



North West Energy Forum

In Partnership with **Envirolink Northwest**

Energy Review Consultation

*Our Energy Challenge - Securing clean,
affordable energy for the long-term*

28th February 2006
The Investment Centre



North West Energy Forum

In Partnership with **Envirolink Northwest**

Peter Jones

**President
North West Energy Forum**

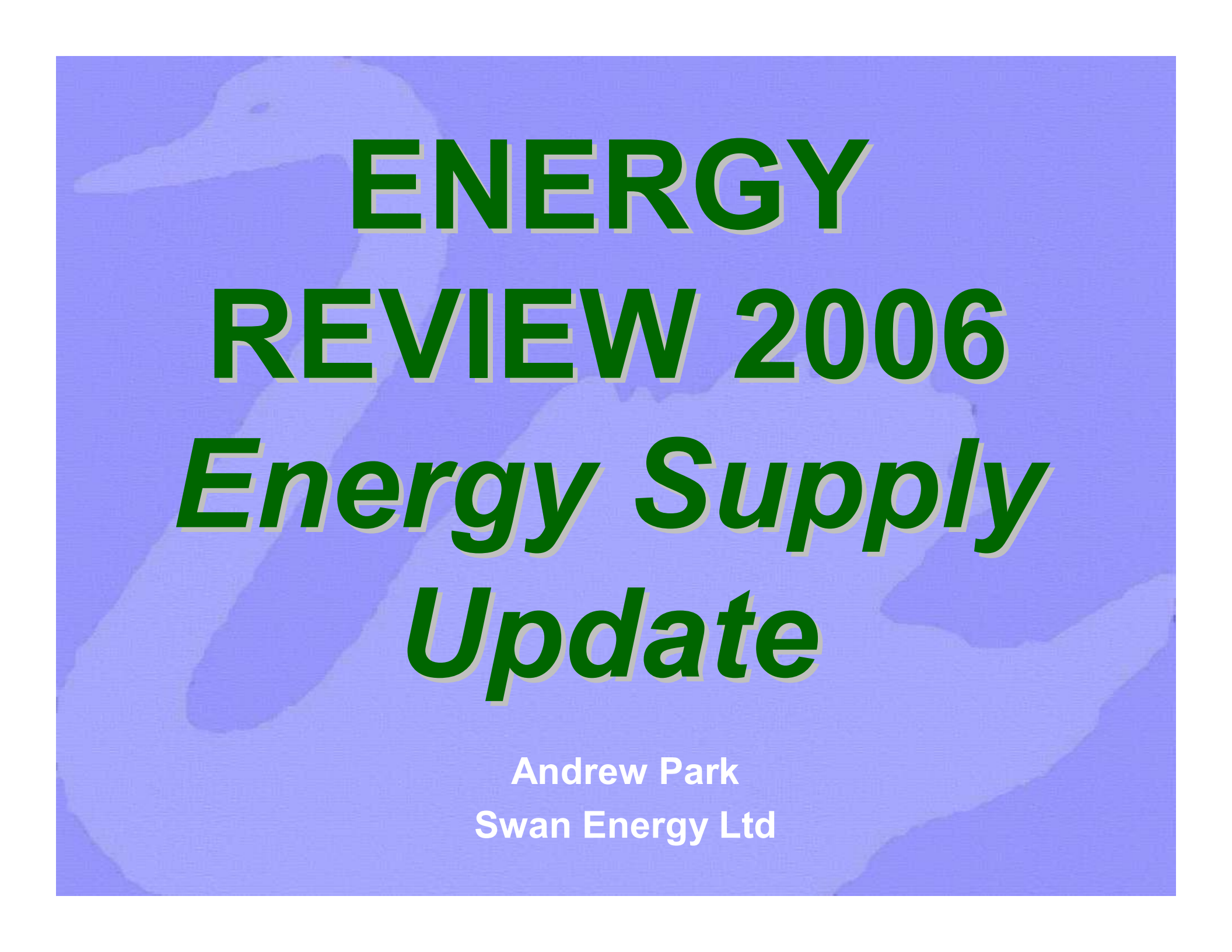


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In Partnership with **Envirolink Northwest**

Andrew Park

**Director
Swan Energy**



ENERGY
REVIEW 2006
Energy Supply
Update

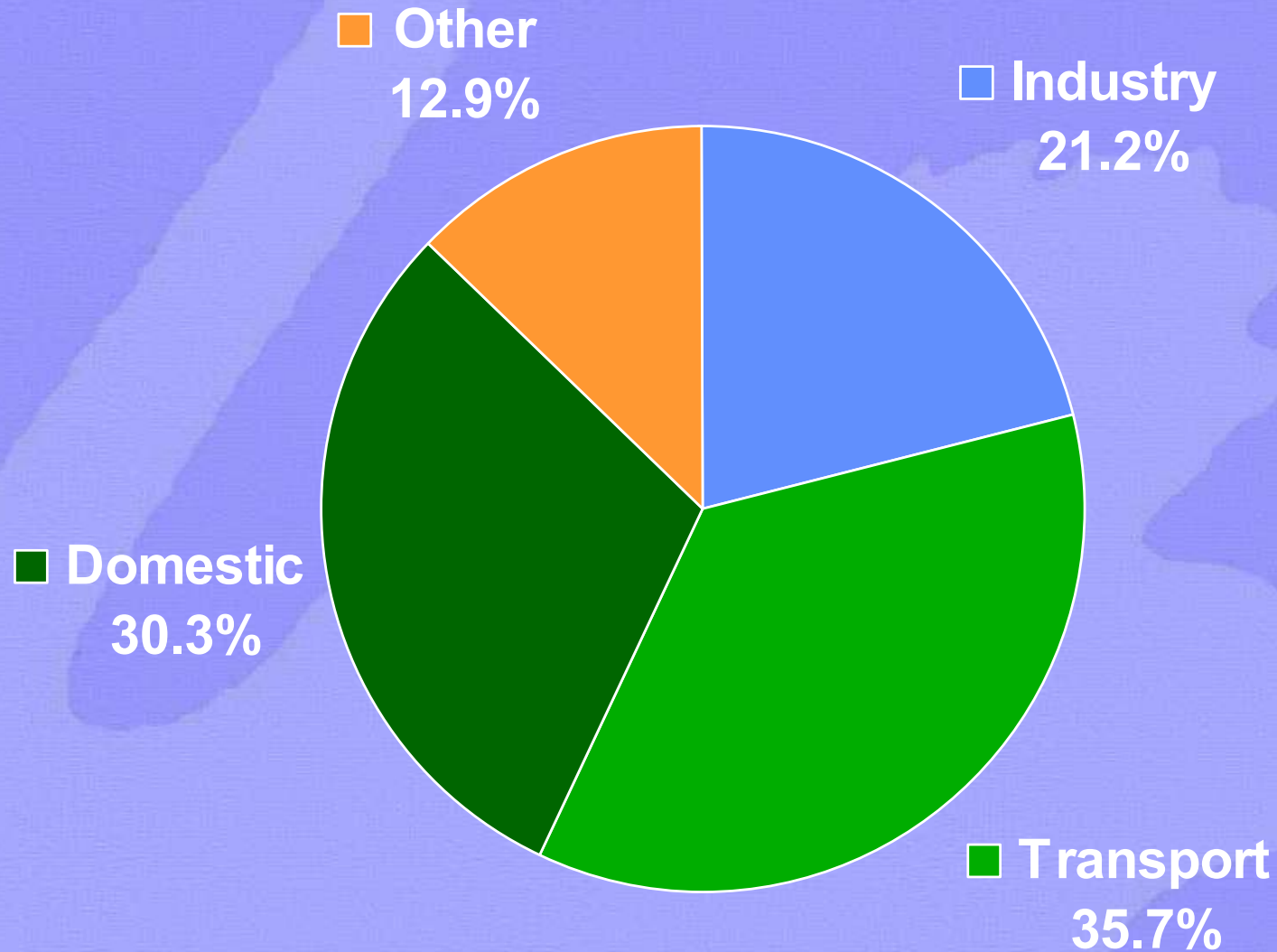
Andrew Park
Swan Energy Ltd



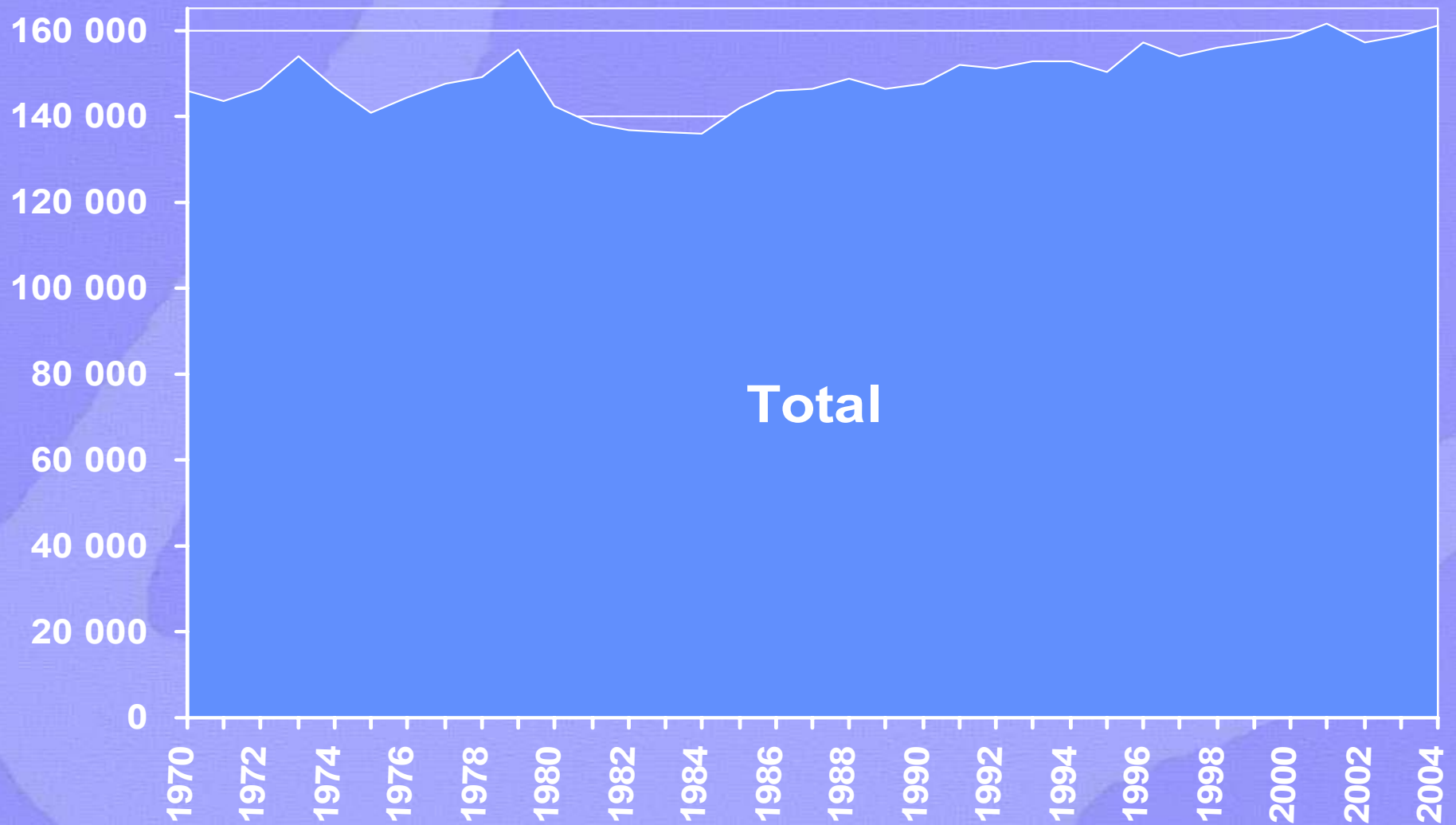
Agenda

- **UK energy demand**
 - Transport
 - Electricity
- **UK energy supply**
- **Global energy supply outlook**
- **Implications for the UK**
- **Conclusions**

