

# Developing Scotland's energy strategy – a 'whole system' approach

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Scottish Government

# Policy context and targets

## High level targets

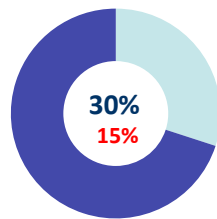
**Increase sustainable economic growth**

**Reduce Carbon emissions from electricity generation** by 85% by 2030 (50g CO<sub>2</sub>e/kWh)

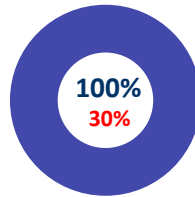
**Reduce Greenhouse Gas emissions** by 42% by 2020 and by 80% by 2050

To largely decarbonise **heat and transport** sectors by 2050

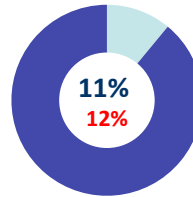
## 2020 Renewables targets



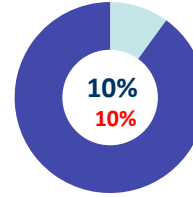
All renewables



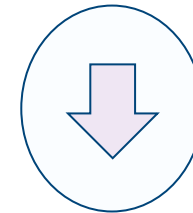
Electricity



Heat



Transport



Reduce final energy consumption by 12% by 2020

## Community and Local energy

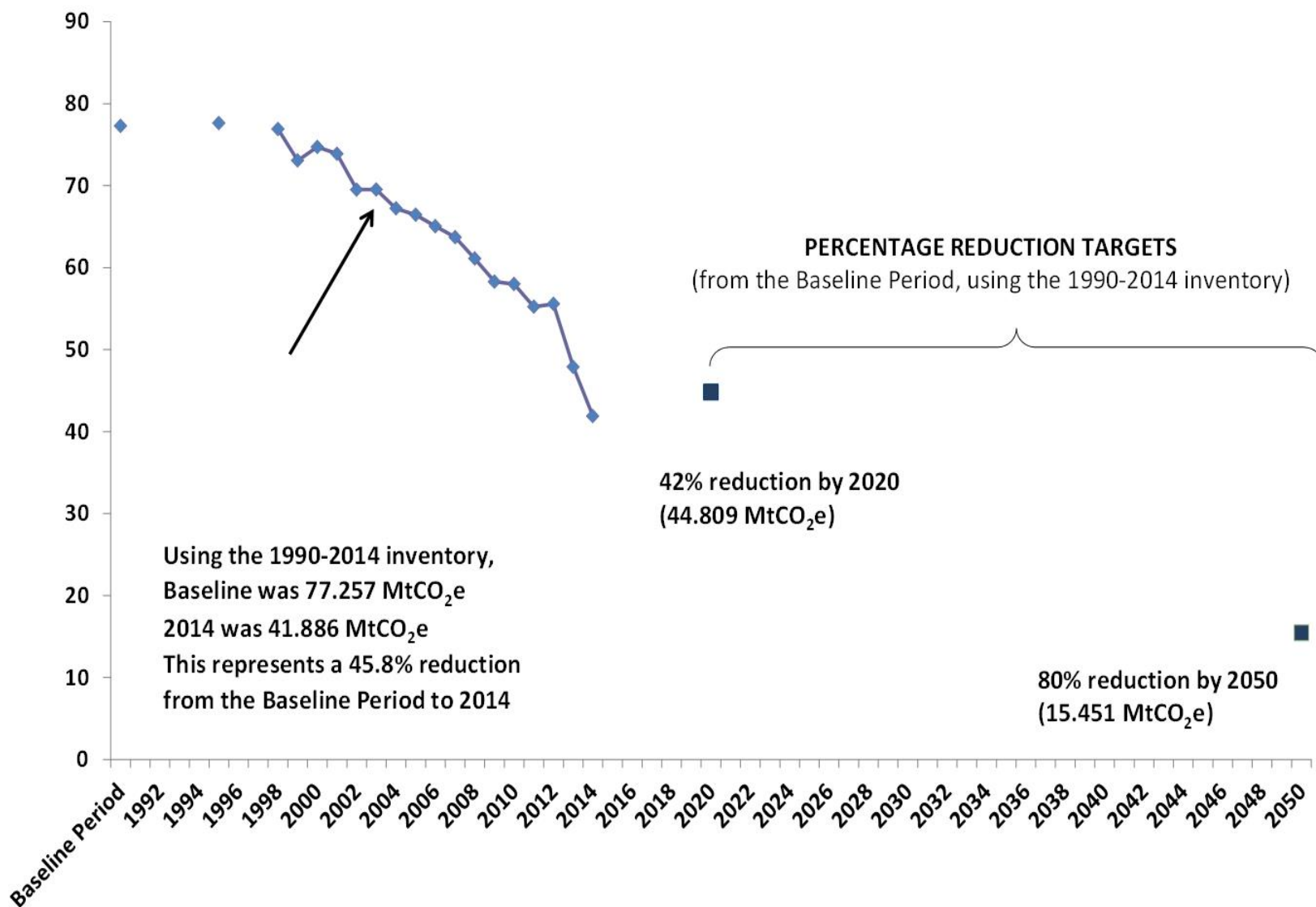
- Enabling local and community ownership of at least 500 MW of renewable energy by 2020, with a commitment to 1 and 2GW target for 2020 and 2030.
- Ambition to connect 40,000 homes to district heating, and 1.5 TWh of heat generated by district heating by 2020

