British and European Imports of Russian Coal

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Nigel Yaxley
Managing Director
nigelyaxley@coalimp.org.uk

British and European Imports of Russian Coal: Current and Future Market Trends

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- UK in a European Context
- Import Trends
  - Port Infrastructure
- UK Generation Demand Drivers
  - Future Burn Scenarios
  - LCPD Issues
- Issues for Russian Coal in the UK
- European Opportunities
- SWOT Summary

UK dominates European imports from Russia

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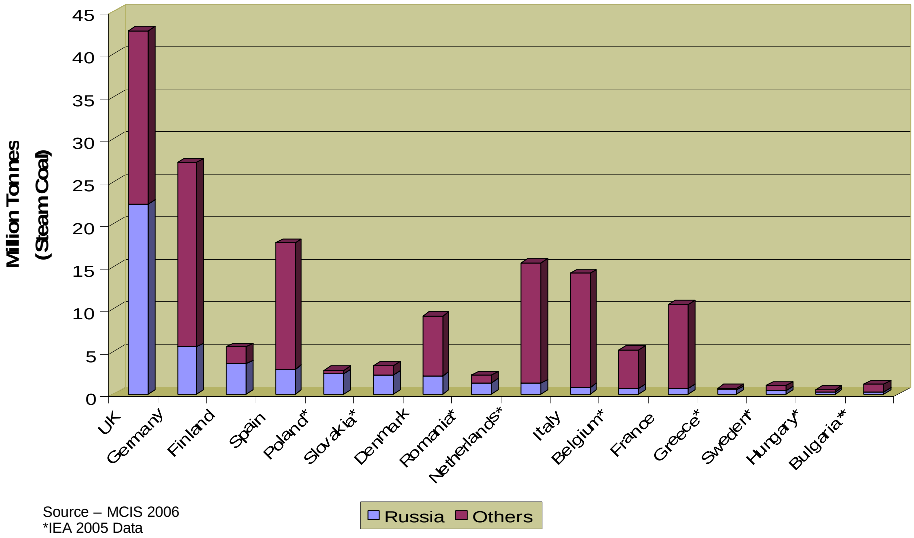

Source – MCIS 2006
*IEA 2005 Data

UK imports have grown dramatically…

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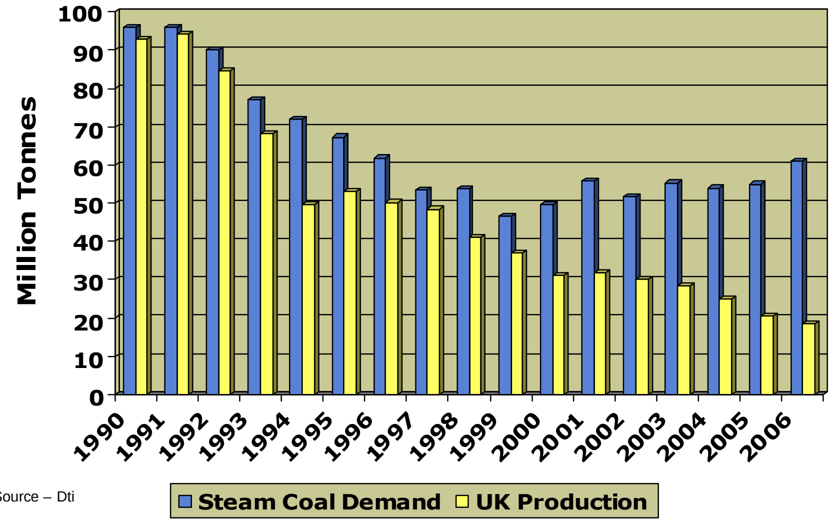

