

**Event Summary Report on workshop**

## **The Future of Energy**

**Part of a series of  
Workshops held by  
Health in Your Environment (HIYE)  
Voluntary Sector Forum**

**Held on 2 April 2004**

# Summary Report from

## The Futures of Energy

Workshop event held on Friday 2 April 2004

## By the Health in Your Environment (HIYE) Voluntary Sector Forum

### 1. Key recommendations from the workshop

As individuals, if we can afford it, we can all choose to switch our electricity supplier to one that comes from renewable energy sources, such as Good Energy, Juice or Ecotricity.

HIYE representatives should be promoting the idea of the public sector showing leadership and acting as a good citizen. Therefore, we are proposing that:

- All new buildings should have photovoltaic systems considered for them as well as other alternative means of energy supply such as biomass.
- Energy efficiency should be a key consideration in the design of all new buildings.

### 2. Background to HIYE

HIYE (Health in Your Environment Voluntary Sector Forum) is a voluntary sector forum that brings together groups involved in health, social and economic regeneration and environmental issues in Nottingham Health District. Part of HIYE role is to organise a series of workshops, which are open to all. The workshops aim to raise awareness of environmental issues that have an effect on our health and how these issues can be tackled as individuals and action through groups like HIYE.

The workshops were funded by the **NHS Health Initiatives Budget** and the **Nottingham Community Foundation**.

### 3. Background to the Event

Two speakers we invited to give presentations on the future of energy within the UK, looking at the future of fuel and proposals and innovations which are planned and necessary to ensure continuation of energy supplies for the future.

The speakers asked to attend the workshop were:

- Gill Tidey – Chief Executive, Nottingham Energy Partnership (NEP)

- Matthew Thomas – Renewables and Social Action Manager, Npower

Each presentation was followed by a short question and answer session.

#### **4. Summary of presentations**

Copies of presentation slides are attached to this report.

##### **4.1 Gill Tidey**

Gill spoke about the implications of the Energy White paper, as well as outlining the work of NEP and local initiatives in this field.

Key areas included in the presentation were:

##### Meeting government targets concerning CO<sub>2</sub> emissions (15% reduction of 1990 emissions by 2015, working towards a 60% reduction by 2050)

- Current emissions stand at:
  - industry/commerce – 39% and falling
  - Housing – 27.5% and rising
  - Transport – 26.5% and rising
 Of the above figures, emissions due to holidays and food are increasing most quickly.
- CO<sub>2</sub> emissions rose by 1½% in 2003. Was this the end of the “dash for gas”?
- By 2006, the UK will be a net importer of gas.
- By 2010 the UK will be a net importer of oil.
- By 2020, three quarters of our primary energy needs will be imported.
- The UK will be subject to price fluctuations and supply issues.
- In the white paper, emphasis has been placed on the public sector to show leadership in terms of the use of renewable energy.
- European directives are due in 2005 to ensure that developers “consider” the use of renewable energy in all new buildings.
- Security of supply.
- Competitive markets.
- Adequate heating in homes.

##### **4.2 Matthew Thomas, Npower**

Matthew Thomas started by demonstrating the current structure of the UK’s electricity supply and generating companies:

- 25 electricity generating companies in the UK, but only 5 supply companies.
- Of the supply companies, 2 are British owned and the remaining three are French and German.
- Use of electricity is growing at between 2% and 3% per annum.
- 4% of electricity produced is currently supplied from renewable sources.

- 95% of renewable energy will come from wind power by 2015, at which time greater emphasis will be placed on the production of electricity using biomass, wave power and tidal.
- There is opposition to the development of wind power.
- The present grid can only cope with approximately 20% renewable sources due to their variable rather than constant supply.
- Carbon trading commences in 2005.
- There is an overall lack of a strategic view on energy.

## 5. List of attendees

Helen Ross	-	Nottingham City Primary Care Trust
Richard Eddleston	-	HIYE
Richard Chamberlain	-	Groundwork Greater Nottingham
Matthew Thomas	-	Npower
Gill Tidey	-	Nottingham Energy Partnership
Ian Hewitt	-	Nottingham Trent University
Alan Marshall	-	HIYE/AMICUS
Ruth Youngs	-	LA21 (Loughborough)
Loveen Labana	-	Nottingham Coalition for Disabled People
Nicky Swetnam	-	NEA Nottingham
Ian Cohen	-	Nottinghamshire Transport 2000