## Oil and Gas

- Maximum economic recovery of North Sea Oil and Gas



## Emissions reduction trajectory



Climate Change will be a prominent feature of this parliament, we will:

- publish a **Climate Change Plan** - setting out infrastructure priorities for the coming decades
- a new **Energy Strategy**, a visionary statement of our plans for low carbon energy production and use over that period.
- Steering decisions on:
  - How we heat and power our homes and businesses,
  - How people and goods move around our country,
  - how our land is used and
  - how the standard of the buildings where we live and work can be improved to reduce the cost of energy.

1

### **‘Whole-system’ view**

- Addressing Scotland’s supply and demand
- Integrating approach to heat, power and transport

2

### **Stable, managed transition**

- Long-term plan, consistent with requirements of the Climate Change Act (Scotland) and new Climate Bill
- Managed transition of energy system, creating maximum social benefit and economic opportunity

3

### **Local energy solutions**

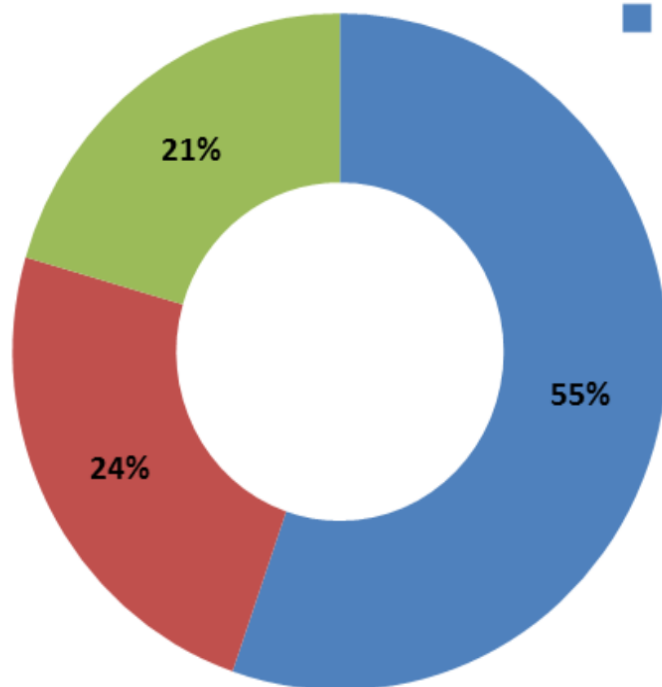
- Enhanced local planning and ownership
- New economic opportunity of energy storage and ‘smart’ energy solutions