Source – Dti

…and in 2006 Russian imports exceeded UK supply

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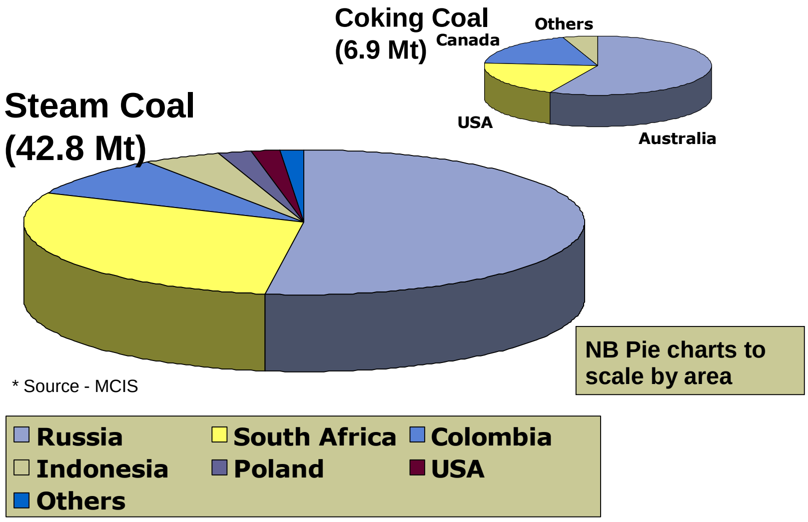

* Source - MCIS

Many UK ports were used in 2006…

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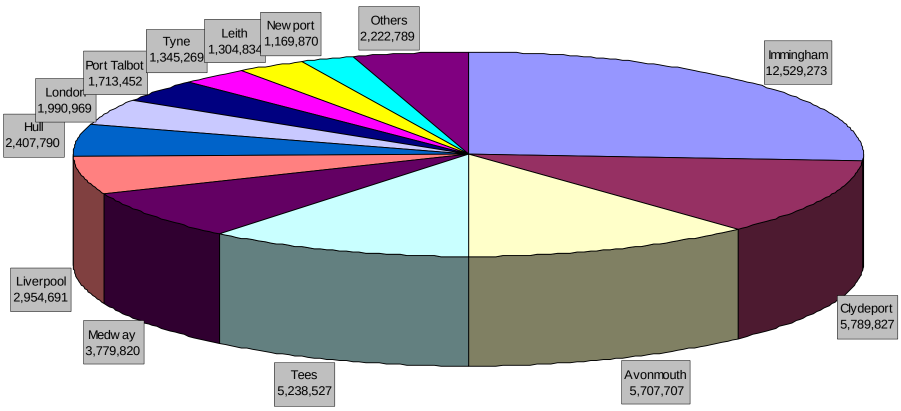

Source – HMRC

…with Russian imports the most widely spread

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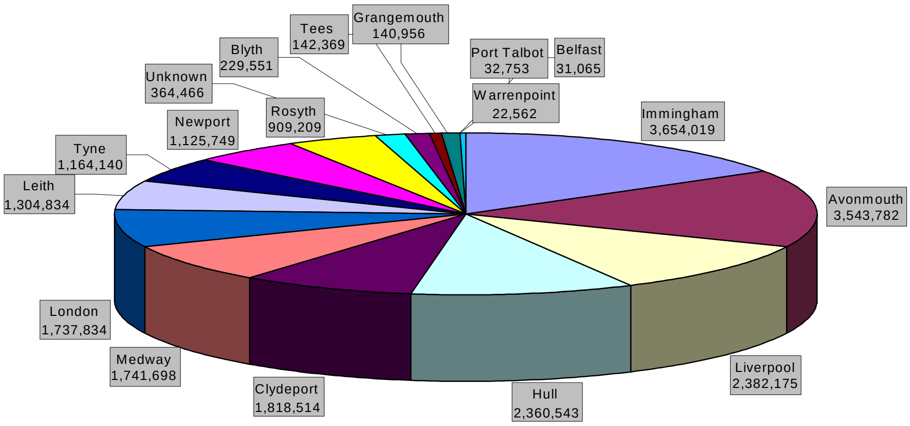

