
India & UK Energy Policy

Different countries, cultures and challenges

Zahras Duwahir

V.Ravi Babu

L.Sravanthi

Pranab Das

Sminu B

Anthony Browne

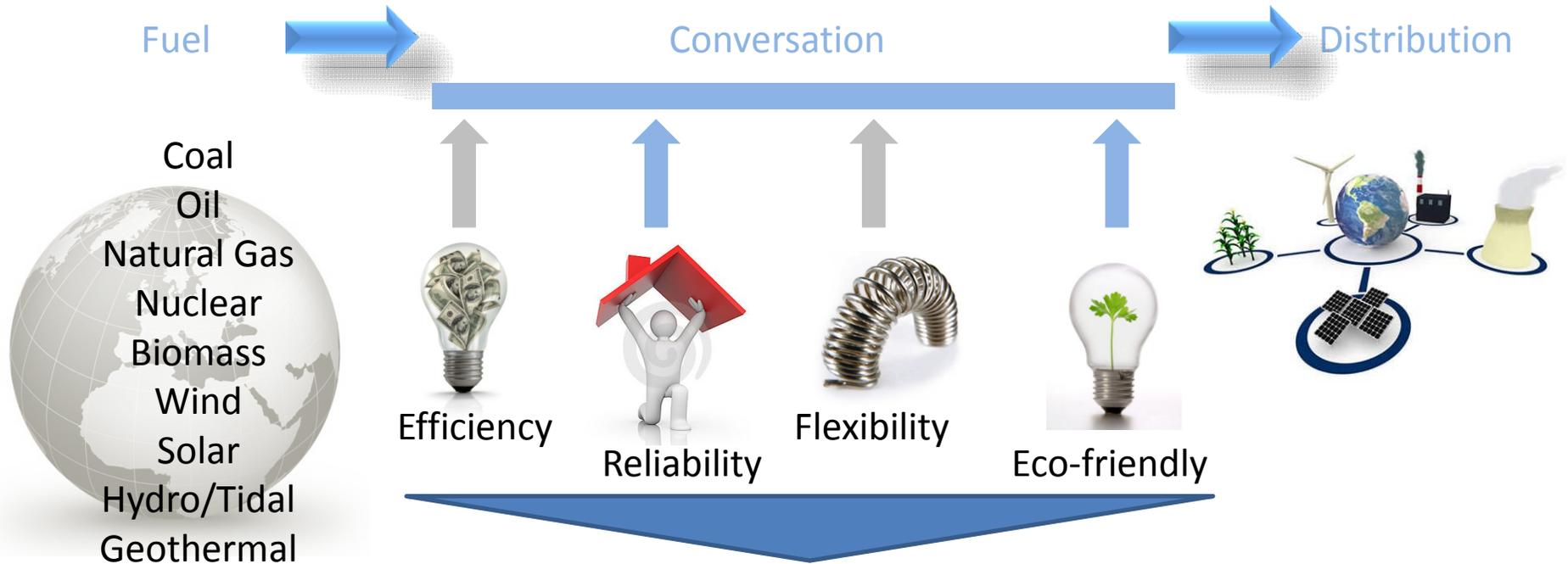


Contents

- Energy supply for India & UK
- Two challenging case studies
- Current problems
- Options
- Current policy
- Our Goals
- Our Policies
- Conclusions



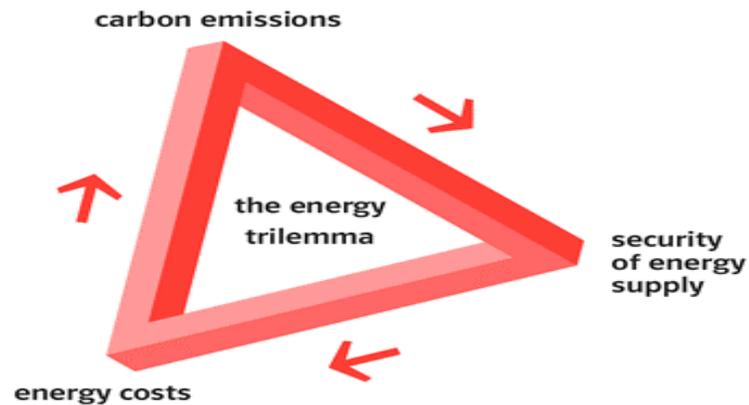
Energy Framework Process



Fuel should be flexible and reliable to make process eco-friendly and profitable.

