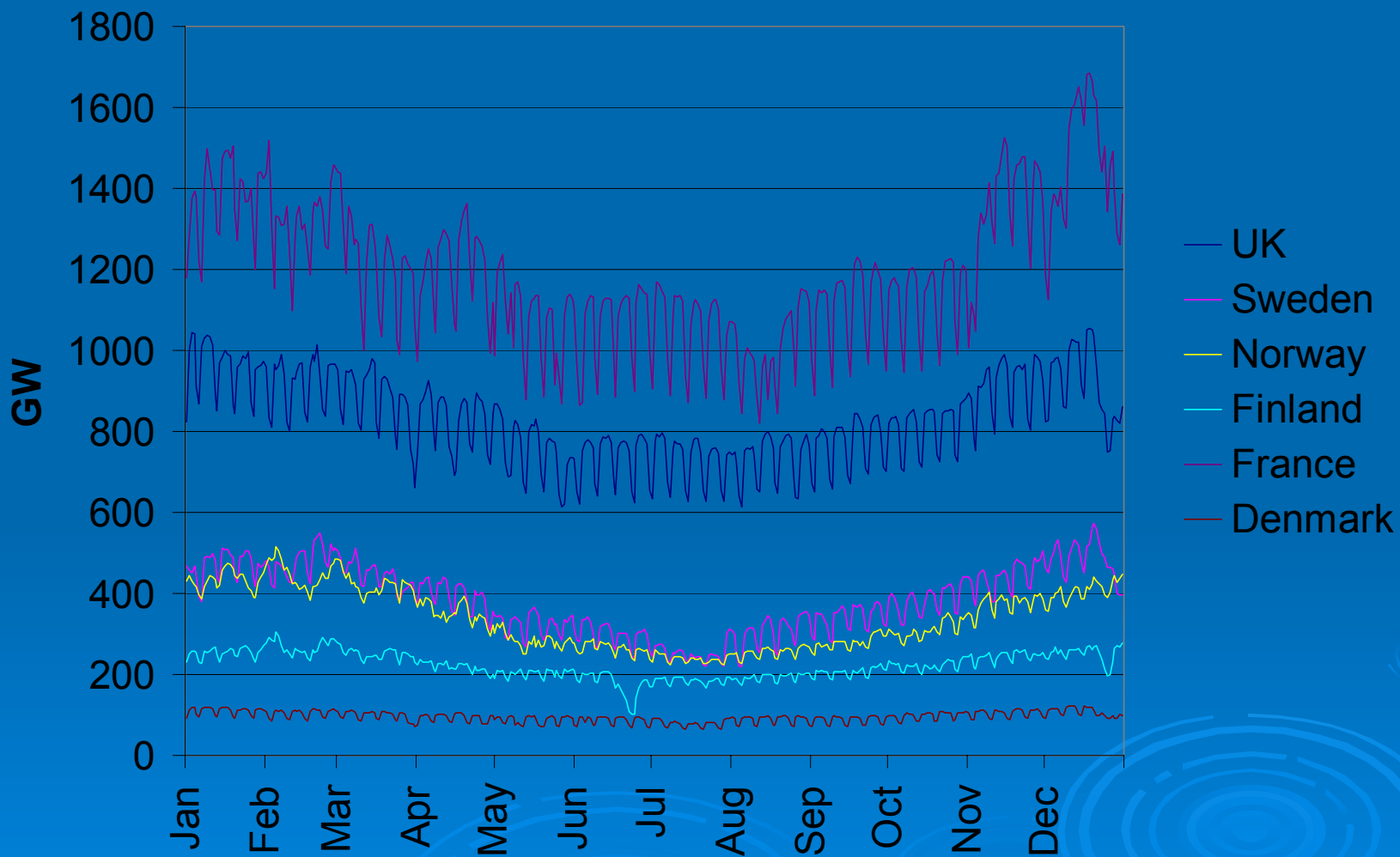
- For the first time we can compare the load shapes of different countries
- Load drivers – customer behavior, season, day type, temperature, tariffs, customer mix
- Basis will allow subsequent phases to show impact of market opening, improved communications, advanced load control and energy efficiency measures