Source – HMRC

Ports all around the UK received Russian shipments

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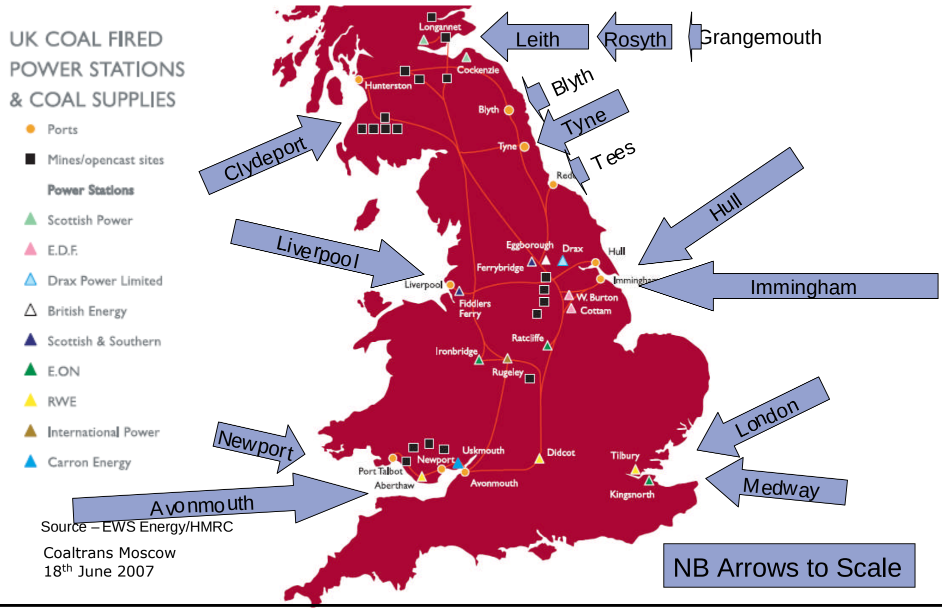


Source – EWS Energy/HMRC

NB Arrows to Scale

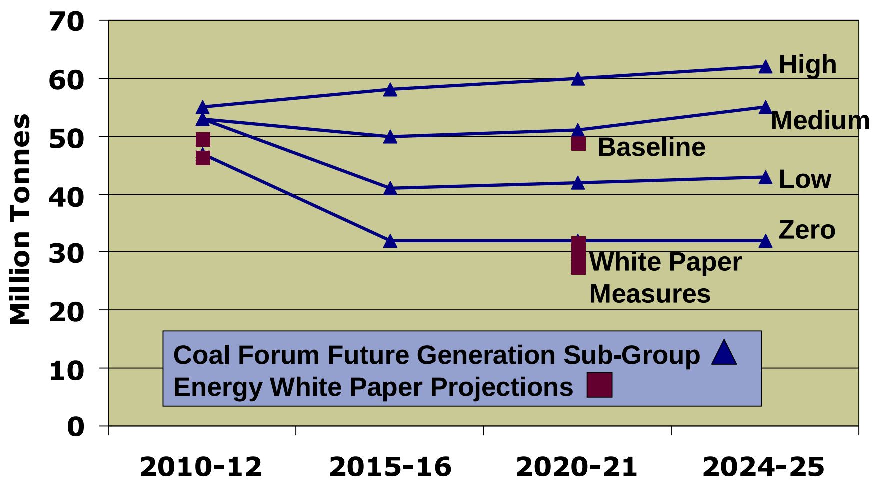
UK generation demand has several drivers

- Available capacity
  - New build/plant closures
  - Over 11 GW new coal plant planned
- Prices
  - Spark Spread vs Dark Spread (Clean)
  - Seasonality
- Large Combustion Plants Directive (LCPD)
  - Operating regime for opted-out plant
  - Progress with FGD installation
- EU Emissions Trading Scheme

Coaltrans Moscow
18th June 2007

Slide 9

Scenarios vary widely for future UK coal burn…



Coaltrans Moscow
18th June 2007

Slide 10

…and UK supply and demand scenarios cover a wide range

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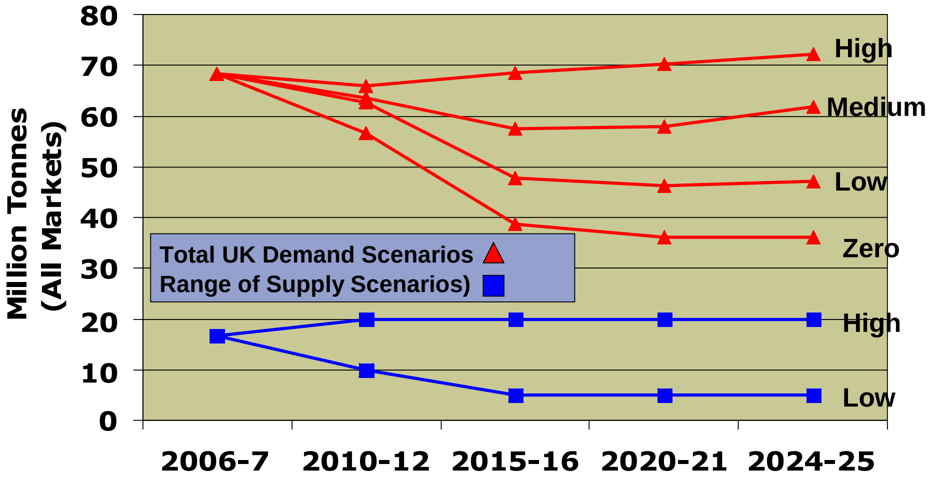