## 6. Other reading

<a href="http://www.nottenergy.com">www.nottenergy.com</a>	-	Nottingham Energy Partnership
<a href="http://www.npower.com">www.npower.com</a>	-	Npower
<a href="http://www.est.co.uk">www.est.co.uk</a>	-	Energy Saving Trust
<a href="http://www.dti.gov.uk/renewable/">www.dti.gov.uk/renewable/</a>	-	DTi – Renewable energy pages
<a href="http://www.greenenergy.org.uk/">www.greenenergy.org.uk/</a>	-	National Energy Foundation
<a href="http://www.agores.org/">www.agores.org/</a>	-	A Global Overview of Renewable Energy Sources

# **The Future of Energy**

## **Presentations**

## **Future of Energy**

- effect on health and environment

Gillian Tidey  
Nottingham Energy Partnership

## **Energy Provision in the UK: Issues and Opportunities**

Matt Thomas  
Renewables and  
Social Business  
Manager

### **Topics for Discussion**

- Background
  - Future energy demand
  - Energy white paper - towards a low carbon economy
- Reducing CO2 emissions
- Increased use of renewable energy
- Security of supply
- Increasing fuel costs and reducing fuel poverty

## Background

- Energy consumption has been steadily growing at a rate of around 2-3% annually
- Energy White Paper:
  - Reduce CO2 emissions
  - Maintain consistency of supply
  - Re-engineer delivery infrastructure to favour distributed generation
  - Promote competitive energy markets
  - Eradicate fuel poverty
- Energy policy should be viewed in geopolitical terms

## Reducing CO2 Emissions

- UK Kyoto target: 12.5% reduction in emissions by 2008-12 compared to 1990. In 2003 were about 14% below.
- Three ways to achieve this:
  - Use less fuel
  - Use renewable sources of power generation
  - Do both
- Four key UK initiatives:
  - Renewables Obligation
  - Energy Efficiency Commitment
  - Climate Change Levy
  - Carbon Trading - UK joining Europe

## Increased use of Renewable Energy

- Renewables Obligation is the UK's response to Kyoto targets - renewables are at the top of the government's energy agenda
- Currently around 4% of UK power is from renewables
- Government target of 15% renewables by 2015 (will mainly be achieved through on and offshore wind power - though other technologies will start to become commercial)

## Security of Supply

- Natural gas is the lowest carbon emitting fossil fuel - the UK has been self-sufficient though N Sea reserves. These are now starting to run out.
- Over longer periods, renewables are very predictable, but less so on a day-to-day basis
- In its current state, the national grid will accommodate around 20% renewables
- In the mid-term future there will be

## Increasing Fuel Costs and Fuel Poverty

- Since deregulation, the market has seen retail energy prices fall to unsustainably low levels
- However, like all finite resources, energy prices should reflect the true cost of delivery - both economic and non-economic costs
- A low-carbon economy must be paid for and complicated tariff structures for different sectors of society will mask the true costs

## In conclusion

- UK (and the world!) needs to drastically reduce its CO<sub>2</sub> output
  - Use of more renewable energy sources
  - Increased emphasis on energy efficiency
- Grid modifications required to accept new distributed (and micro) generation plant
- Energy prices should reflect true costs
- Social policy to eradicate fuel poverty

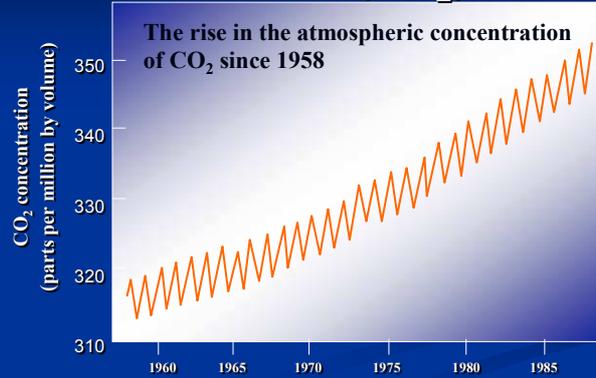
## Future of Energy - effect on health and environment

- Energy White Paper – objectives and issues
- National, regional and local support schemes
- NEP – role and mission
- NEP Current Projects
- Future issues

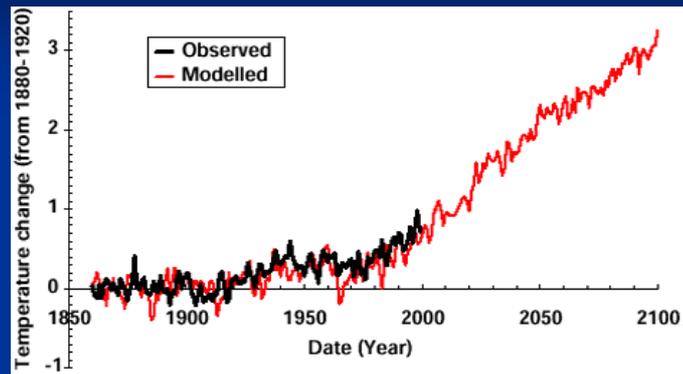
## The Energy White Paper

- Sets out 4 goals
  - To reduce CO<sub>2</sub> emissions by 60% by 2050
  - To maintain security of supply
  - To promote competitive markets
  - To ensure every home is adequately and affordably heated