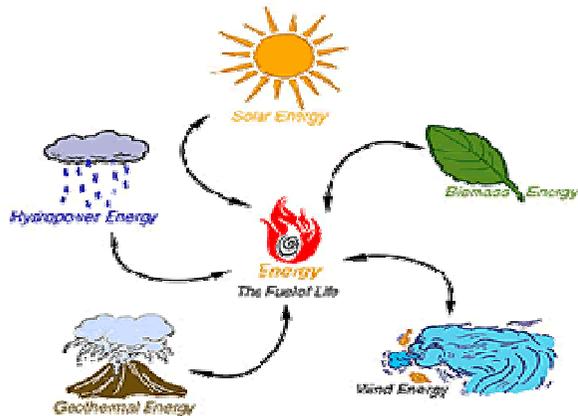


Energy Framework Process

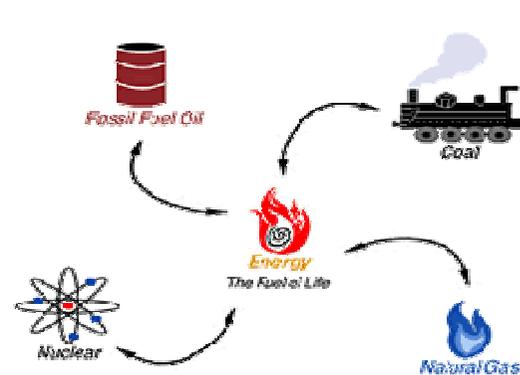


- The three parameters of the triangle are carbon emission, energy cost and security
- Energy companies try to reduce carbon emission and energy cost in balance to an increase in security of supply.