Purchase Options are Limited by the LCPD

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- New SOx and NOx limits from 1 January 2008 at opted-in plants
  - FGD plants will tolerate a range of sulphurs
  - But NOx becomes a bigger issue
- Opted-out plants run for 20,000 hours from 1/1/08 – must close by 31/12/15
  - Equates to 28.5% load factor spread over whole period
- IPPC plant limits will also apply
- Further tightening of NOx limits post 2015
  - May require Selective Catalytic Reduction (SCR)

Over 70% of plant is opted in to the LCPD…

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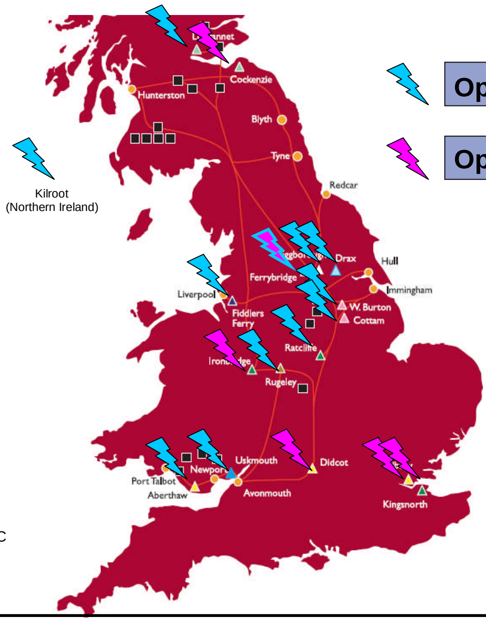

Opted-in – 20.6 GW

Opted-out – 8.2 GW

Source – EWS Energy/HMRC

Coaltrans Moscow
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…and over 11 GW new coal plant is proposed

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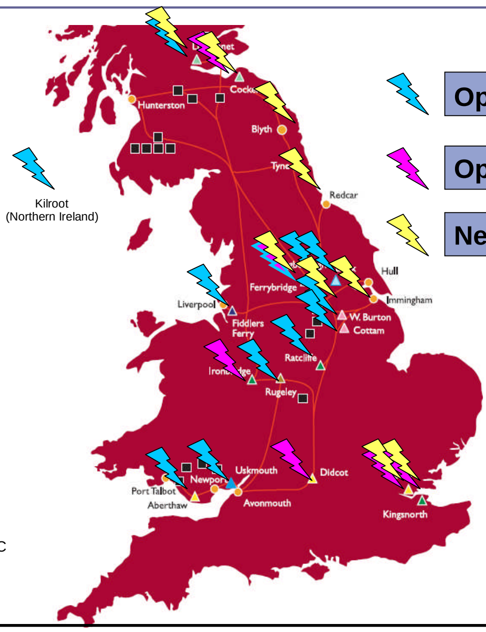

Opted-in – 20.6 GW

Opted-out – 8.2 GW

New – up to 11.4 GW

Source – EWS Energy/HMRC

Coaltrans Moscow
18th June 2007

20.6 GW of plant is opted in to the LCPD…

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Station	Operator	Capacity (GW)
Aberthaw	RWE npower	1.5
Cottam	EDF Energy	2.0
Drax	Drax Power	3.9
Eggborough	British Energy	2.0
Ferrybridge (stack 1)	SSE	1.0
Fiddlers Ferry	SSE	2.0
Kilroot	AES Kilroot	0.5
Longannet	Scottish Power	2.3
Ratcliffe	E.On-UK	2.0
Rugeley	International Power	1.0
Uskmouth	Carron Energy	0.4
West Burton	EDF Energy	2.0
TOTAL		***20.6***