## Scottish energy consumption

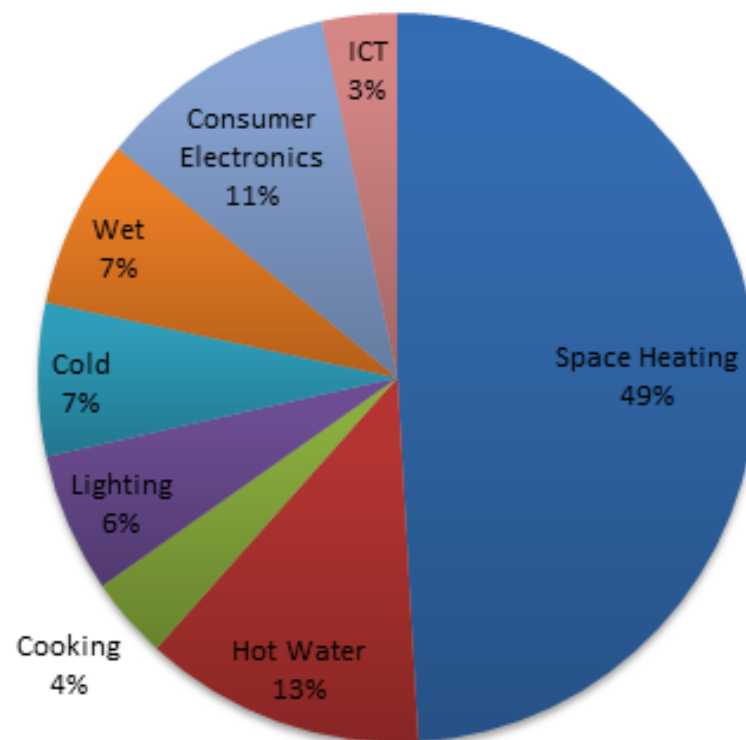
Electricity

Heat

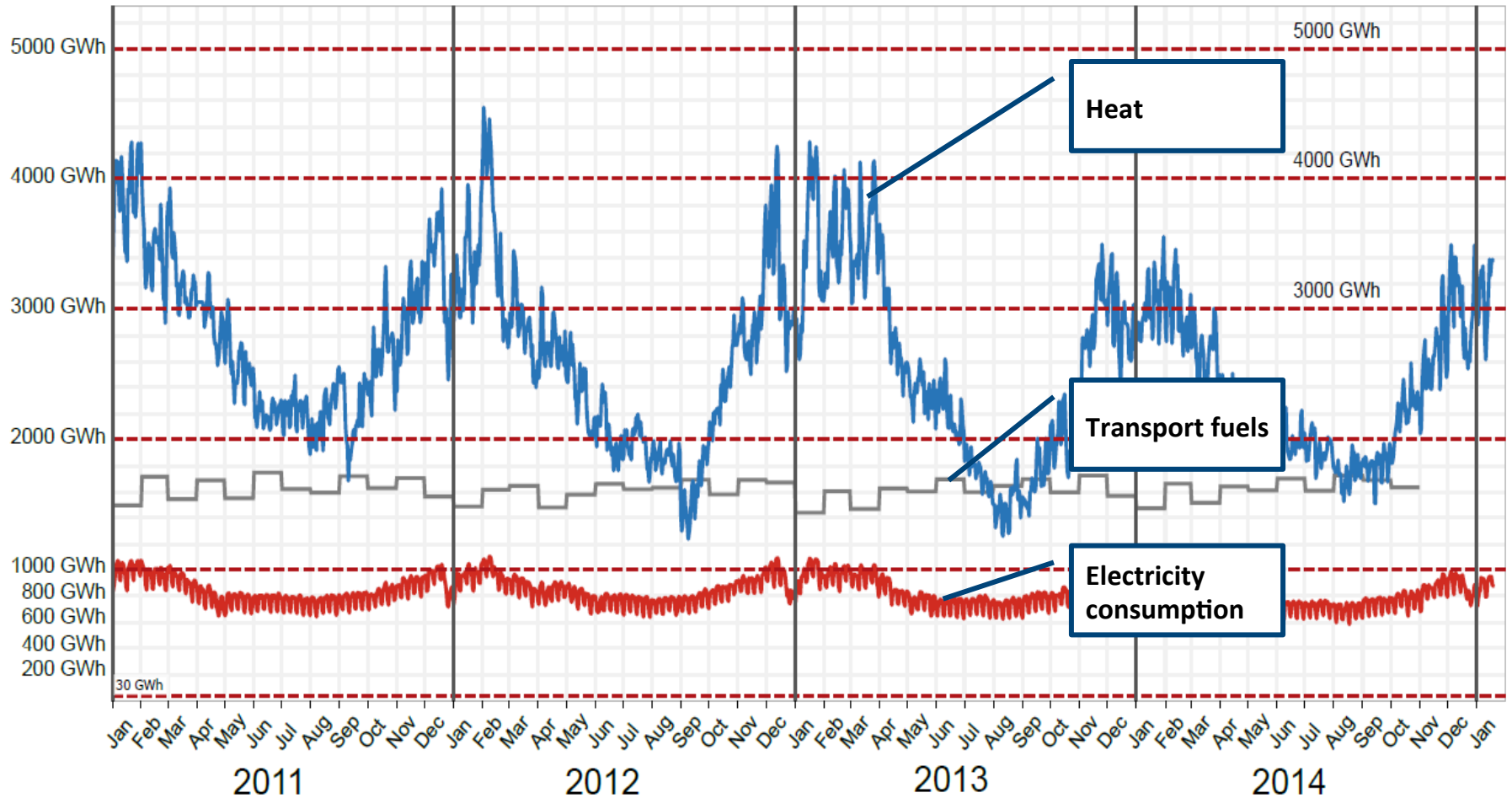