# Overview

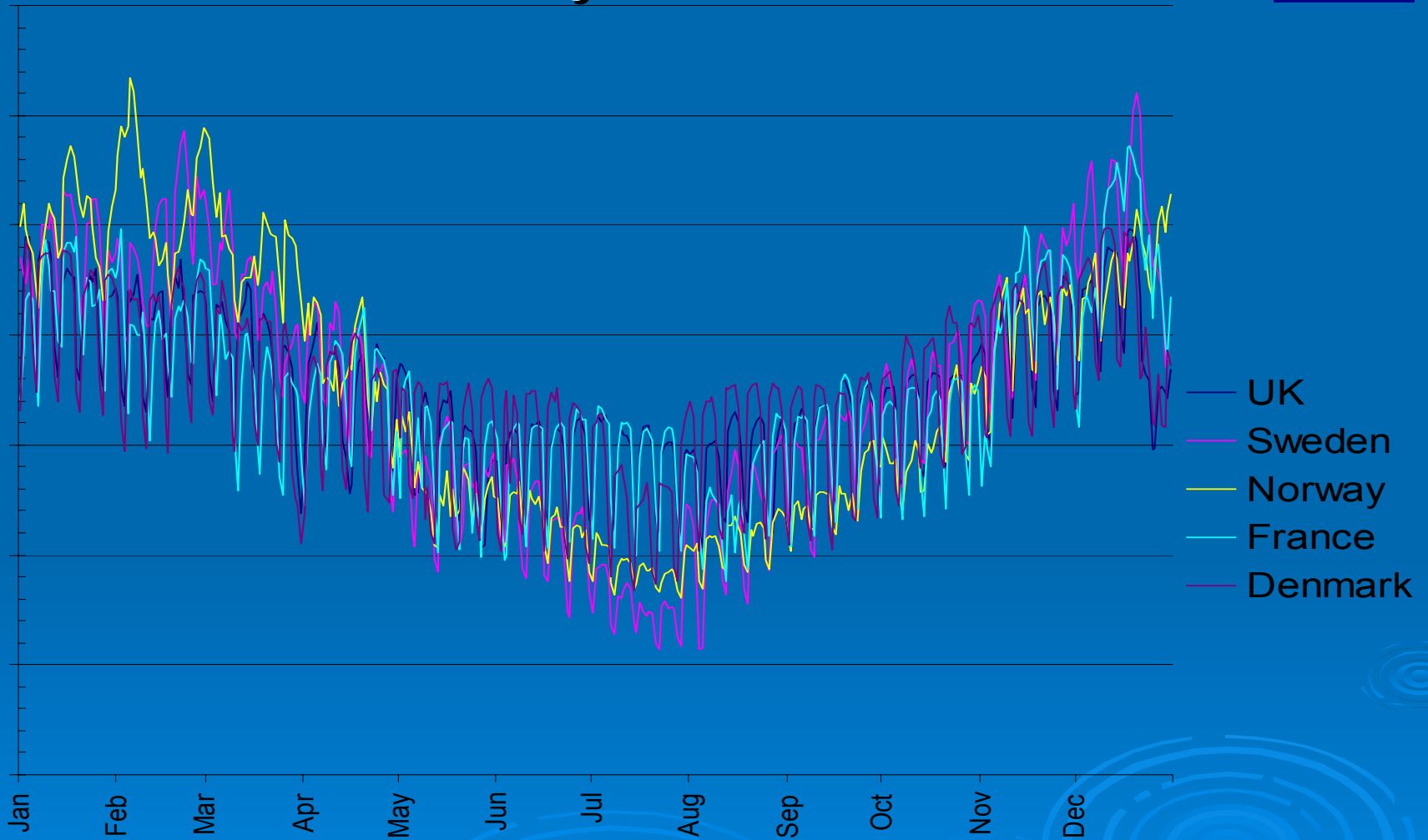


- Load shapes of different countries
- Summer – Winter by day types
- Compare annual consumption, load factors and peak demands
- Contribution of the main sectors of Domestic, Service and Industry for each country.
- Common Tariff Groups
- Temperature sensitivity response rates