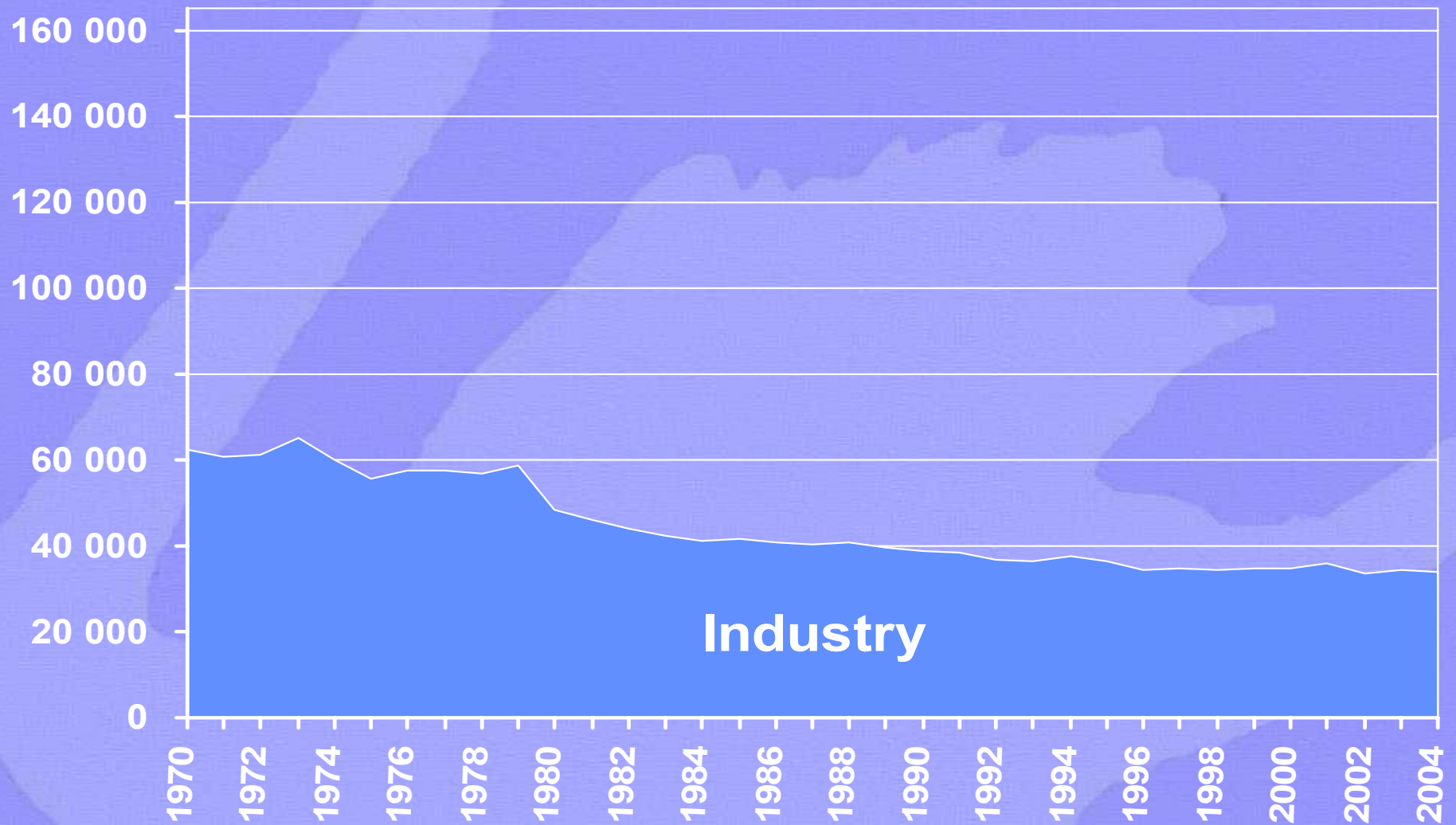
Primary Energy Demand UK 2004



UK Energy Demand

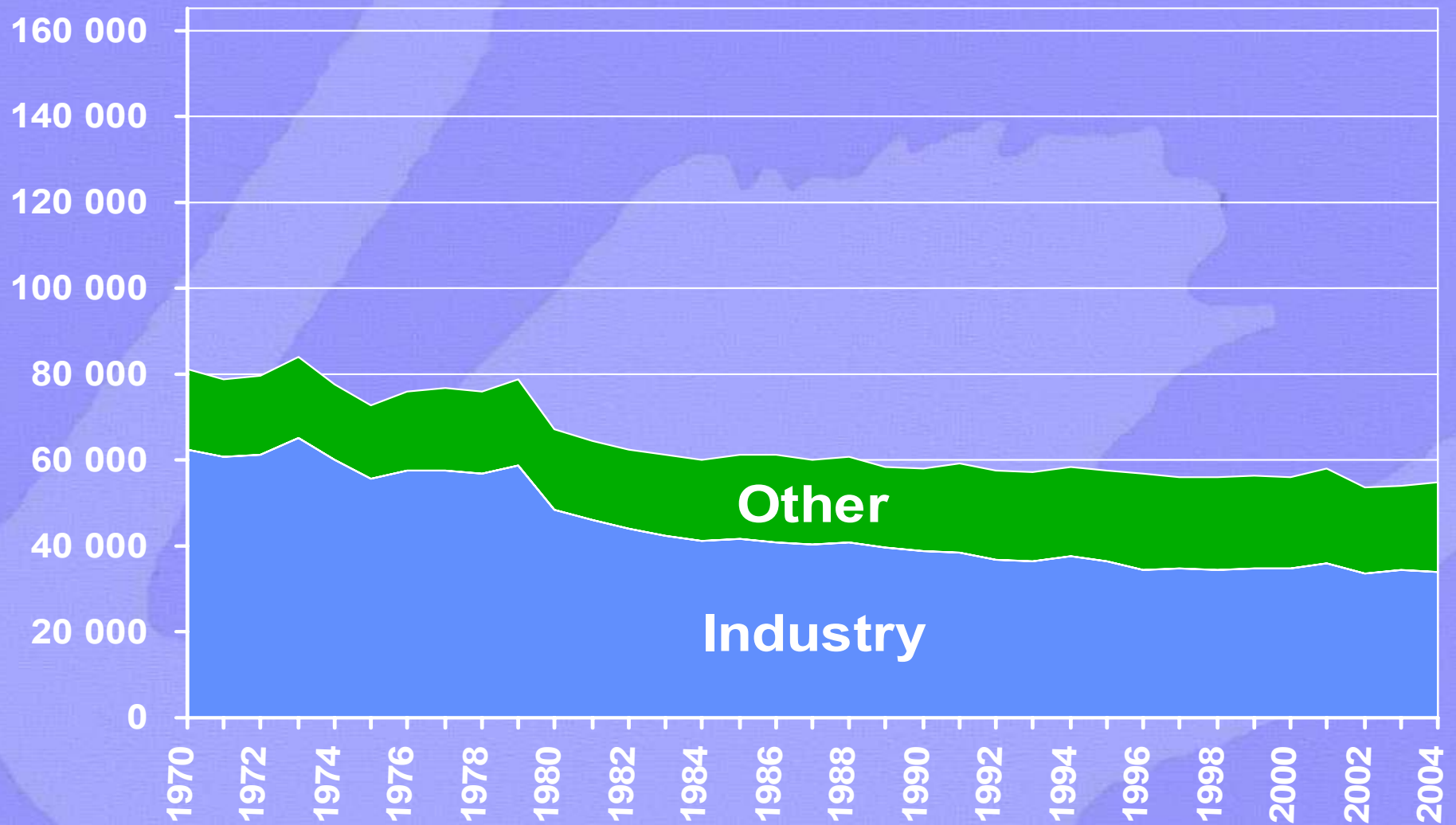


UK Energy Demand

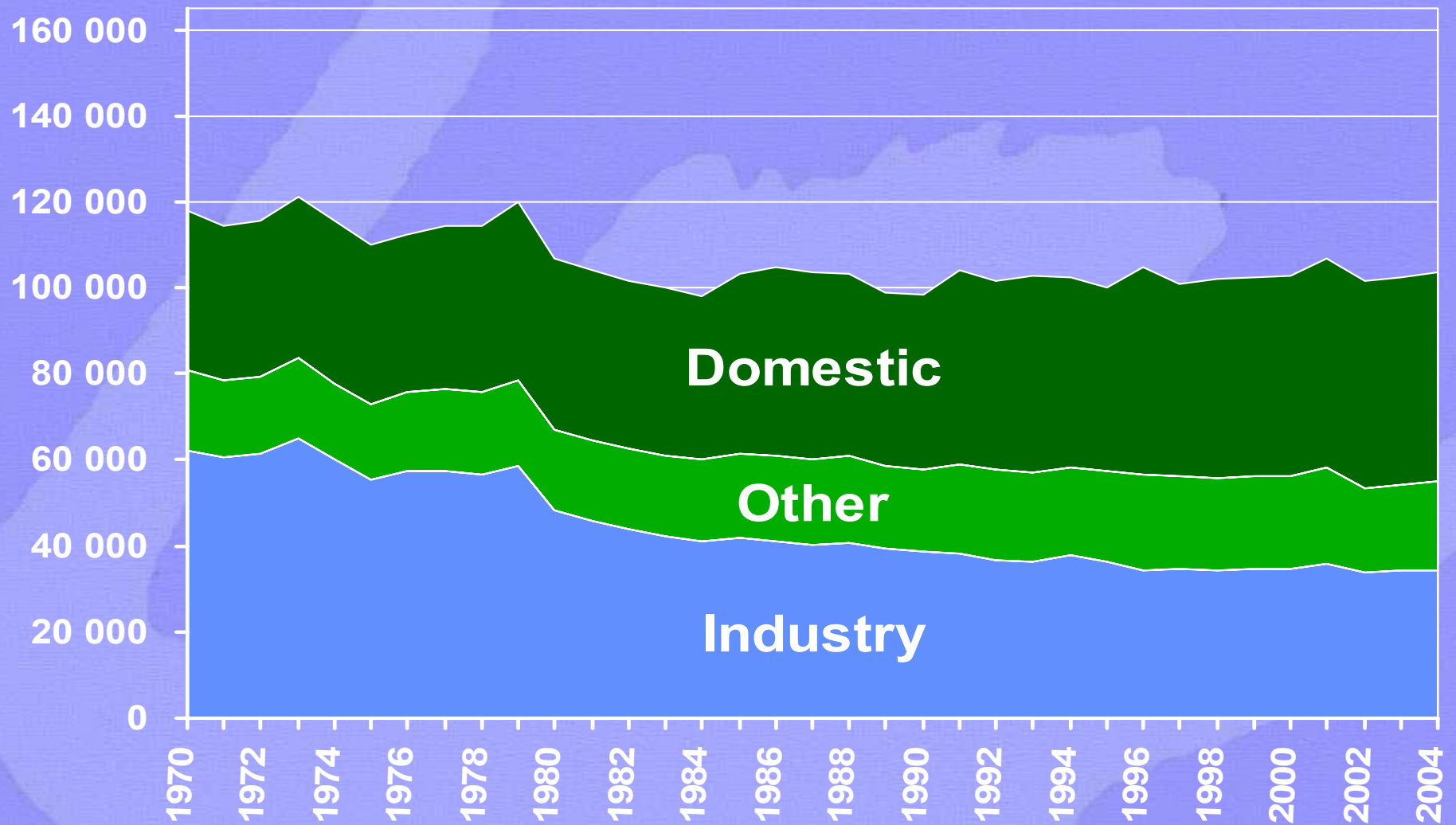


Industry

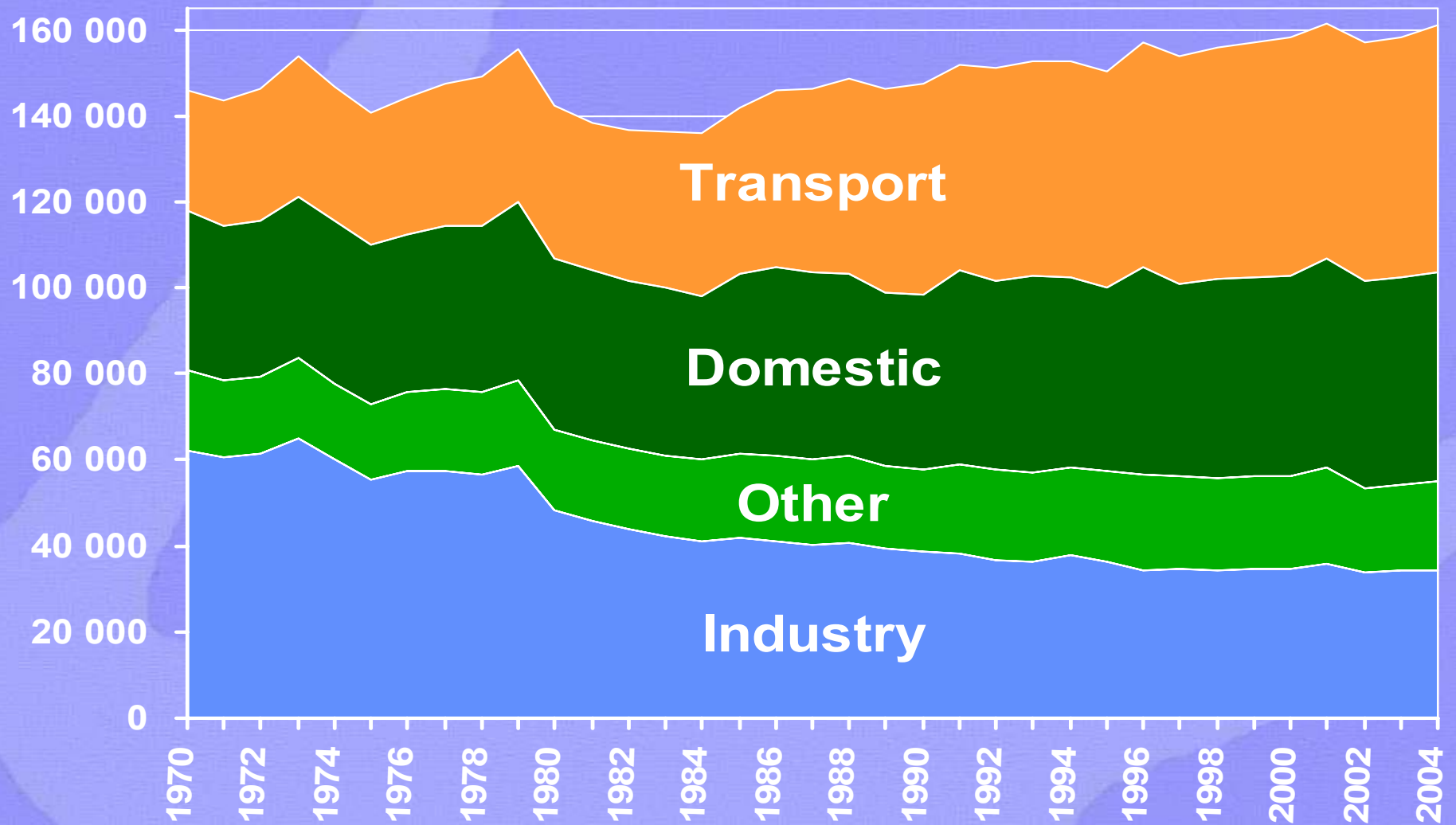