Transport



## Domestic energy consumption

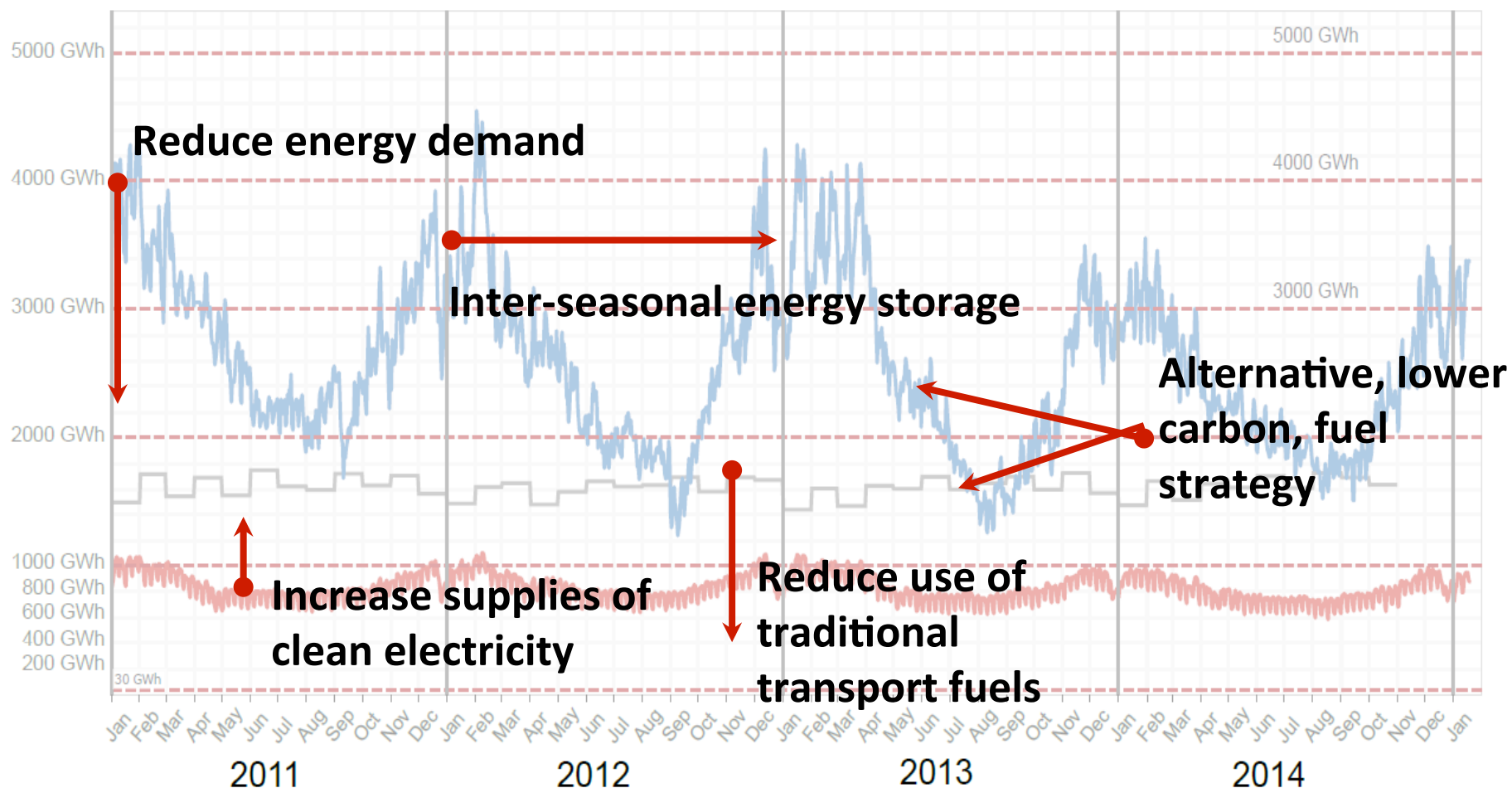