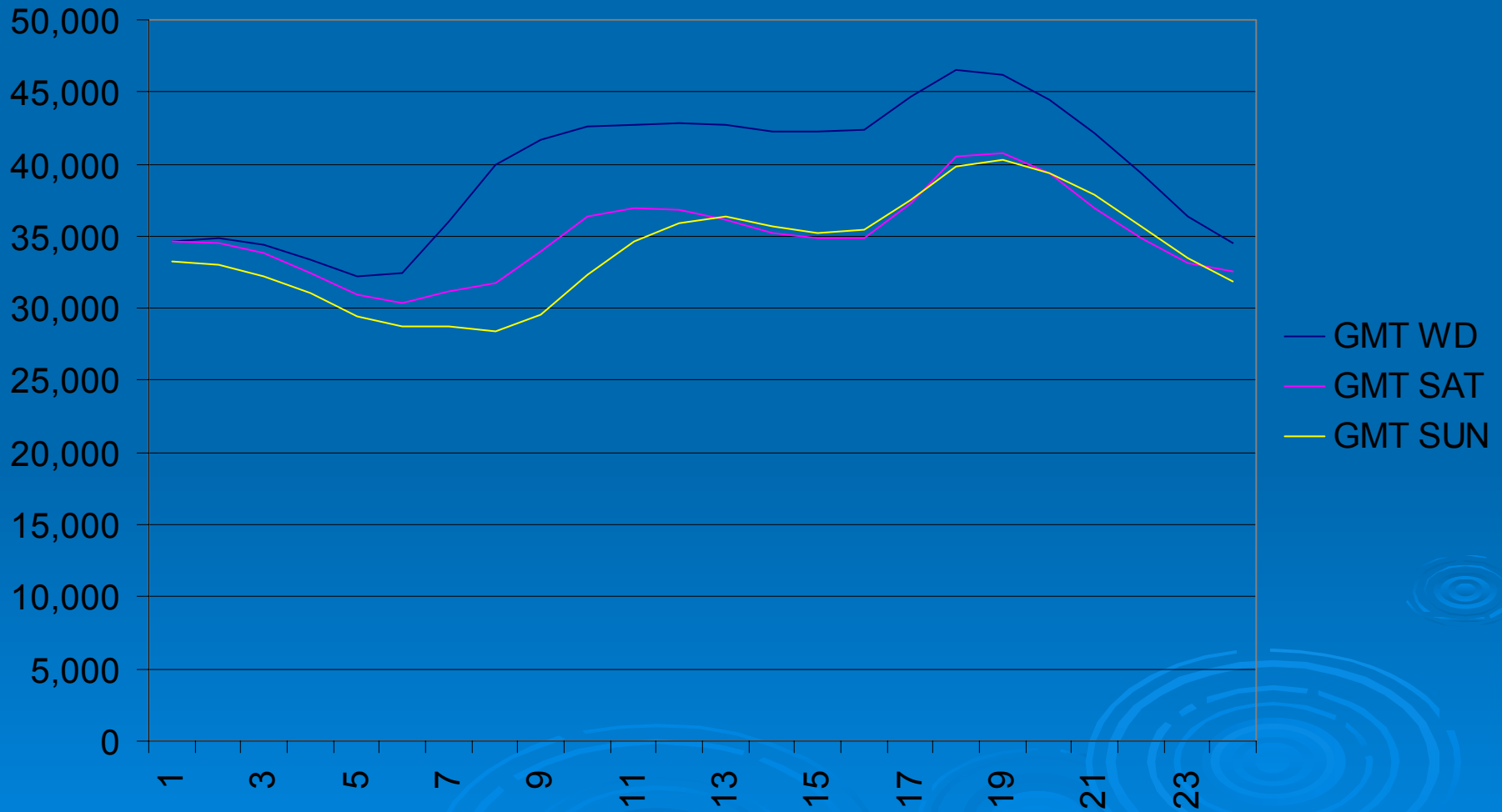
# Total Daily Load



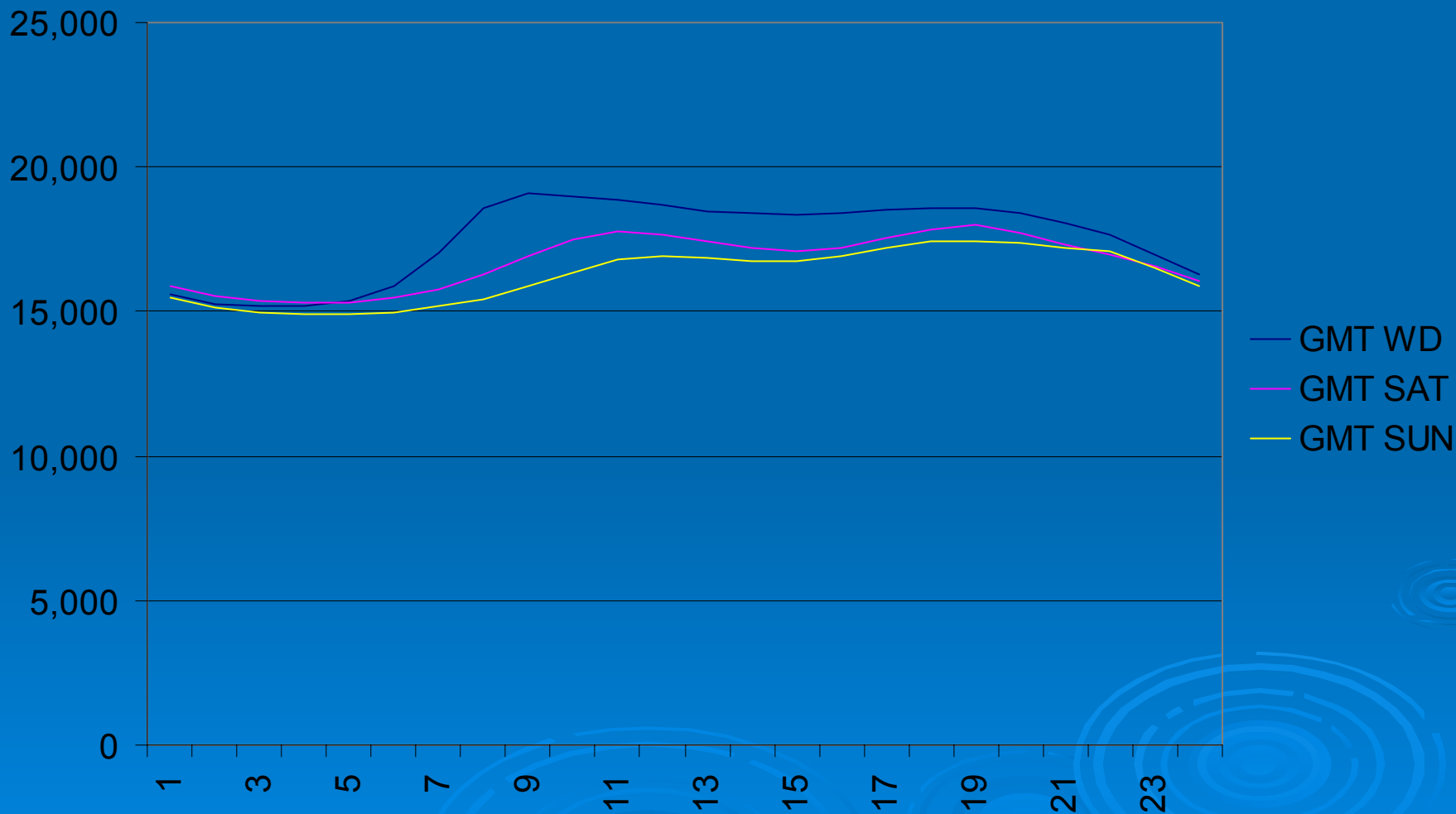
# Total Daily Load as %



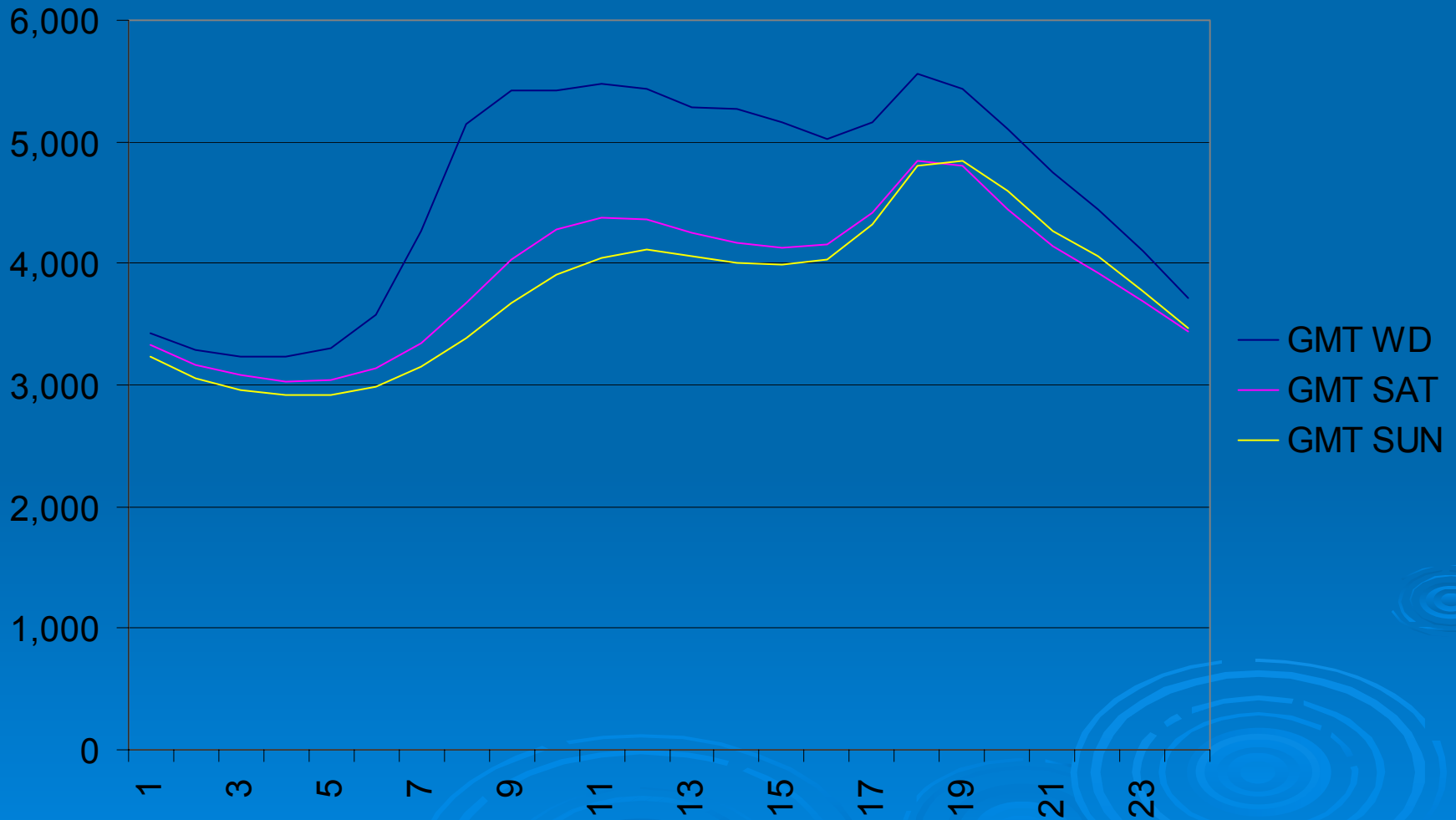