UK Energy Demand



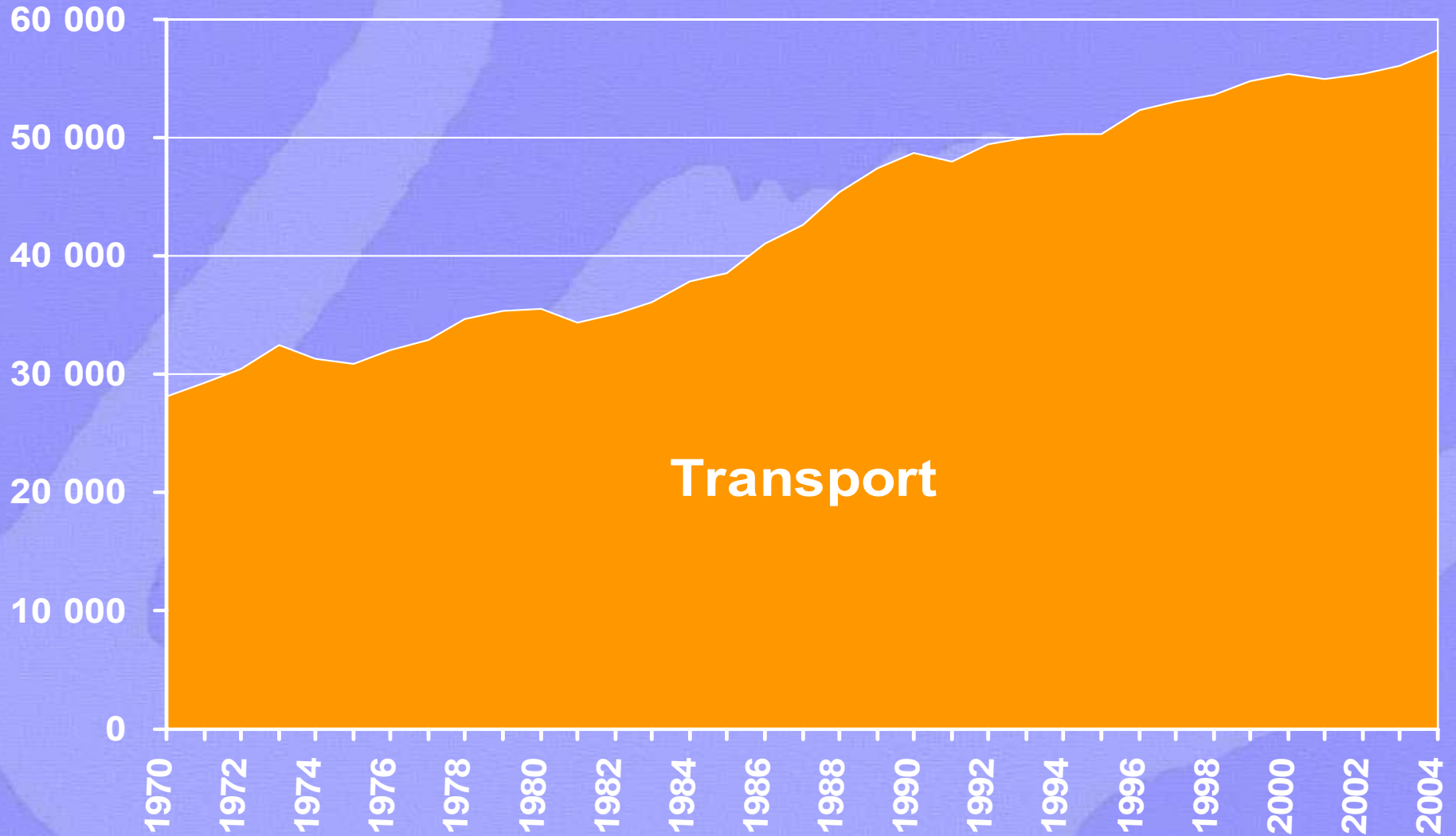
UK Energy Demand



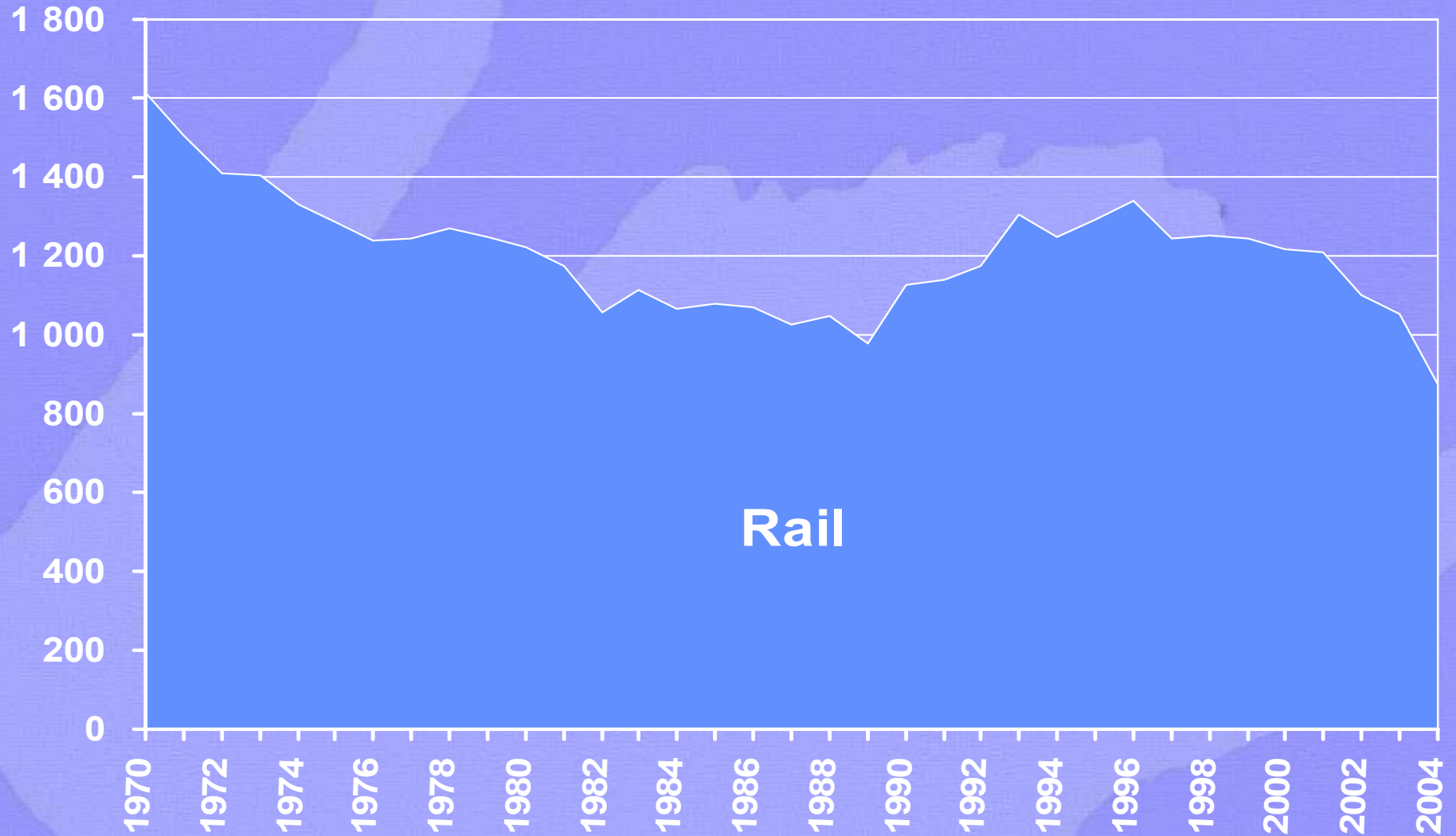
UK Energy Demand



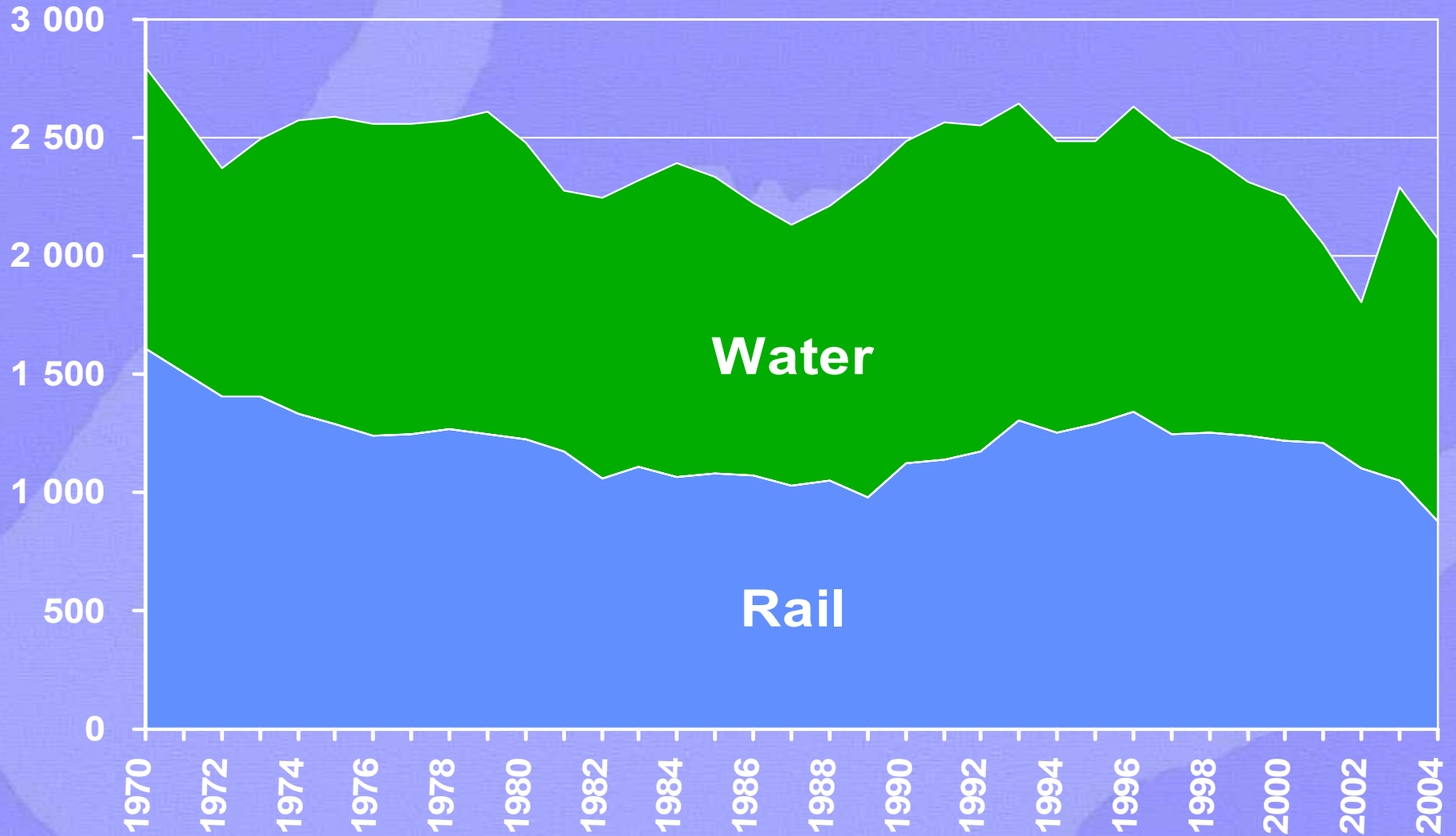
Transport Energy Demand