## GB energy consumption - per day

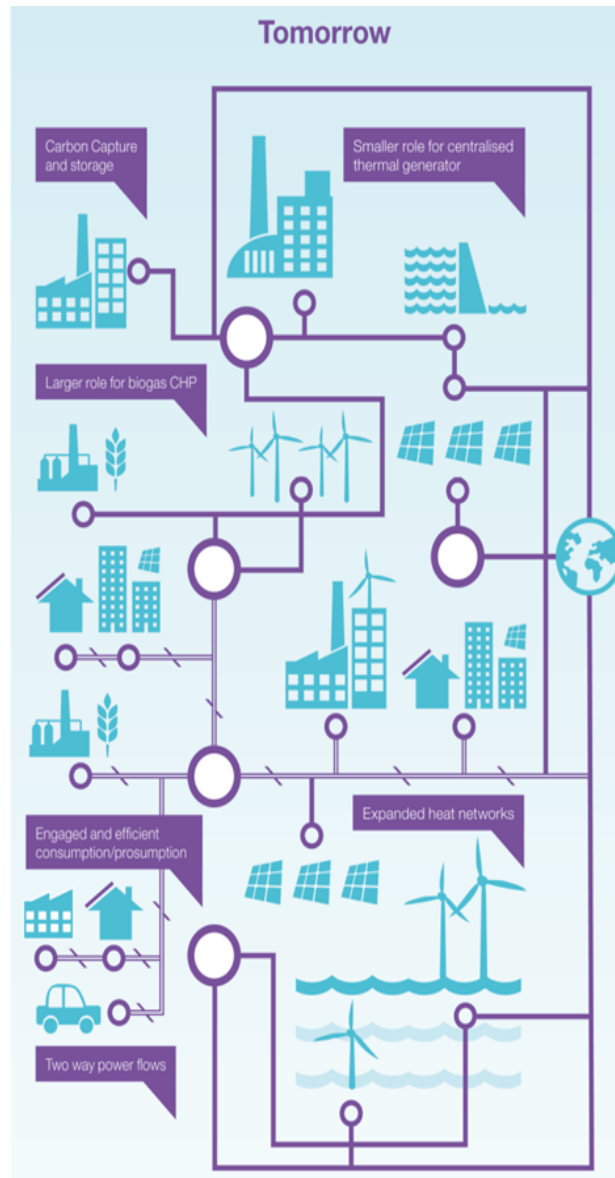
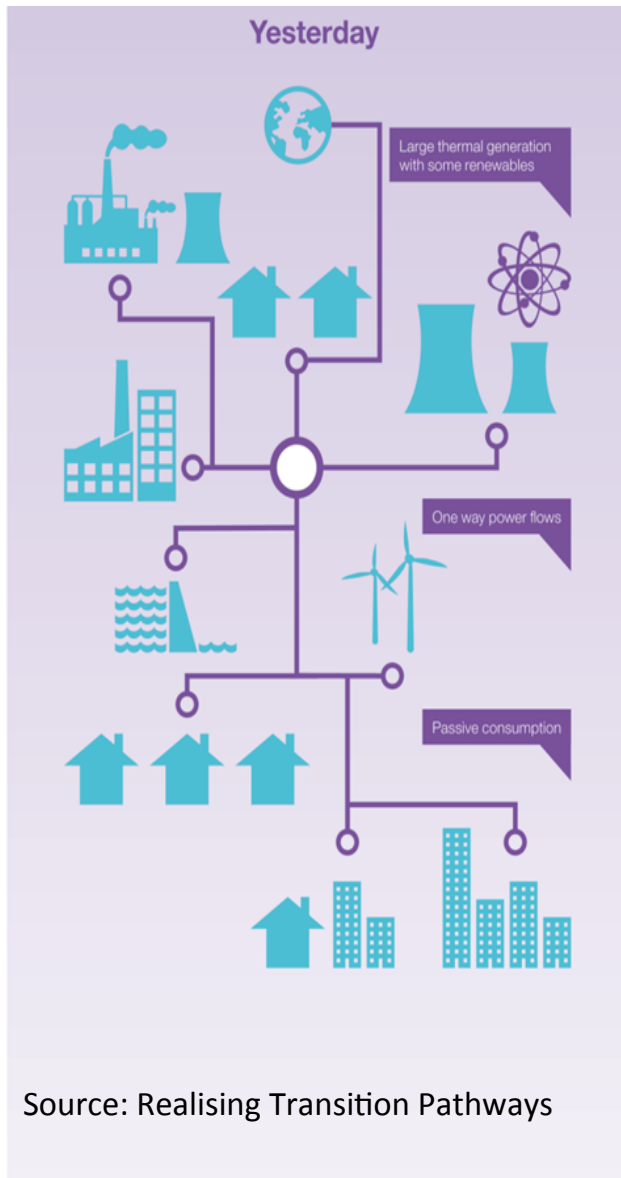