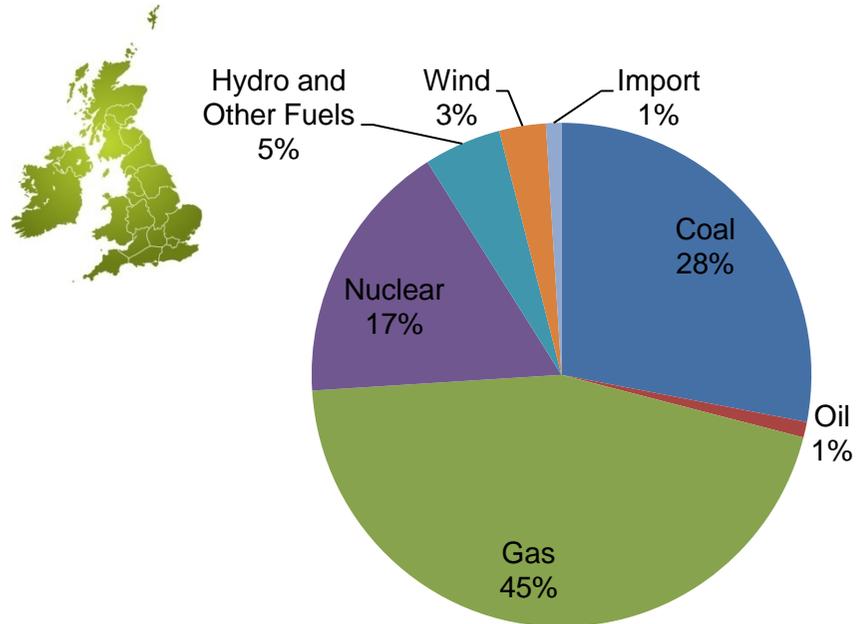
Renewable Energy



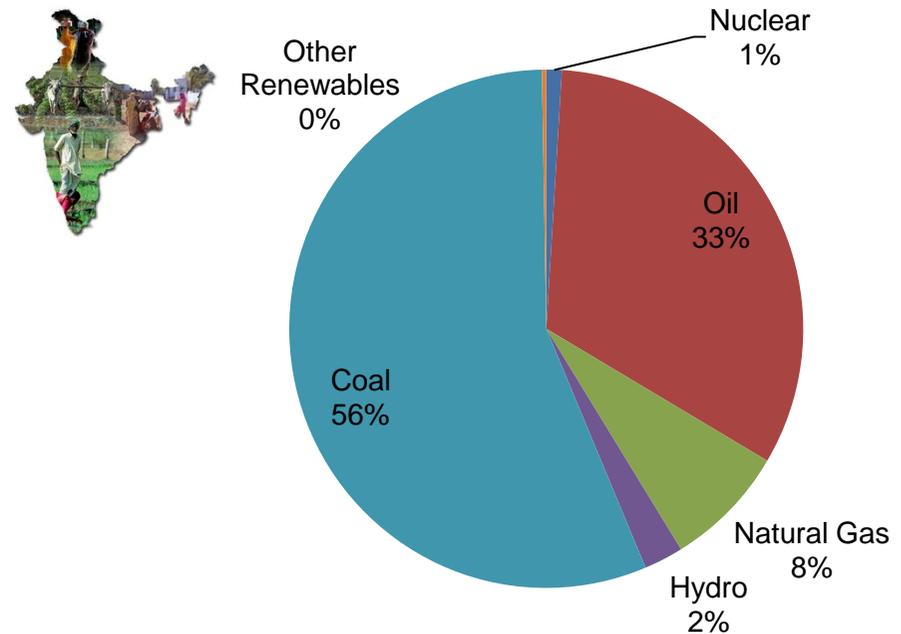
Non-Renewable Energy



Energy Supply in India & the UK



- Considered as a developed nation
- Fossil fuel plays a vital role in supply
- Ambitious target set to achieve CO₂ reduction

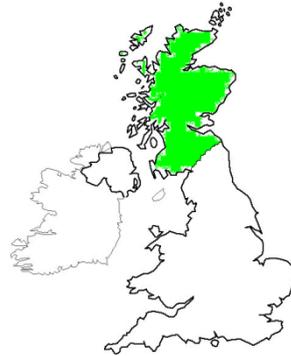


- Considered as a developing nation
- Coal and oil are the major
- Meeting demand is more important than mitigation from CO₂



Two Challenging Case Studies...

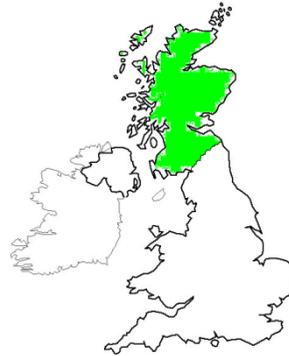
- Scotland
 - 33 Counties
- North East India
 - Assam
 - Meghalaya
 - Manipur
 - Mizoram
 - Nagaland
 - Arunachal Pradesh
 - Tripura



Two Challenging Case Studies...

•Scotland

- Area = 78,772km²
- Population ≈ 5.2 million
- Population Density = 66/km²
- Energy demand ≈ 175TWH
- Economic Growth ≈ 0.7%



•North East India

- Area = 262,230km²
- Population ≈ 39 million
- Population Density = 149/km²
- Energy Demand ≈ 13.5 TWH
- Economic Growth ≈ 22%



Current Problems

- Scotland

- Energy Poverty
- Transmission challenges
- Unexpected power cuts due to unpredicted weather changes
- High peak loads during winter
- Carbon emission mitigation
- Vulnerable people