## Recent historic trends - Carbon Dioxide (CO<sub>2</sub>)

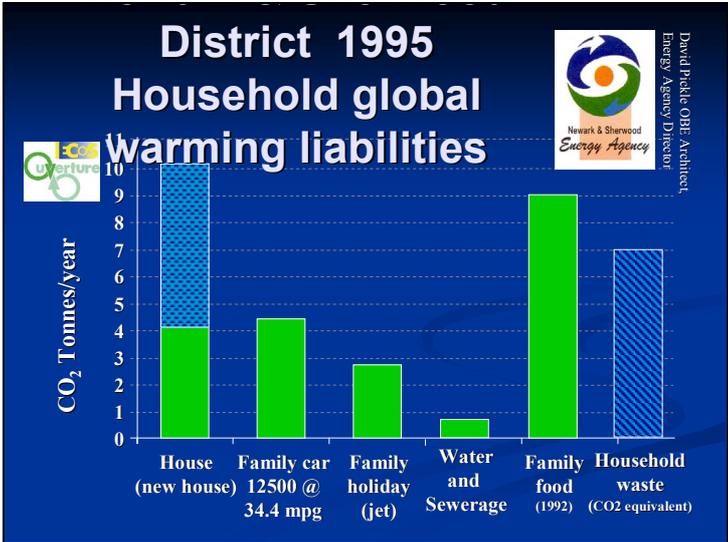
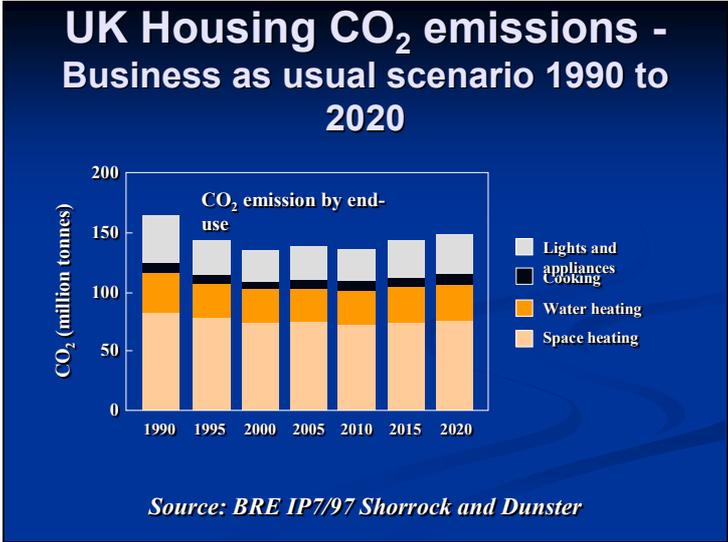
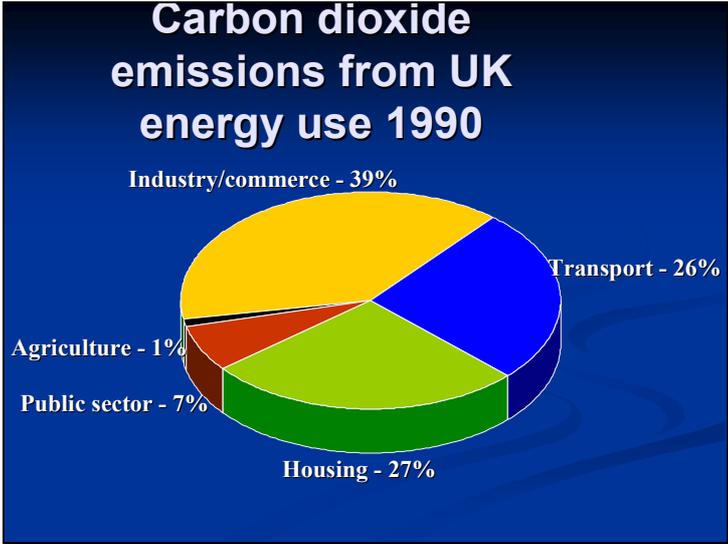