…and 8.2 GW is opted out

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Station	Operator	Capacity (GW)
Kingsnorth	E.On-UK	2.0
Tilbury	RWE npower	1.0
Cockenzie	Scottish Power	1.2
Didcot	RWE npower	2.0
Ferrybridge (stack 2)	SSE	1.0
Ironbridge	E.On-UK	1.0
TOTAL		**8.2**

- Opted-out plant at Kingsnorth, Tilbury, Cockenzie and Ferrybridge may be retrofitted with supercritical boilers or replaced with new clean coal capacity
- Total new projects announced amount to 11.4 GW, but the outturn will depend on the regulatory framework

Russian Coal performs less well than others for NOx

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- Not a precise science
  - But some general conclusions
- Russian coal generally has high fuel nitrogen, which tends to push it down the NOx-friendly league table
- Indonesian and South American coals are preferred for NOx
  - UK buyers are trialling Indonesian coals

Relative NOx Emissions for World-Traded Coals

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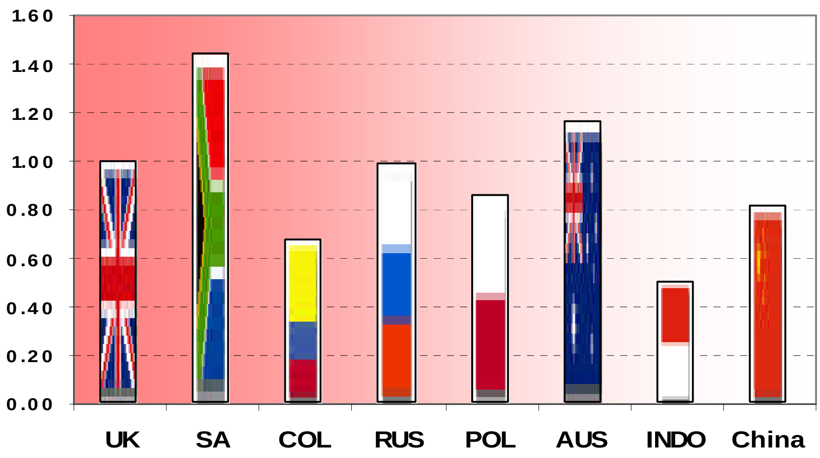

Source – E..ON UK

UK Generator customers want…

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- Consistent quality
  - No blends of high and low volatile content – all blend components should be high volatile
- Low sulphur – 0.3 to 0.5%
- Good calorific value – minimum 6,000 kcal Net
- Good handleability – 0 to 50mm and free flowing
- Reliable supplier – coal available for vessel
- Representative sampling of the cargo – introduction of automatic sampling.
- Competitive prices

Source – E..ON UK

Will Russian coal remain the dominant player in the UK?

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- Corporate Social Responsibility
  - Increasing concern over safety, social responsibility, environmental stewardship
  - Accreditation to international standards may be required
- Concerns over security of supply
  - Rail infrastructure
    - Concerns heightened by recent events
  - Political factors
- Buyers may look for greater diversity

CSR – Over-Arching Principles

- UN Global Compact Ten Principles
  - Covers human rights, labour, the environment and anti-corruption
  - Ties in several other UN declarations and conventions
- International Council on Mining and Metals – Ten Principles of Sustainable Development
  - ICMM working on verification processes to measure corporate performance against principles

CSR – Relevant International Standards

- Social Accountability 8000
  - Global, verifiable system for managing corporate social performance
- ISO 14000
  - Environmental management and verification system
- OHSAS 18001
  - Health and safety management system