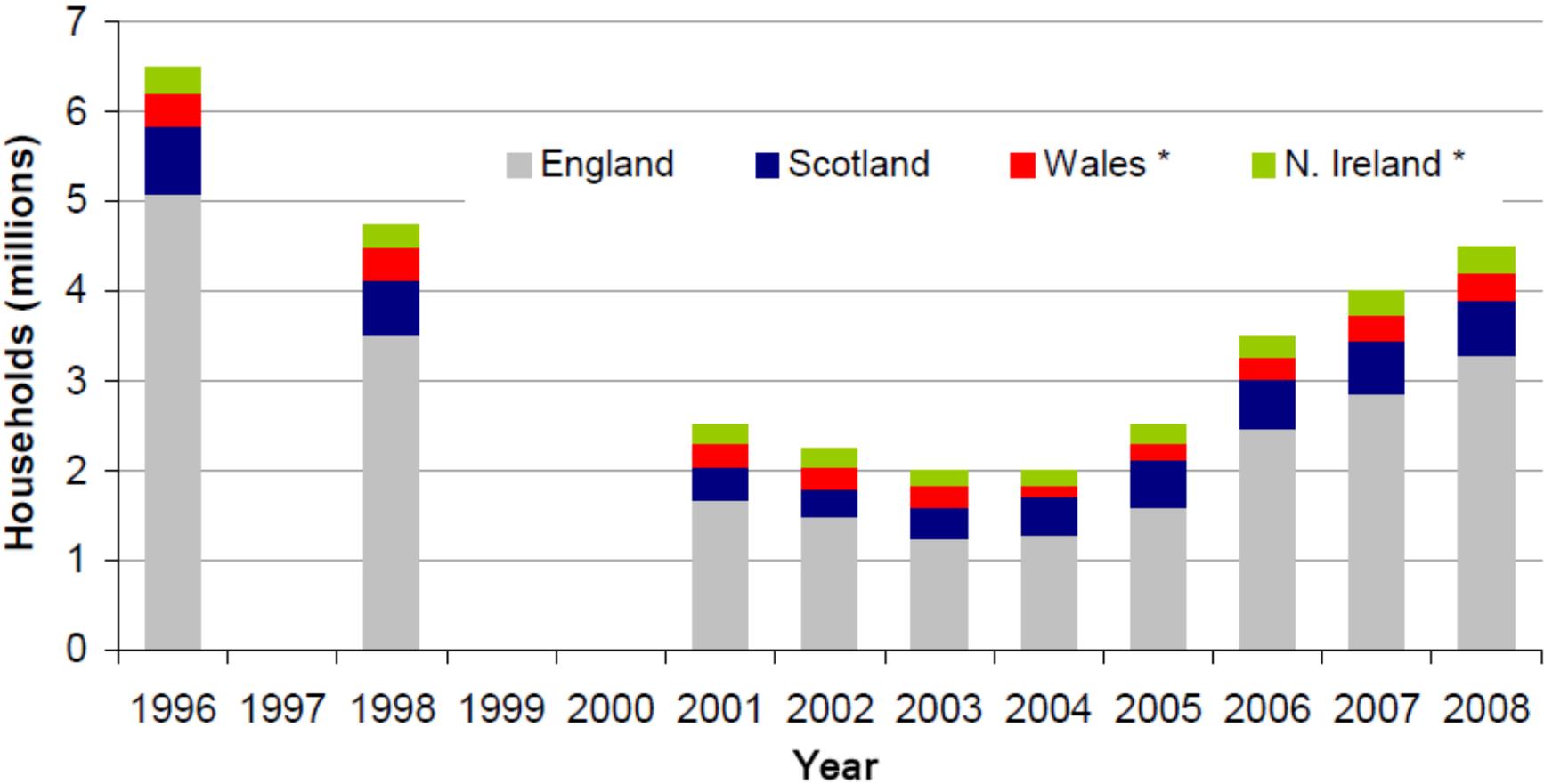
- North East India

- Energy Poverty
- 6h/day power cuts
- 23-31% transmission losses
- Limiting economic growth



Current Problems...