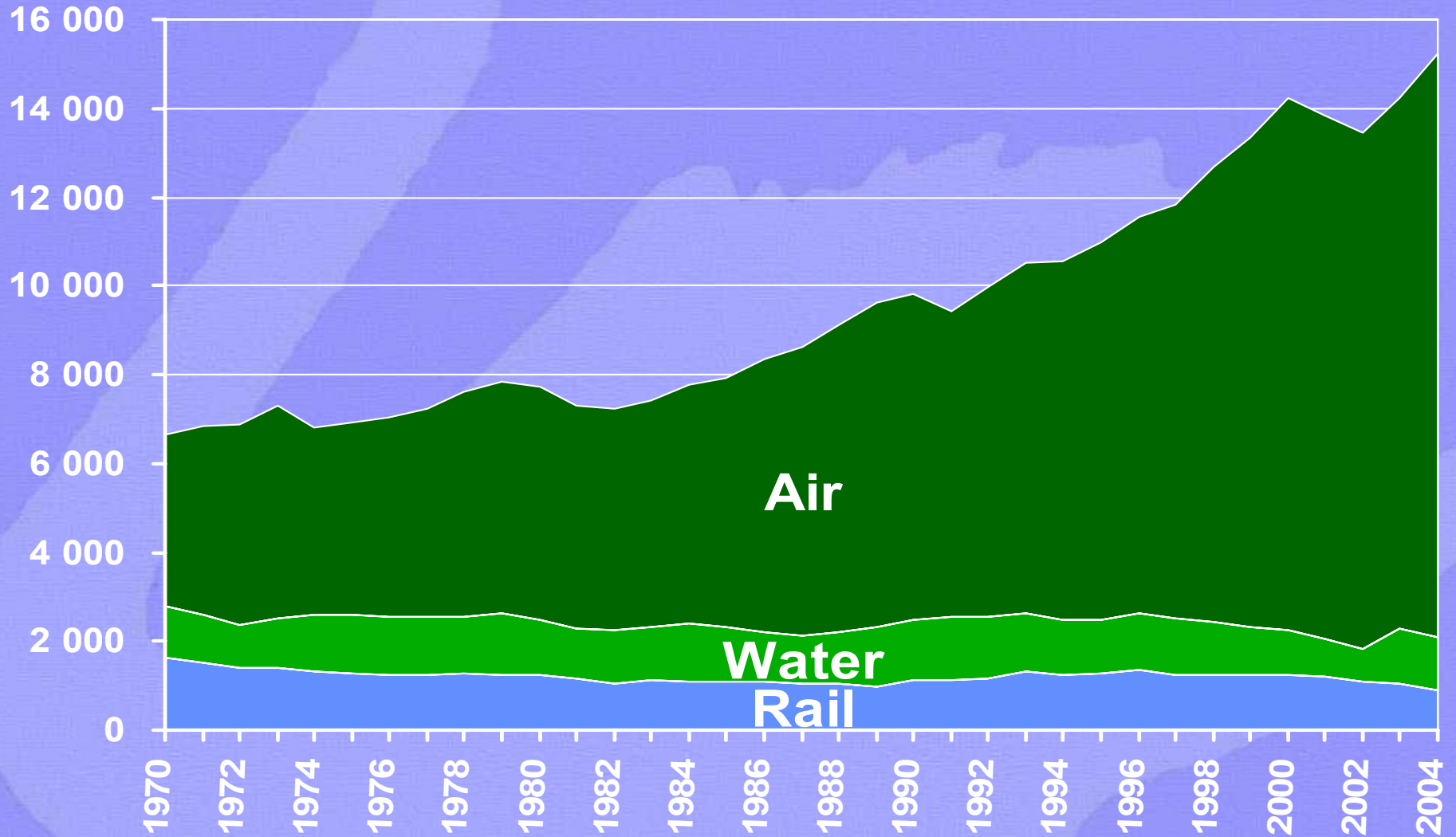
Transport Energy Demand



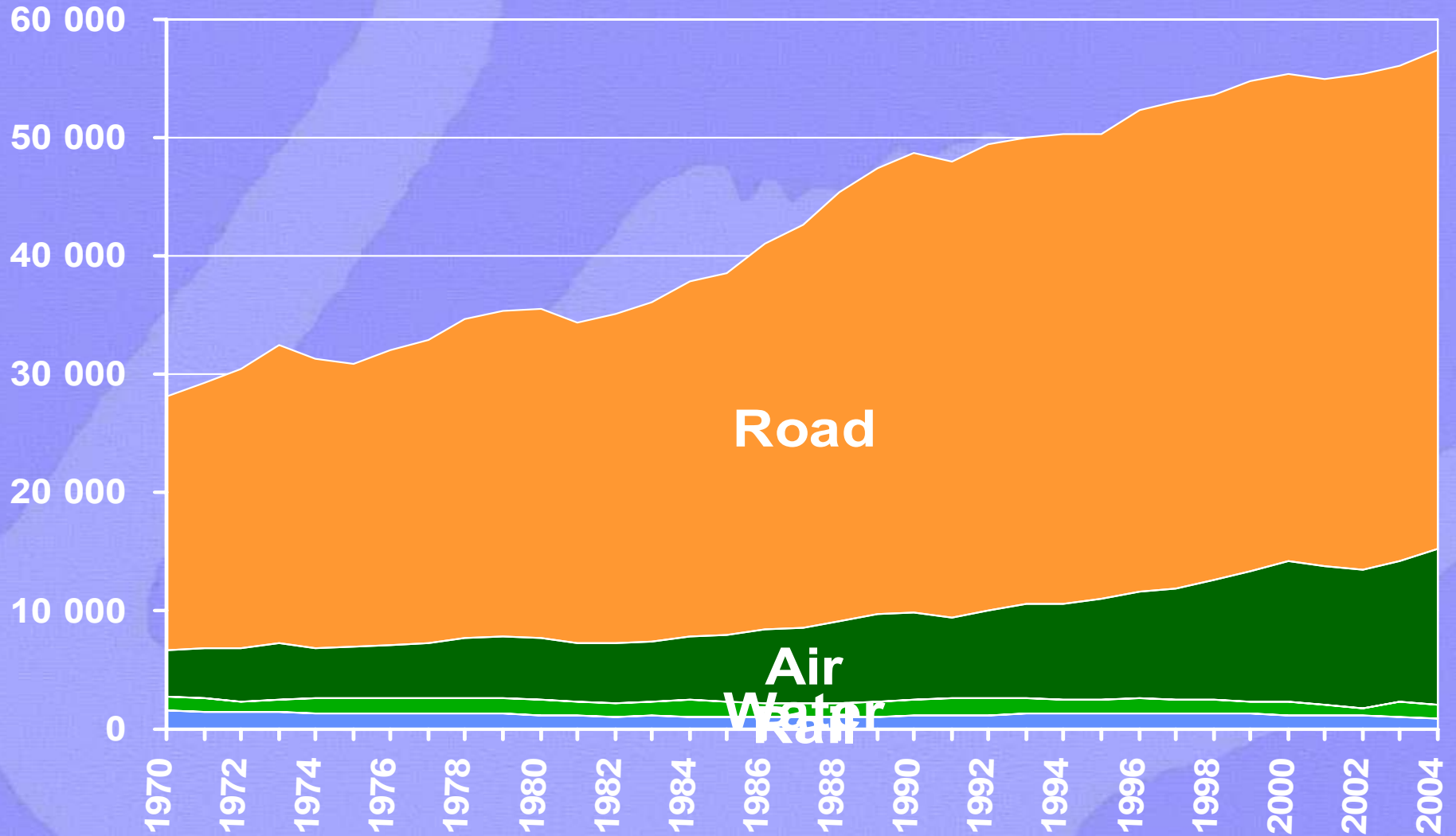
Transport Energy Demand



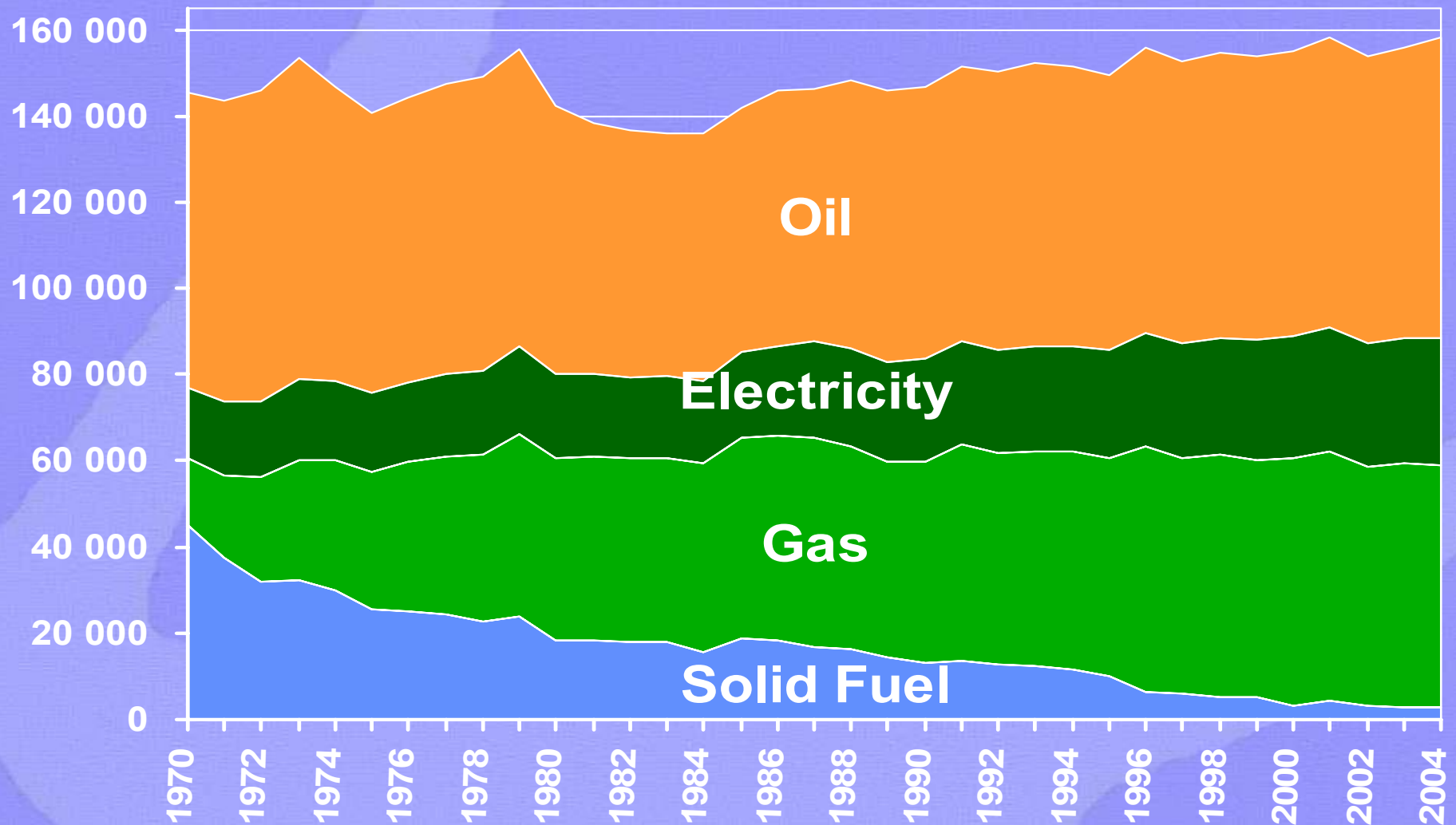
Transport Energy Demand



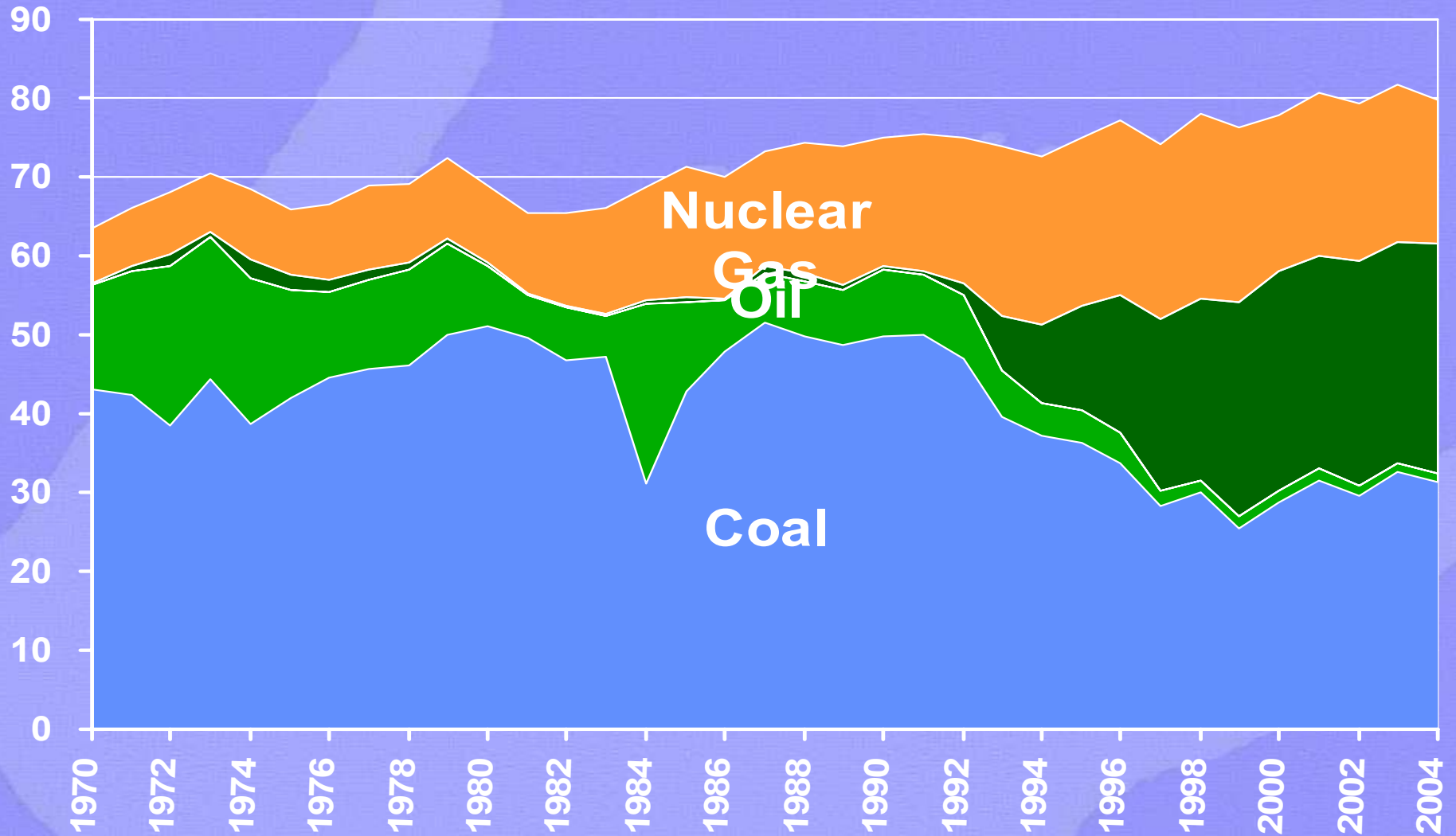