Europe is the world's third largest coal consumer…

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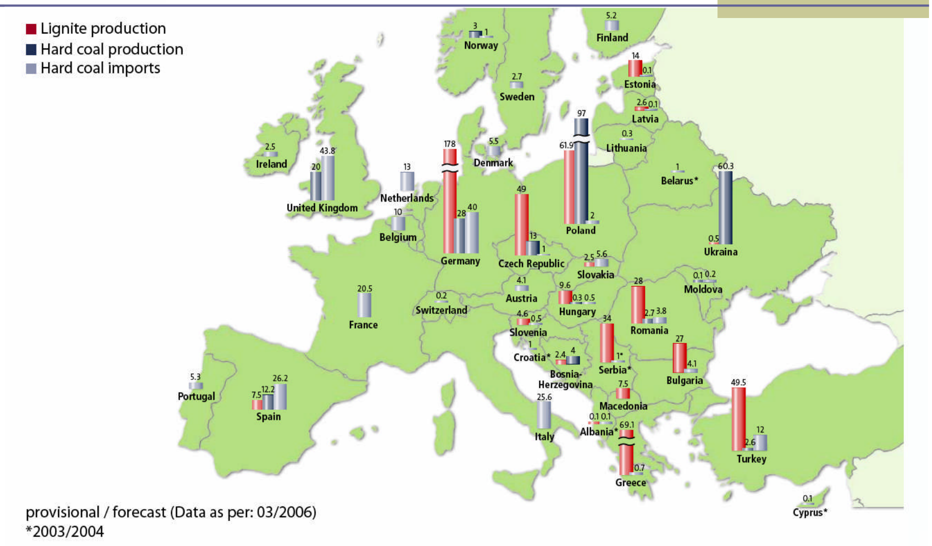

provisional / forecast (Data as per: 03/2006)
*2003/2004

…And the IEA forecasts coal imports to Europe growing

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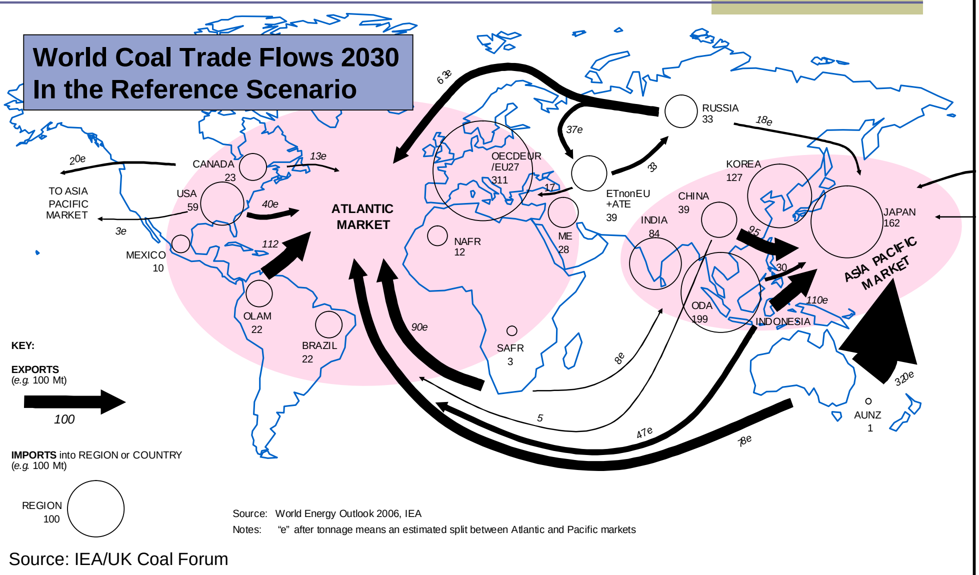

Source: IEA/UK Coal Forum

Reducing local production could create opportunities

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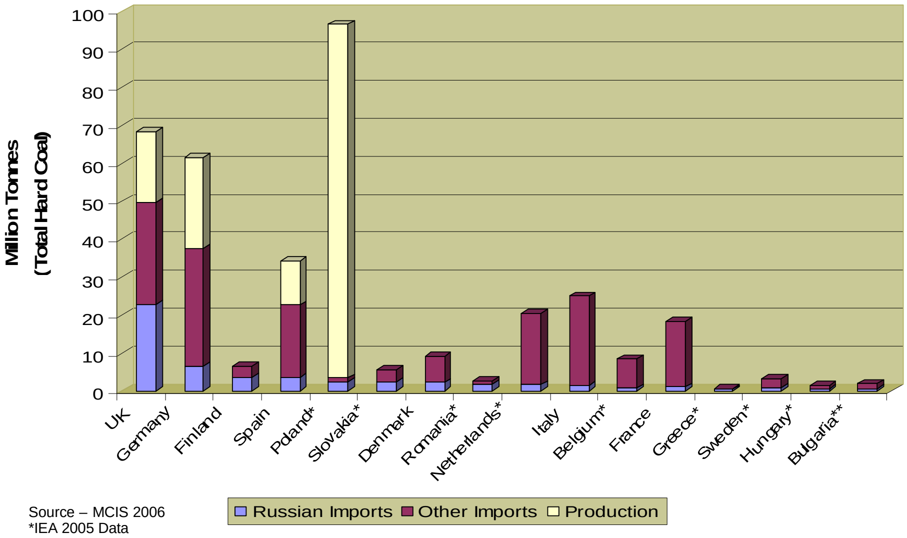