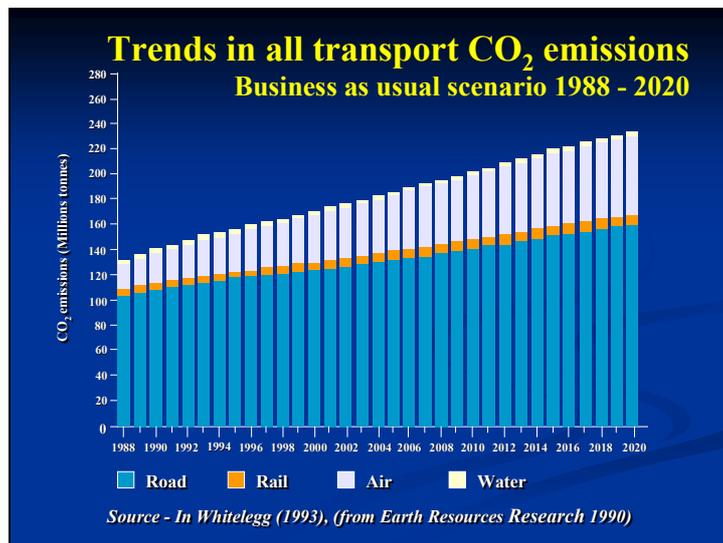
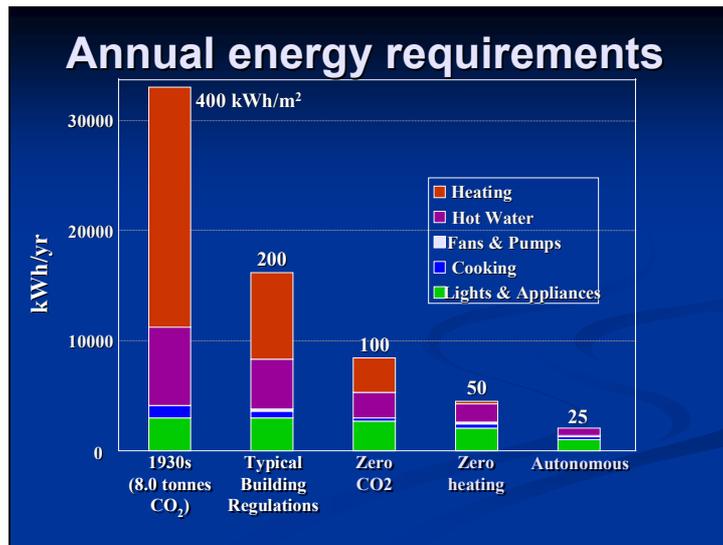
## Observed and Predicted Global Temperature Change



Source: The Met Office's Hadley Centre for Climate Protection and Research







### Can we meet Environmental Targets?

- Currently CO<sub>2</sub> emissions about 7% lower than 1990 levels
  - Mostly achieved by the dash for gas
    - UK coal industry is now largely closed
    - easy CO<sub>2</sub> gains gone
  - CO<sub>2</sub> emissions increased by 1½ % in 2003
  - Nuclear industry closures
    - - need 20% non carbon to hold the line
  - Energy efficiency improvements not really working
    - domestic consumption increased
    - Total Electricity consumption increased year on year

**Requires real cultural change in all sectors**

## Does the White Paper Deliver Security of Supply?

- 2006: net importer of gas
- 2010: net importer of oil
- 2020:  $\frac{3}{4}$  of primary energy needs from overseas

### **Vulnerable to price fluctuations and interruptions to supply**

It assumes

- No problem with imported gas supplies
- No serious problems with networks
- Lots of excess capacity in generation

## Does the White Paper Deliver Security of Supply?

However

- Power stations being mothballed – reducing capacity
- Older power stations due to be phased out
- Nuclear plants to be decommissioned
- Grid system not suited to small scale renewables

## Can we meet fuel poverty targets?

Target – no one to live in fuel poverty by 2016-18

- 3 million households currently in fuel poverty (reduced from 5 million in 1996)
  - 30,000 excess winter deaths ( 10% rise in 2003 )
- Prices artificially low
  - Energy prices already on the rise
- Oldest inefficient housing occupied by low income householders

## How is it to be achieved?

*Reduce energy demand  
Use energy more efficiently  
Use renewable energy  
Use fossil fuels cleanly*

*“relies on local authorities and regional bodies, working with the private sector and voluntary groups to deliver real change”*

- New energy bills and European directives
- Develop energy efficiency commitment
- Revise building regulations in 2005
- Higher energy efficiency standards in goods
- lower carbon fuels in transport
- Capital grants for Renewables
- Public sector improvements in buildings and procurement
- Carbon trading

## Does the White Paper deliver?

- Too reliant on single “imported” energy source?
- Wishful thinking on energy efficiency?
- Can Renewables fill the gap - slow and expensive?
- Will we have to have nuclear?
- State of power stations worrying
- Is deregulation undermining investment?
- How do we stop Capacity margins falling?