UK's energy poverty statistics



Options

- Smart Grids
- Consumption Reduction
- Power Generation;

Type	Scotland	North East India
Nuclear	Yes	No- seismic activity
Coal	No- carbon producing	No- carbon producing
Solar PV	No- poor light	Yes
Wind	Yes	Yes
Hydroelectric	Yes	No- seismic activity
Biomass	No- insufficient local feed	Yes
Gas	No- carbon producing	No- carbon producing
Oil	No- carbon producing	No- carbon producing



Current Policy

- Scotland

- Climate Change Act 2008
- Feed in tariffs
 - Already abandoned
- Energy Mix

- North East India

- Rajiv Gandhi Grameen Vidyutikaran Yojana (2005)
- Rural electrification policy (2006)
- 11th five year plan (2007-2012)



Our Goals

- Scotland

- Energy Security
- Carbon reduction
- Overcome transition costs
- Support economic growth
- Attitude shift

- North East India

- Energy Security
- Carbon Abatement
- Support Economic Growth



Our Policies

- Scotland

- Smart grids

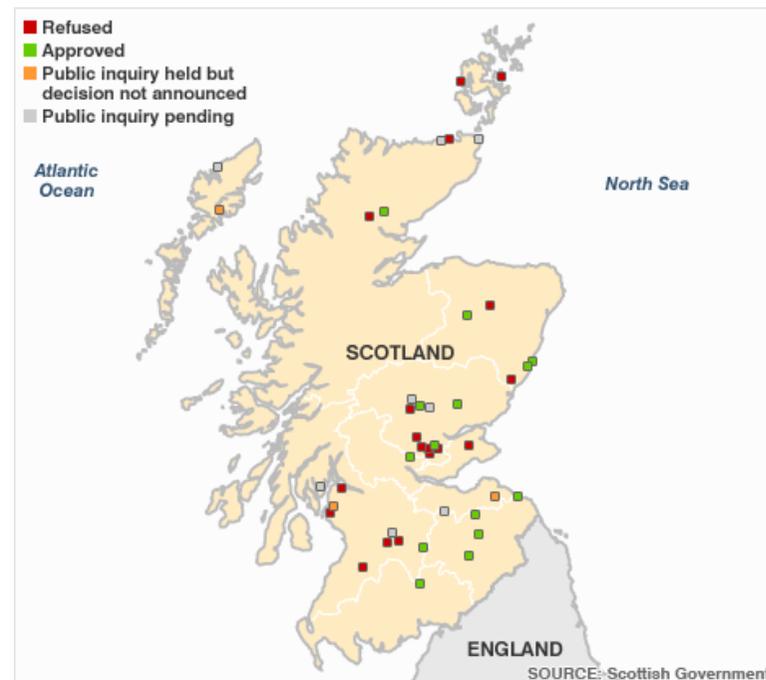
- Individually assessed minimum consumption = low cost per unit
 - Over minimum consumption = high cost per unit
 - Large privatized plant
 - Nuclear
 - Hydroelectric

- Micro generation

- Cheap Government Loans
 - Wind
 - Oscillating columns
 - Passive Solar
 - Efficient Heating

- Education

- Reduce consumption
 - Traditional Pass Times
 - Daily Innovation (eg Blackle)



Our Policies

- North East India
 - Privatization of Electricity Industry
 - Smart Grid
 - Individually assessed minimum power requirement (low cost)
 - Over minimum charged at high cost
 - Medium biomass plants (by tender)
 - Micro generation
 - Cheap Government Loans
 - Biomass gasification
 - Solar
 - Passive solar
 - Wind



Conclusions

- *Smart Grids*
- *Micro-generation*
- *Suitable for local environment*
- *Encourage local development*



References

Carin Zissis, India's Energy Crunch, Indian Council for Foreign Relations, 2007

Jyoti Parikh, Kirit Parikh, Indias Energy Needs and Low Carbon Options, Journal of Energy, 36, 3650-3658, 2011

I. Pillai, R. Banerjee, Renewable Energy in India: Status and Potential, Journal of Energy, 34, 970-980, 2009

Department of Energy & Climate Change, Annual; Report on Fuel Poverty Statistics, 2010

N. Robinson, Chris Huhne Briefs MPs on Long-Term Carbon Target, in BBC News, 2011

Ministry of New Renewable Energy, 11th 5 year plan (2007-2012), 2006



Questions???