Transport Energy Demand



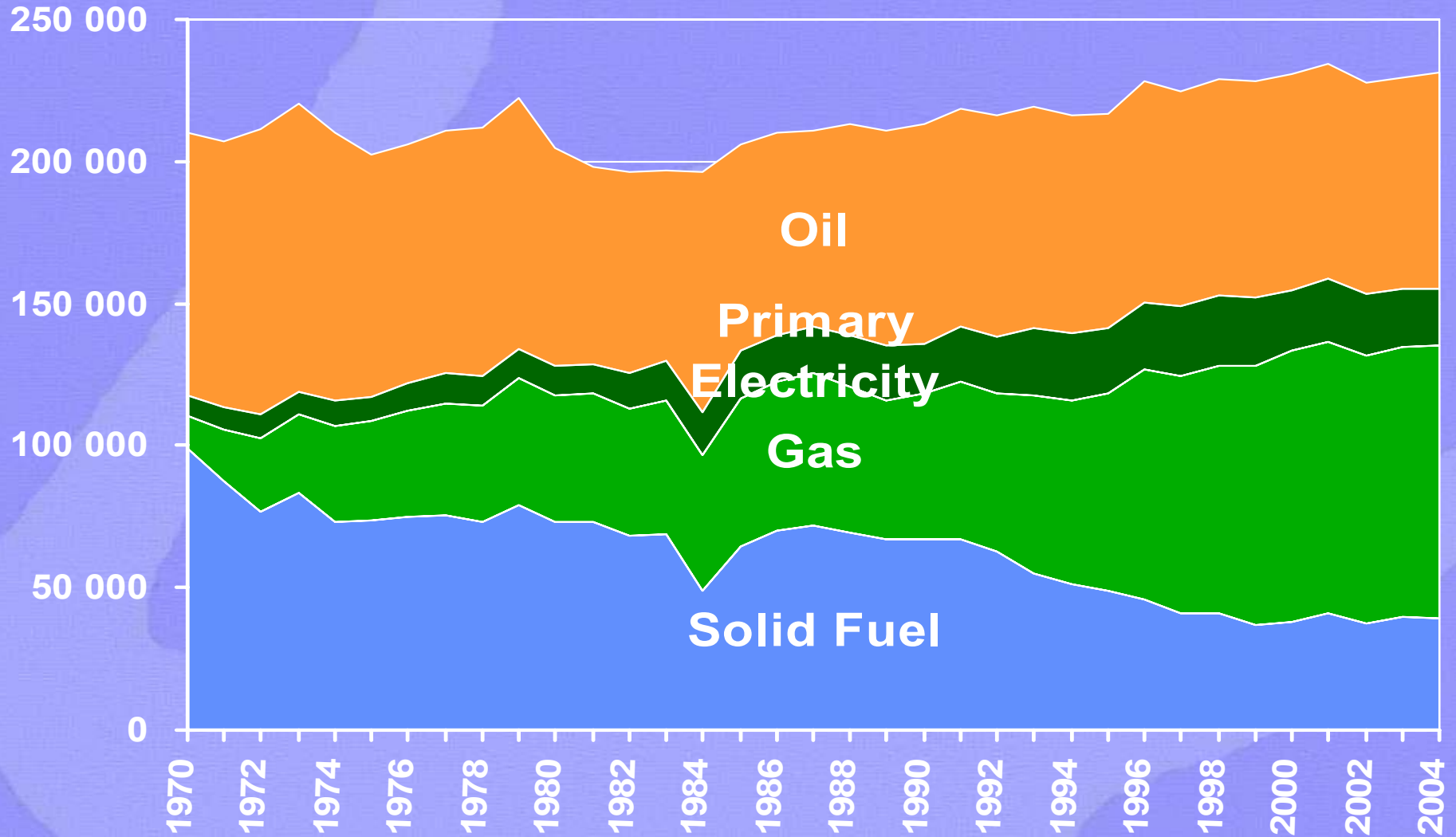
UK Energy Demand



Electricity Fuel Mix



UK Primary Energy Demand



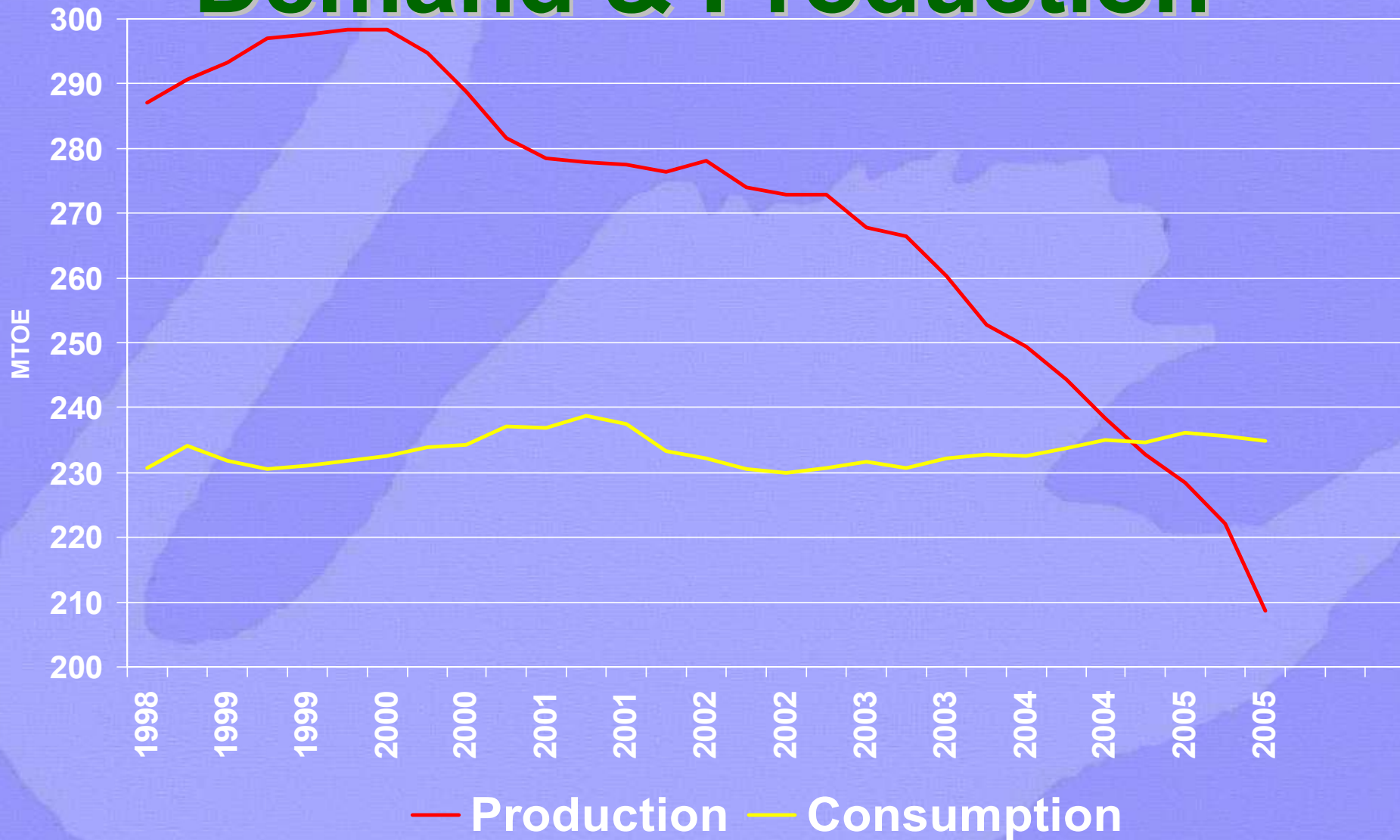
UK Primary Energy Demand

	% total