Source: University of Sheffield

## Coordinated policy response – integrated approach throughout energy system



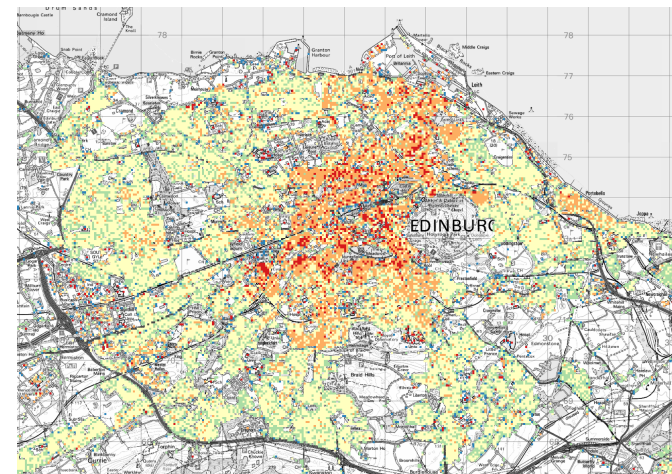
- Scotland will continue to need a **secure, affordable and balanced** supply of energy as we transition to a largely de-carbonised energy system.
- The **oil and gas industry** will continue to make a significant contribution to the Scottish economy and energy security during the transition.
- Meeting Climate Change targets whilst modernising the provision of heat, power and transport in Scotland will bring **economic and social benefits**:
  - more affordable consumer energy requirements;
  - warmer homes that will improve health;
  - increased productivity through greater resource efficiency; and
  - acceleration of new economic opportunities, drawing on world-leading academic strengths in the energy field.
- Securing the benefits of this new approach is a shared endeavor, the Scottish Government will **work closely with the Scottish Stakeholders**



- Smart, integrated solutions
- Essential role of storage
- Emerging non - traditional business approaches
- Greater scope for community ownership – and a stronger community ‘stake’
- Requires greater forward local planning and system balancing
- Changes to regulation required

### Supporting local energy systems is an existing policy ambition for Scotland:

- Local Energy Challenge Fund to support demonstrator projects,
- Low Carbon Infrastructure Transition Programme,
- Support under Community and Renewable Energy Scheme and Renewable Energy Investment Fund,
- Area-based schemes under Energy Efficiency Programmes,
- Heat Map, District Heating Loan Fund & Local Authority District Heating Strategy support programme.



## Long-term package to improve energy efficiency of buildings and decarbonise heat provision

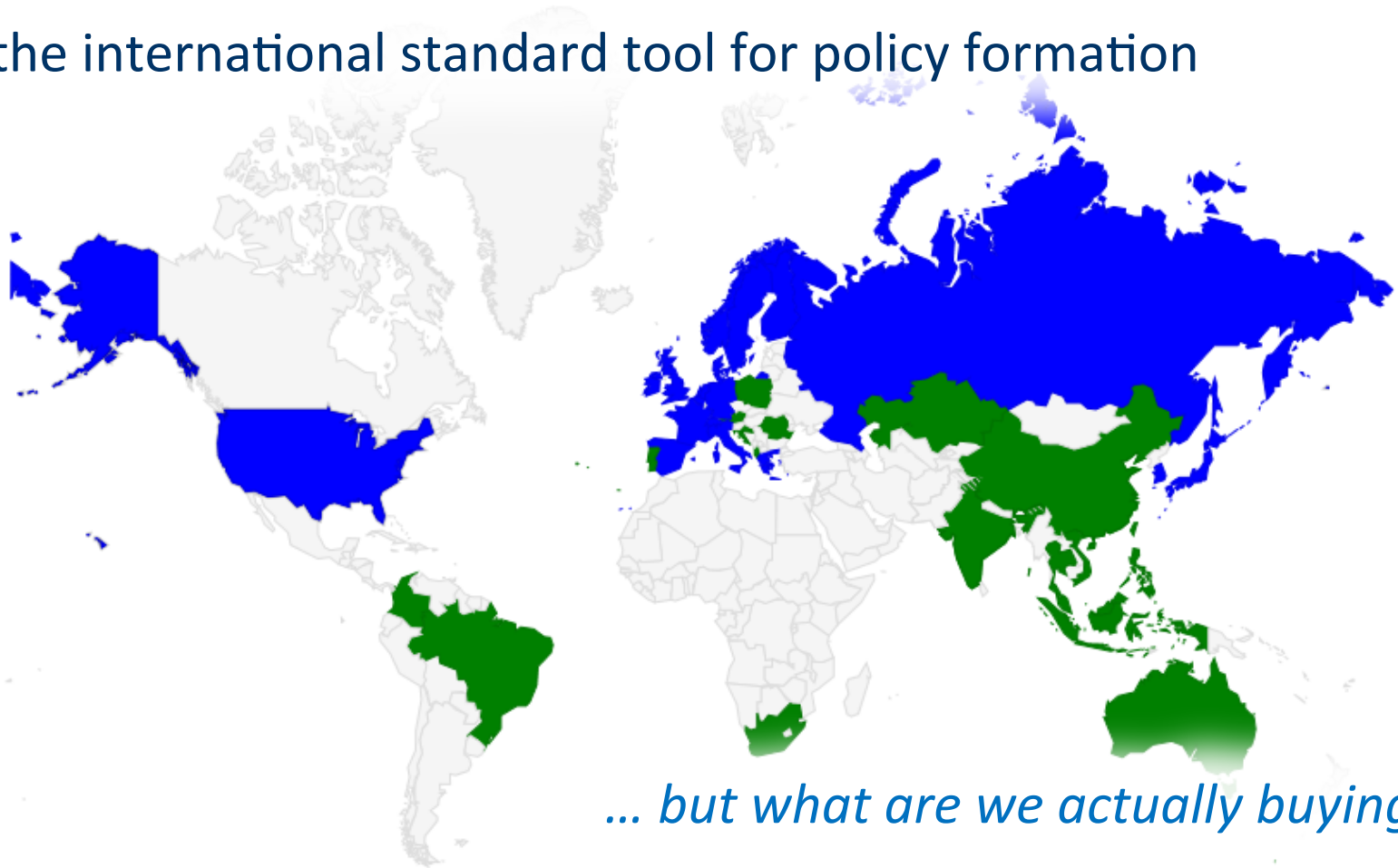
Building on programmes and pilots already in place:

- **Single programme** for public, commercial and domestic properties – based around a series of local plans in partnership with local government and social housing providers.
- **Integrated approach** to 1) energy efficiency measures (e.g. cladding and internal insulation) and 2) decarbonised heat provision (e.g. district heating)

Primary mechanisms:

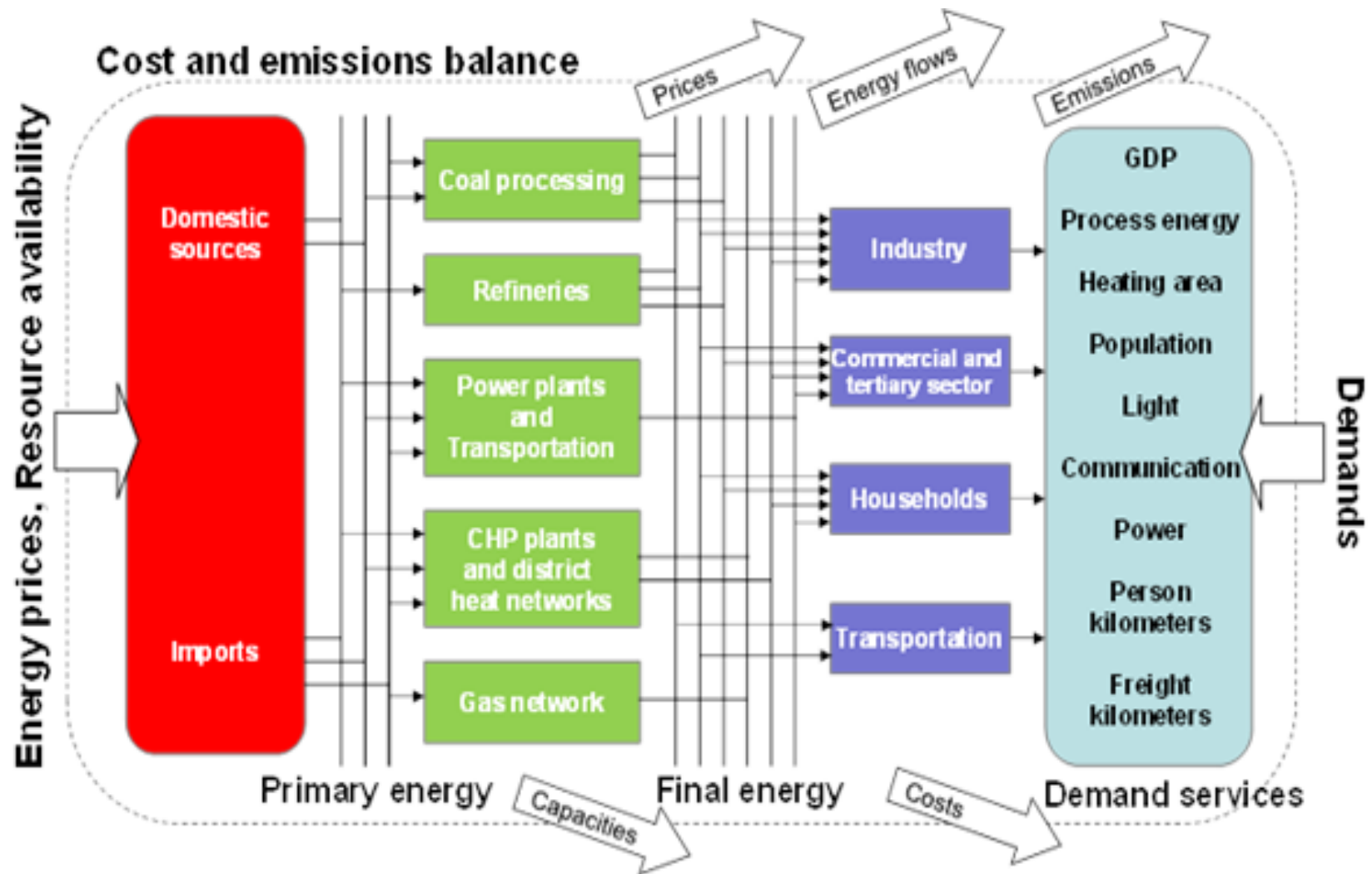
- 1 A **publicly-funded programme**, building on existing schemes, improving housing provision for those least-able to pay.
- 2 A clear path to **tighter regulation and building standards** for improved energy efficiency in buildings *and* more widely for heat.
- 3 Development of wider **enabling and financial support mechanisms**. Attracting private sector investment.  
Including **energy efficiency improvements to the public estate**, particularly using new procurement framework.