**Potential for energy supply failure, e.g. Cooper Basin**

## National, Regional and Local

- Energy Savings Trust
- Carbon Trust - CCP
- Energy Agencies and Advice centres
- Utilities - EEC
- Emda – regional environmental coordinator
- Warmfront (private sector)
- LSP's/Local Authority housing departments
- Nottinghamshire/Derbyshire Local Authority Energy Partnership
- NEP

## NEP Role and Mission

- To promote, encourage and facilitate
  - the eradication of fuel poverty
  - The education of energy use in all sectors
- Provides a forum for networking information exchange, developing projects with partners
- Membership includes private, public and voluntary sectors
  - eg, NEA, NCC, PCT's, Age Concern, ScottishPower, Powergen, Boots, Northern Foods, Speedo's architects, Warmfront, energy consultants, Property Owners Association, housing associations, etc

## STRUCTURE



## NEP Projects

**Greater Nottingham Healthy Housing Service.**  
20% of Nottingham homes in fuel poverty  
(national average (15%))

- To train frontline health, housing, social services and voluntary sector staff in the GNP area on the links between health and damp cold houses and provide an integrated multi agency referral service
- To ensure that energy awareness and advice reach the most vulnerable members of the community

## GNHHS makes a difference

- Between 2000-2003
- £603,400 investment per year
- More than 5000 Warm Front grants
- More than 2000 referrals to Age Concern & PAD
- 1000 referrals to Other agencies
- 85 Training courses

## NEP Projects

### Sungain

- 2 year project to install 400+ solar hot water systems in both public and private secotr houses
- Bulk purchase discounts through a European tender
- Tenders, training and accreditation of local installers
- Grants from Clear Skies programme

## Other NEP Projects

- Generating Solar Homes
  - Development of a guide on installation of photovoltaice for social housing providers
- QMC supply chain
  - Working with QMC, Carbon Trust and suppliers on environmental improvements
- Environmental Management guide
- Task Groups
- Seminars/Networking/consultations
- Newsletter/Website

## ReNU

- Developing the market and infrastructure for a local biomass industry
  - Offers security of supply and price stability
  - Job creation/protection in rural areas
- Currently 2 installations in Nottinghamshire
- Feasibility studies on 6+ others
  - Schools
  - Hospitals
  - Rural estates
  - Public/voluntary sector complexes
- Developing ESCO's

## Future Options

- It will need strong leadership, particularly at a local and regional level
- Local authorities to develop ESCO's, district heating schemes etc
- Real Partnership working – e.g. Healthy Housing Referral Service
- Supplementary planning guidance on renewables
- Setting standards on developments to ensure incorporation of renewable energy, eg solar, geothermal
- Train installers

# Matthew Thomas

## Npower

### Energy Provision in the UK: Issues and Opportunities

Matt Thomas  
Renewables and Social  
Business Manager

npower®

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  - Future energy demand
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- Reducing CO2 emissions
- Increased use of renewable energy
- Security of supply
- Increasing fuel costs and reducing fuel poverty

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## Reducing CO2 Emissions

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## Increased use of Renewable Energy

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- Currently around 4% of UK power is from renewables
- Government target of 15% renewables by 2015 (will mainly be achieved through on and offshore wind power - though other technologies will start to become commercial)
- Aspiration of 20% renewables by 2020
- Royal Society claim that 60% renewables by 2050 is essential if climatic change is to be halted

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## Security of Supply

- Natural gas is the lowest carbon emitting fossil fuel - the UK has been self-sufficient though N Sea reserves. These are now starting to run out.
- Over longer periods, renewables are very predictable, but less so on a day-to-day basis
- In its current state, the national grid will accommodate around 20% renewables
- In the mid-term future there will be increased reliance upon imported fuels
- However, an opportunity for UK biomass exists

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## Increasing Fuel Costs and Fuel Poverty

- Since deregulation, the market has seen retail energy prices fall to unsustainably low levels
- However, like all finite resources, energy prices should reflect the true cost of delivery - both economic and non-economic costs
- A low-carbon economy must be paid for and complicated tariff structures for different sectors of society will mask the true costs
- Who pays? The consumer, shareholder or taxpayer?
- Greater emphasis on energy efficiency and use of the existing benefits system are the most efficient ways of combating fuel poverty

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## In conclusion

- UK (and the world!) needs to drastically reduce its CO2 output
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