# Winter - Day Type - UK



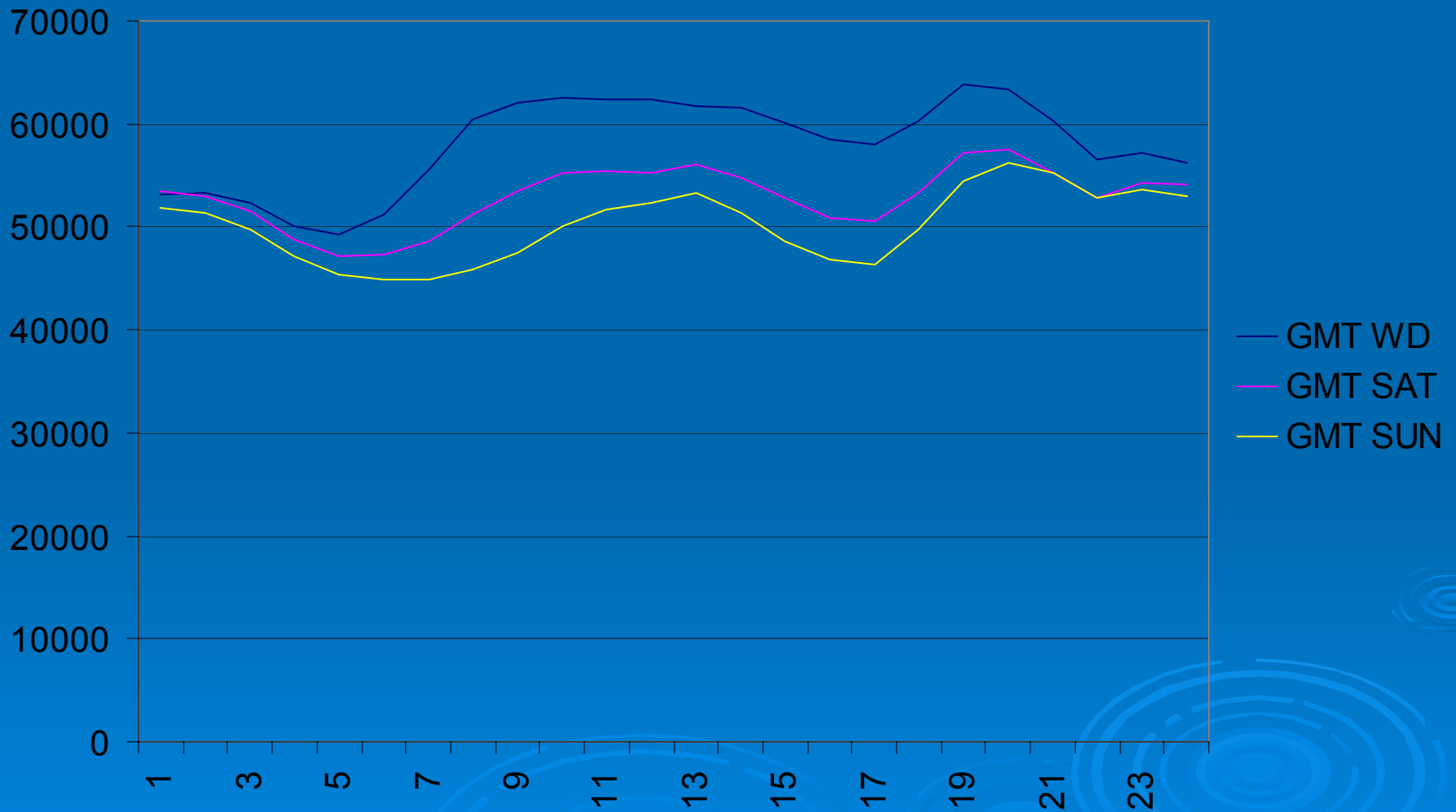
# Winter - Day Type - Norway



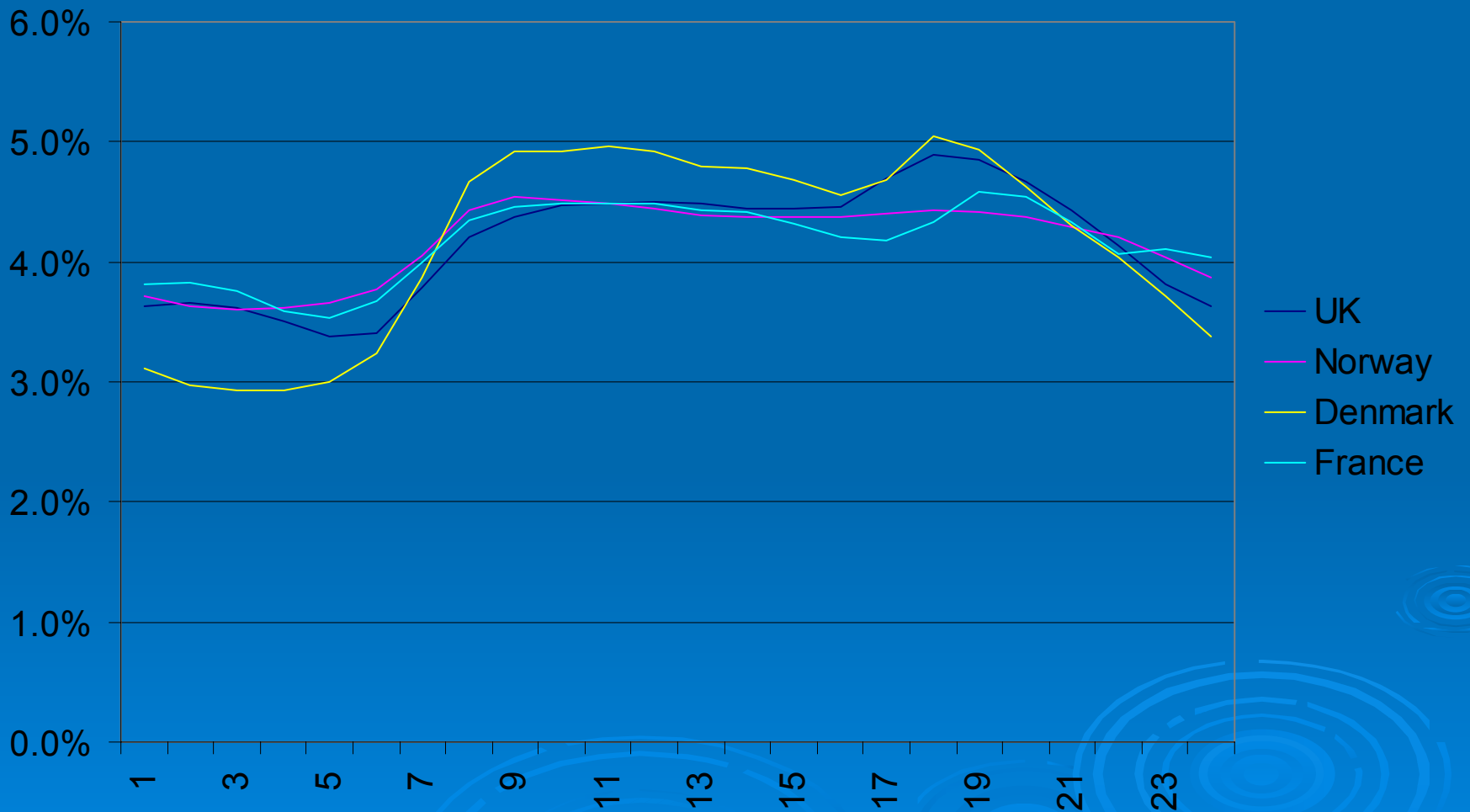