It's the international standard tool for policy formation



*... but what are we actually buying?*

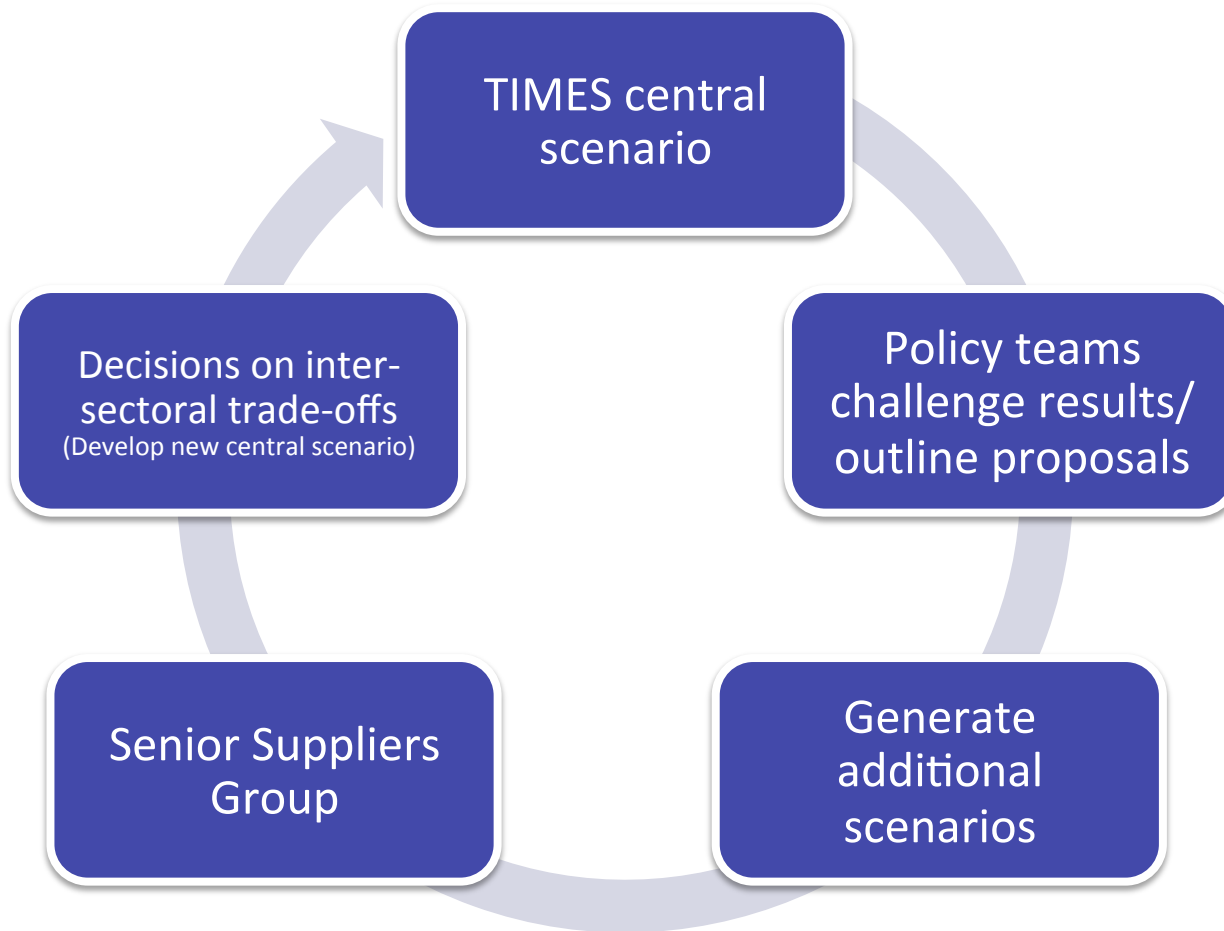
## Economy-wide emissions model - TIMES



- Development began in May 2015
- International consortium of developers
- Largely consistent with UK TIMES
- First version of the model delivered Jan. 2016
- Numerous updates since initial delivery.







**Thank you**

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