Source – MCIS 2006
*IEA 2005 Data

European hard coal production is reducing

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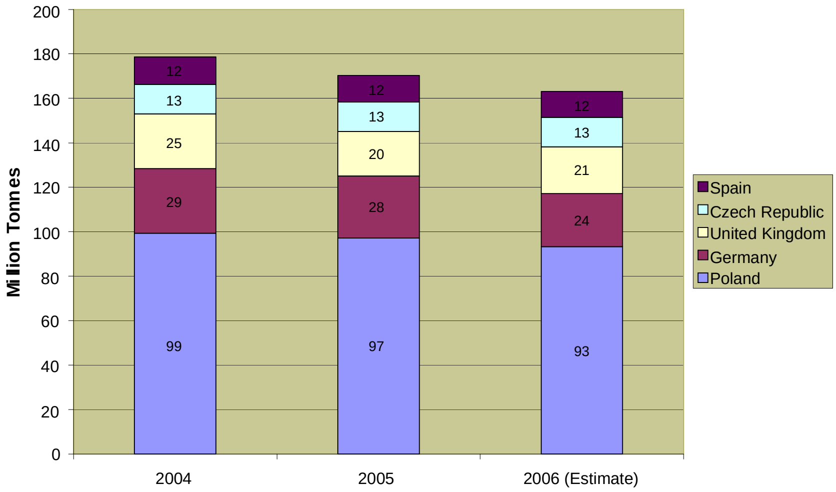

Summary - SWOT Analysis for Russian Coal in Europe

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- Strengths
  - Low sulphur
  - Smaller shipments
  - Improved quality and reliability
  - Established supplier relationships
- Weaknesses
  - NOx performance
  - Rail infrastructure
  - Corporate social responsibility issues
  - Cost base
- Opportunities
  - Demand from new plant
  - Reducing local supply
    - Poland/Germany?
  - Geographical advantages
- Threats
  - Climate change policies
  - Political interference
    - Real or perceived
  - Reduced international prices

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Thank You

SA 8000 Elements (1)

- Child Labor: No workers under the age of 15; minimum lowered to 14 for countries operating under the ILO Convention 138 developing-country exception; remediation of any child found to be working
- Forced Labor: No forced labor, including prison or debt bondage labor; no lodging of deposits or identity papers by employers or outside recruiters
- Health and Safety: Provide a safe and healthy work environment; take steps to prevent injuries; regular health and safety worker training; system to detect threats to health and safety; access to bathrooms and potable water
- Freedom of Association and Right to Collective Bargaining: Respect the right to form and join trade unions and bargain collectively; where law prohibits these freedoms, facilitate parallel means of association and bargaining
- Discrimination: No discrimination based on race, caste, origin, religion, disability, gender, sexual orientation, union or political affiliation, or age; no sexual harassment

SA 8000 Elements (2)

- Discipline: No corporal punishment, mental or physical coercion or verbal abuse
- Working Hours: Comply with the applicable law but, in any event, no more than 48 hours per week with at least one day off for every seven day period; voluntary overtime paid at a premium rate and not to exceed 12 hours per week on a regular basis; overtime may be mandatory if part of a collective bargaining agreement
- Compensation: Wages paid for a standard work week must meet the legal and industry standards and be sufficient to meet the basic need of workers and their families; no disciplinary deductions
- Management Systems: Facilities seeking to gain and maintain certification must go beyond simple compliance to integrate the standard into their management systems and practices.