# Winter - Day Type - Denmark



# Winter – Day Type - France



# Winter – Weekdays



# Key Statistics

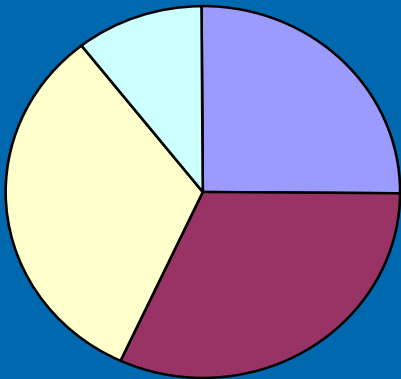


	Denmark	Finland	France	Norway	Sweden	UK
Annual Load GWh	34,853	81,188	436,319	123,313	139,900	302,383
Peak Demand MWh	6,256	12,800	76,298	23,054	26,472	52,079
Peak* Load Factor (%)	64	69	65	61	60	66

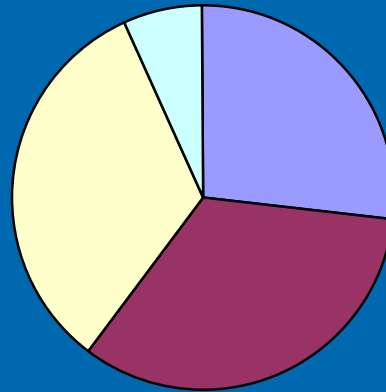
# Contribution of Main Sectors



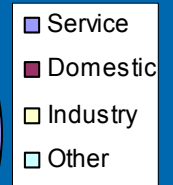
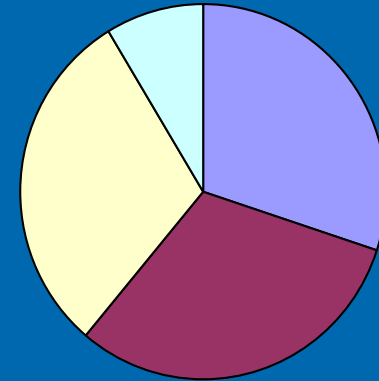
French