• Coal	18
• Gas	41
• Oil	33
• Primary Electricity	8
• Total	100

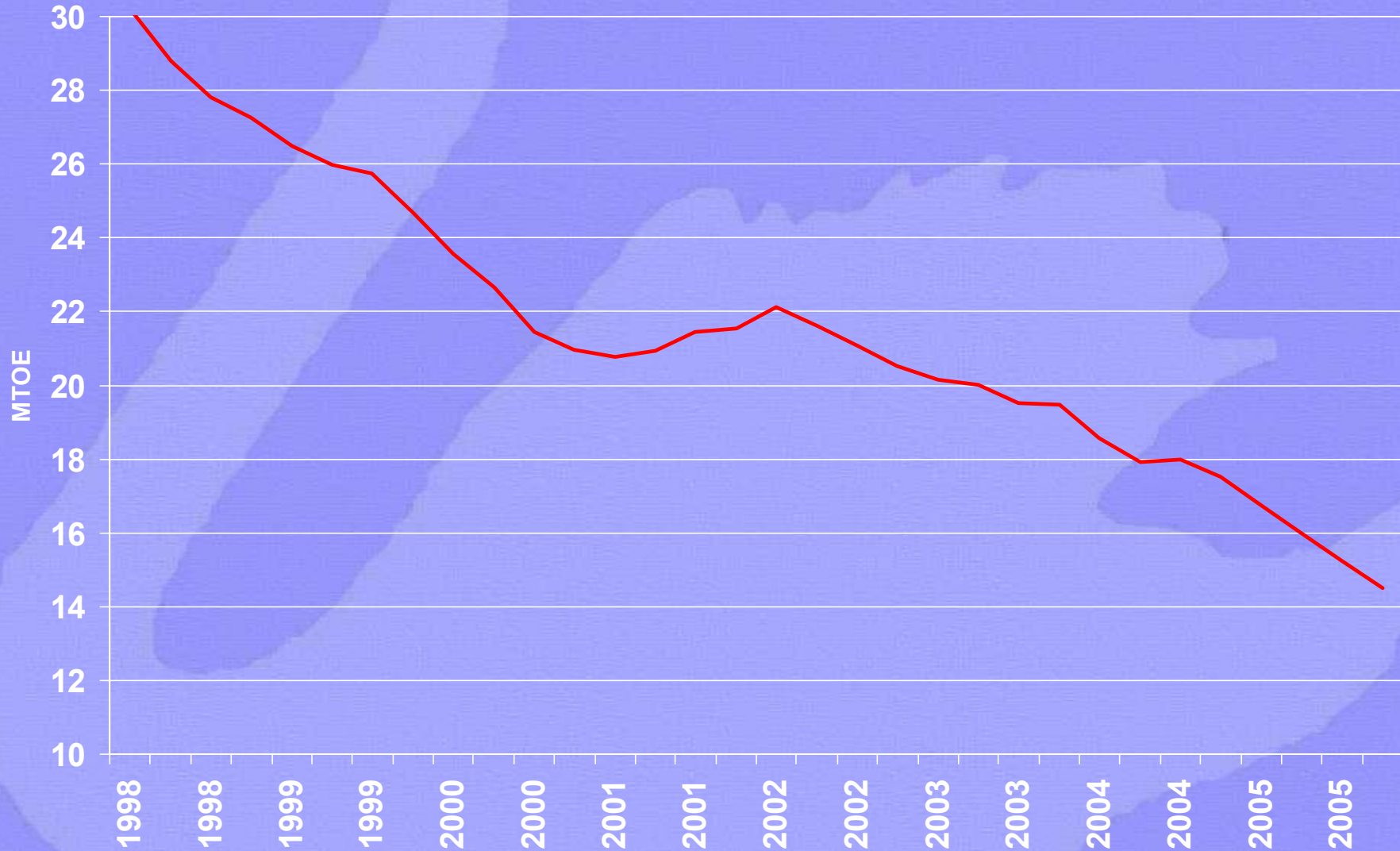
UK Primary Energy Demand

	% total	% import
• Coal	18	66
• Gas	41	12
• Oil	33	-
• Primary Electricity	8	-
• Total	100	17