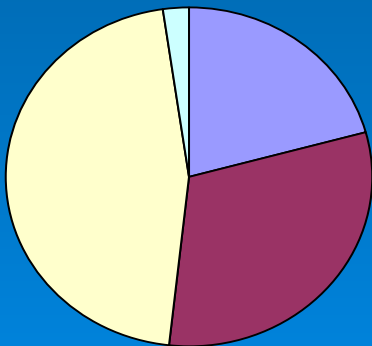
UK



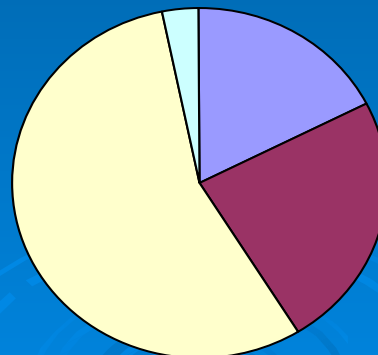
Dannish



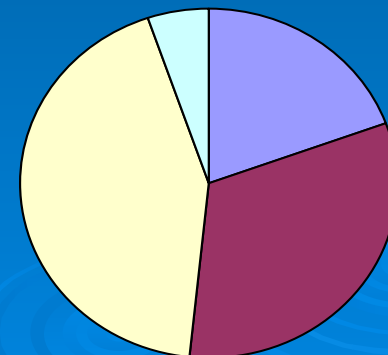
Norweigan



Finnish



Swedish

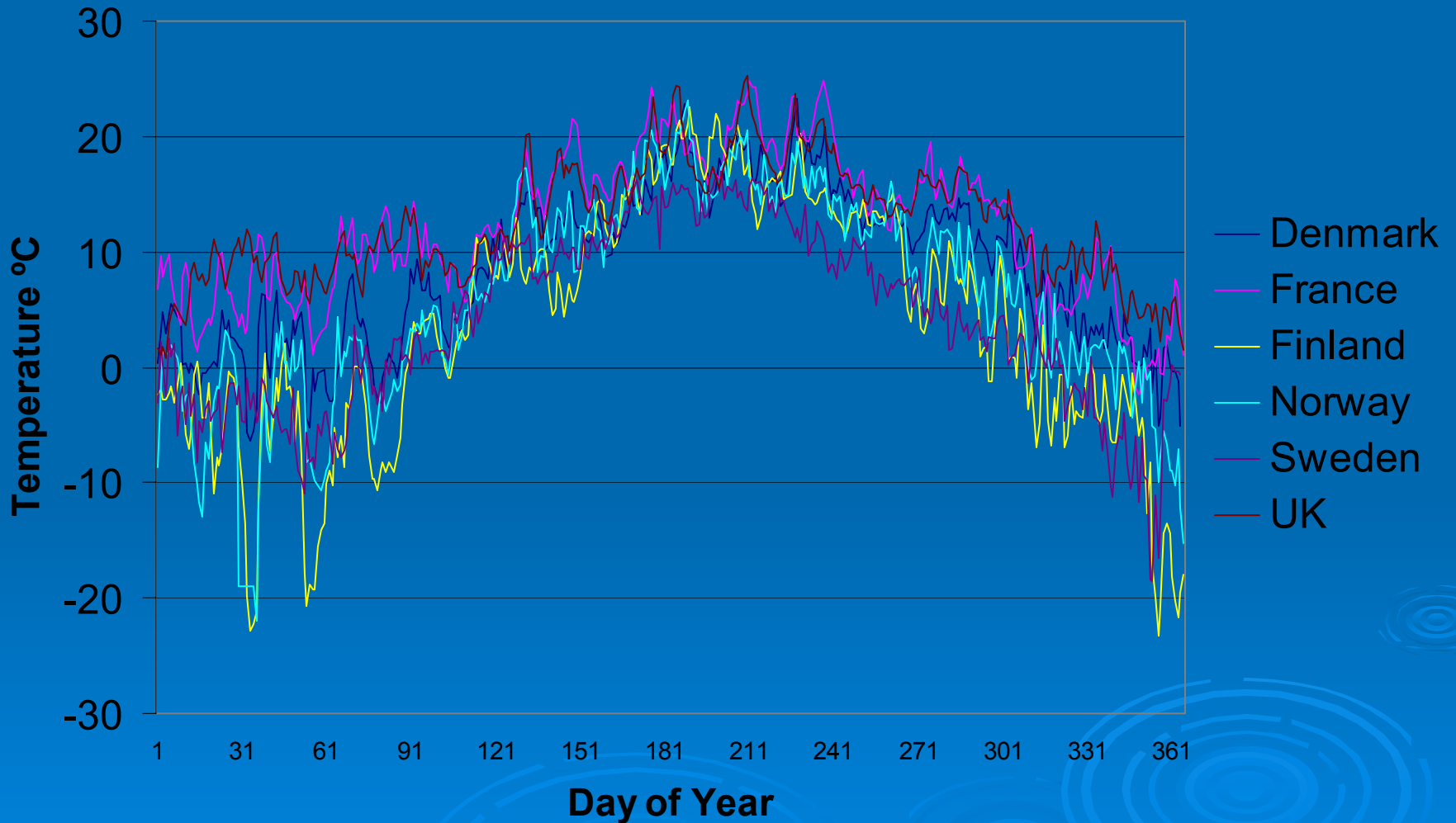


# Common Tariff Groups



	Number of Customers (,000)	Percentage of Customers	Annual Consumption (TWh)	Percentage of total annual consumption
Spot Price				
Maximum Demand				
Time of Day				
Dynamic				
Unrestricted				
Interval Metered				
Other				

# Average Daily Temperature



# Temperature Sensitivity



	BST WD	BST SAT	BST SUN	GMT WD	GMT SAT	GMT SUN
Denmark	0.8	1.0	0.9	-0.1	0.3	0.7
Norway	2.6	2.5	2.6	1.1	1.5	1.6
France	1.1	1.3	1.4	1.9	2.8	2.6
UK	0.9	1.0	1.1	0.7	1.4	1.3
Sweden	3.1			1.6		

# Temperature Sensitivity

England & Wales Winter Weekday Demand (MWh)  
versus Noon Effective Temperature ( $^{\circ}\text{C}$ )