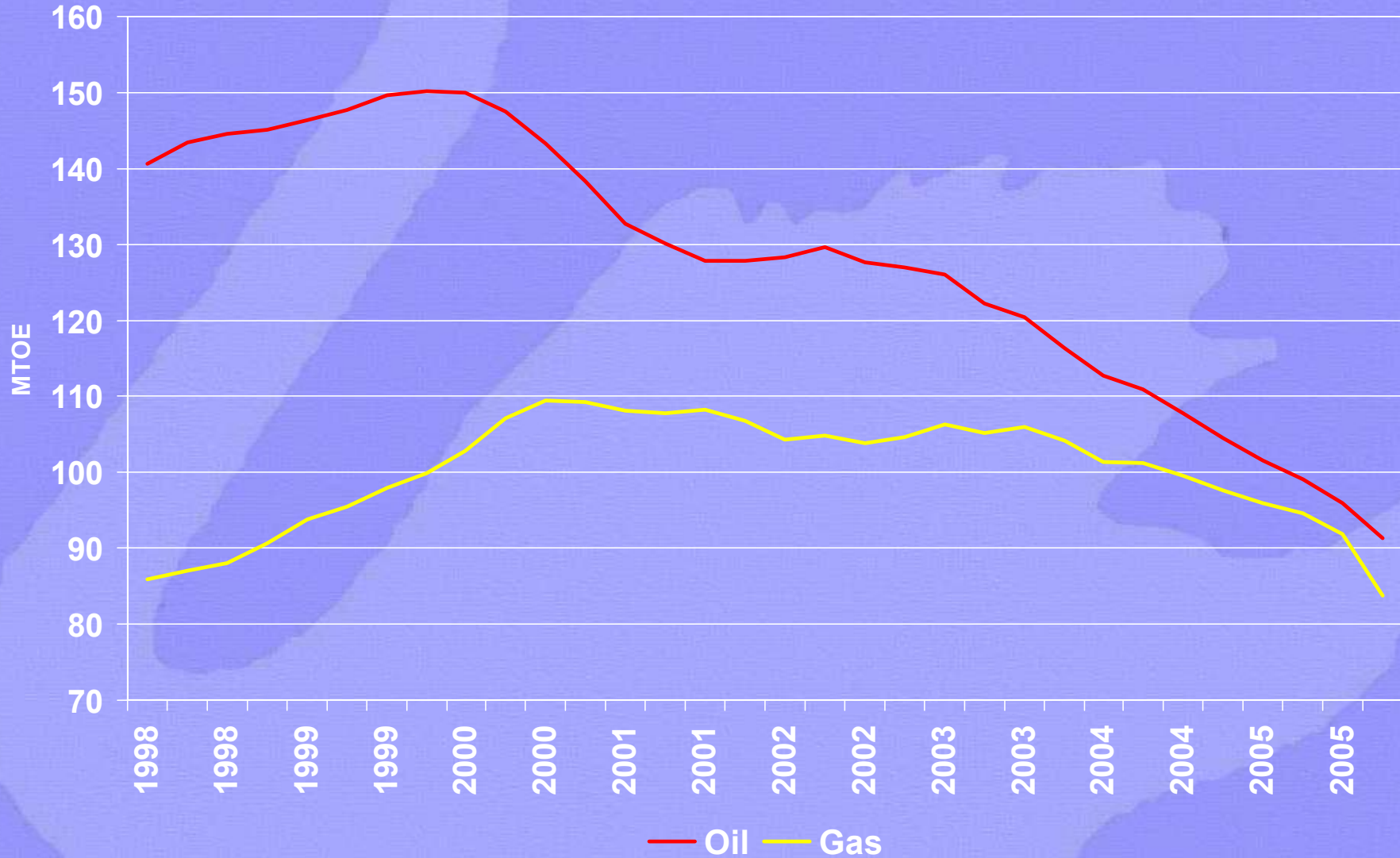
UK Primary Energy Demand & Production



UK Coal Production



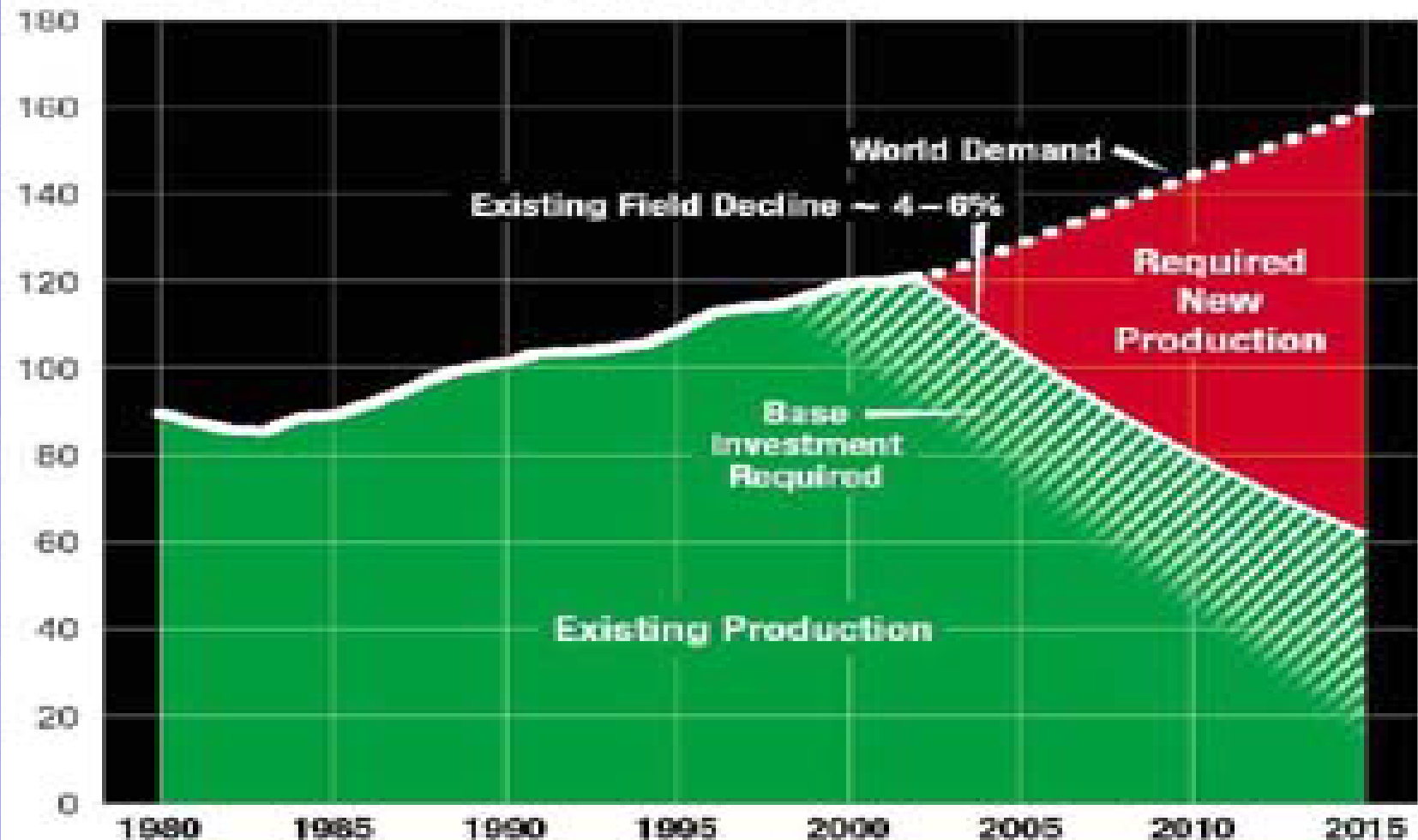
UK Oil & Gas Production



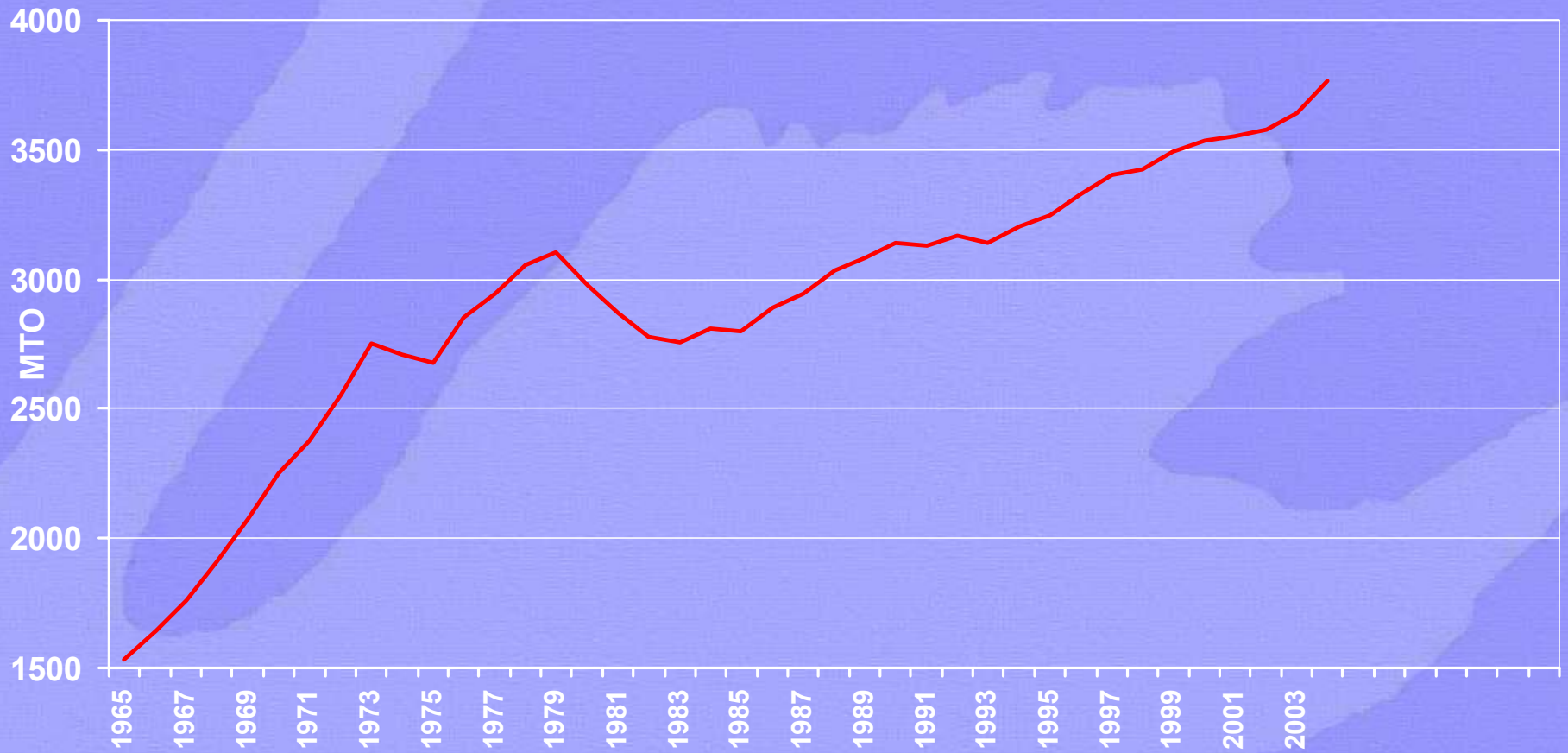
A View from Exxon Mobil

Supplying Oil and Gas Demand Will Require Major Investment

Millions of Barrels per Day of Oil Equivalent (MBOOE)



Global Oil Demand



Global Oil

Production	MTOE
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Saudi Arabia	506
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Russian Fed	459
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USA	330
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Iran	203
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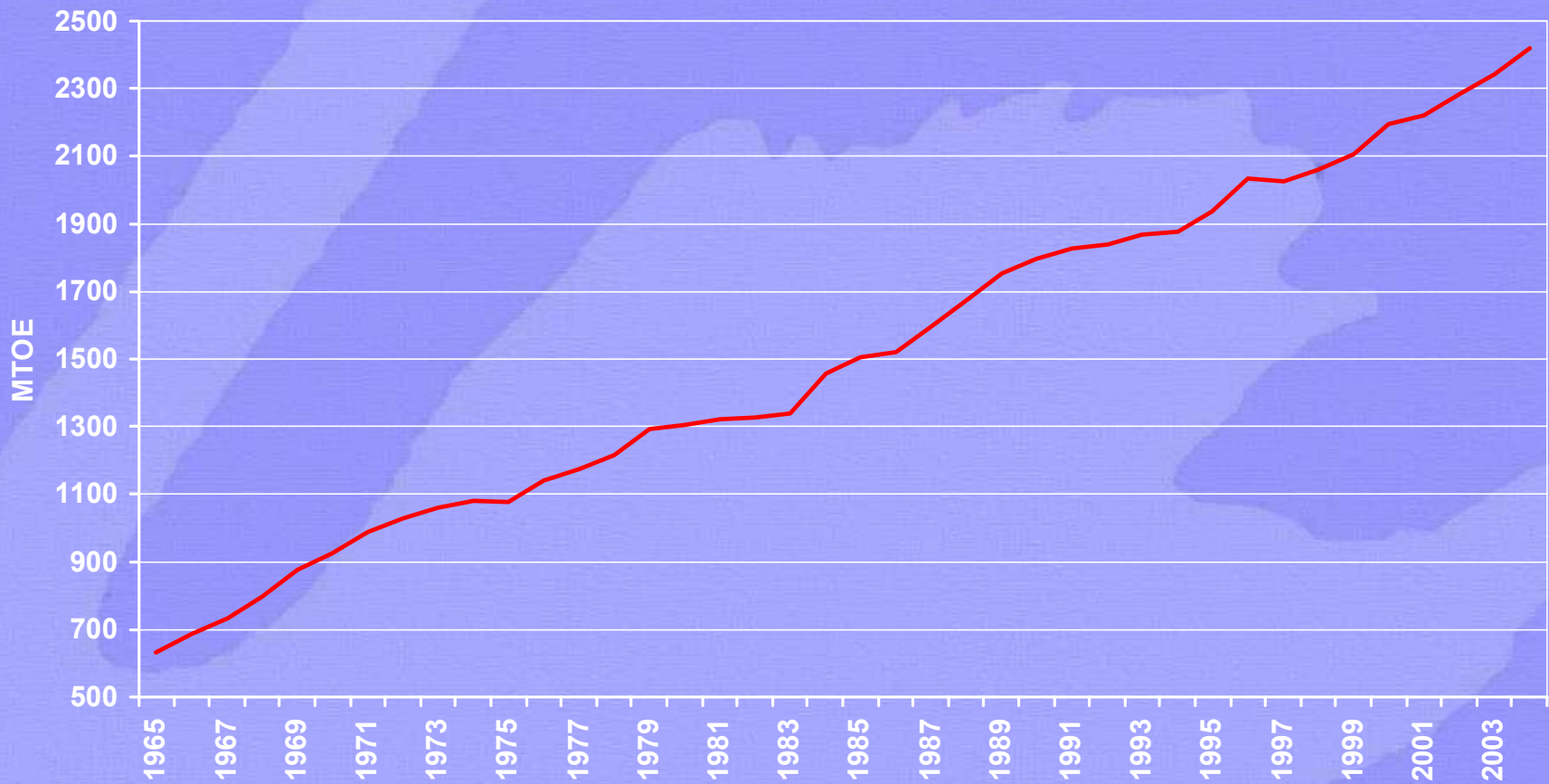
Mexico	191
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China	175
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Global Oil

Production	MTOE	Consumption	MTOE
Saudi Arabia	506	USA	938
Russian Fed	459	China	309
USA	330	Japan	242
Iran	203	Russian Fed	129
Mexico	191	Germany	124
China	175	India	119

Global Gas Demand



Global Gas

Production MTOE

- Russian Fed **530**
- USA **489**
- Canada **165**
- UK **86**
- Iran **77**
- Algeria **74**

Global Gas

Production	MTOE	Consumption	MTOE
Russian Fed	530	USA	582
USA	489	Russian Fed	362
Canada	165	UK	88
UK	86	Canada	81
Iran	77	Iran	78
Algeria	74	Germany	77

Global Energy Supply Outlook

- Oil production expected to peak before 2010
 - Oil demand is still accelerating
 - Demand may overtake production earlier
- Gas production to peak in 2020?
 - Gas demand is accelerating
- Coal production to peak in 2040?

General Situation - Oil

- Global oil demand overtaking supply
- Oil prices continue to rise
- Military adventures to secure oil supplies more likely
- Threat of terrorist action against oil installations is enhanced
- Middle east is becoming more unstable

General Situation - Gas

- US increasingly reliant on imports
- Gas prices continue to rise
- LNG market will grow rapidly
 - but infrastructure required
- Reserves are concentrated in middle east and Russia
 - both are unreliable
- Demand is concentrated in North America and Europe
- Gas is now a global market

Gas - LNG

- Total global LNG trade in 2003 was 168 bcm
- In 2004 this increased to 178 bcm
- US demand will be over 600 bcm by 2015
- Russian gas will go to Europe, China and Eur-Asia
- Asia-Pacific gas will go to Japan and Pacific rim
- Other LNG will come from the middle east
- Gas prices reflect general situation

Immediate Implications for UK

- Oil & gas prices will remain high
- Electricity prices will remain high
- Oil supplies may become restricted
- Gas supplies may become restricted
- The 'market' is not going to resolve our energy problems this time

Summary

- **Significant reductions in demand are needed**
- **Demand is dominated by transport and domestic sectors**
 - transport – mainly road & air
- **Electricity generation will become nearly all gas unless other sources are encouraged.**
- **Oil & gas are both becoming scarce and expensive**