

# Low Carbon Fuel Policies in Europe

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*National Conference on Low Carbon Fuel  
Standard for Canada*

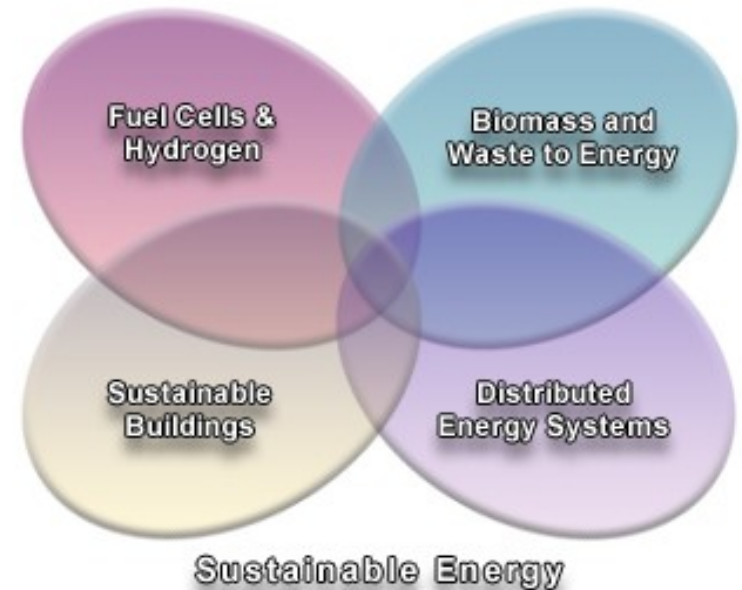
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# E4tech is a European sustainable energy consultancy

- Based in the UK and in Switzerland
- Established in 1997
- Focused on four key areas of sustainable energy
- Providing strategy advice, business support, technology review and policy input
- Clients include industrial companies, government, technology startups, investors



## Overview of European policies related to low carbon fuels

- Historic policy drivers
- Current status
- Future direction

## UK's Renewable Transport Fuel Obligation

# Interest in low carbon fuels has developed from a range of policy drivers

~1985

1990

1995

2000

2008

**Greenhouse gas savings**

**Agricultural policy**

**Economic factors – particularly diesel trade balance deficit**

**Energy Security – diversification of energy sources**

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## UK's Renewable Transport Fuel Obligation

# European Union policies provide a framework for countries to support biofuels

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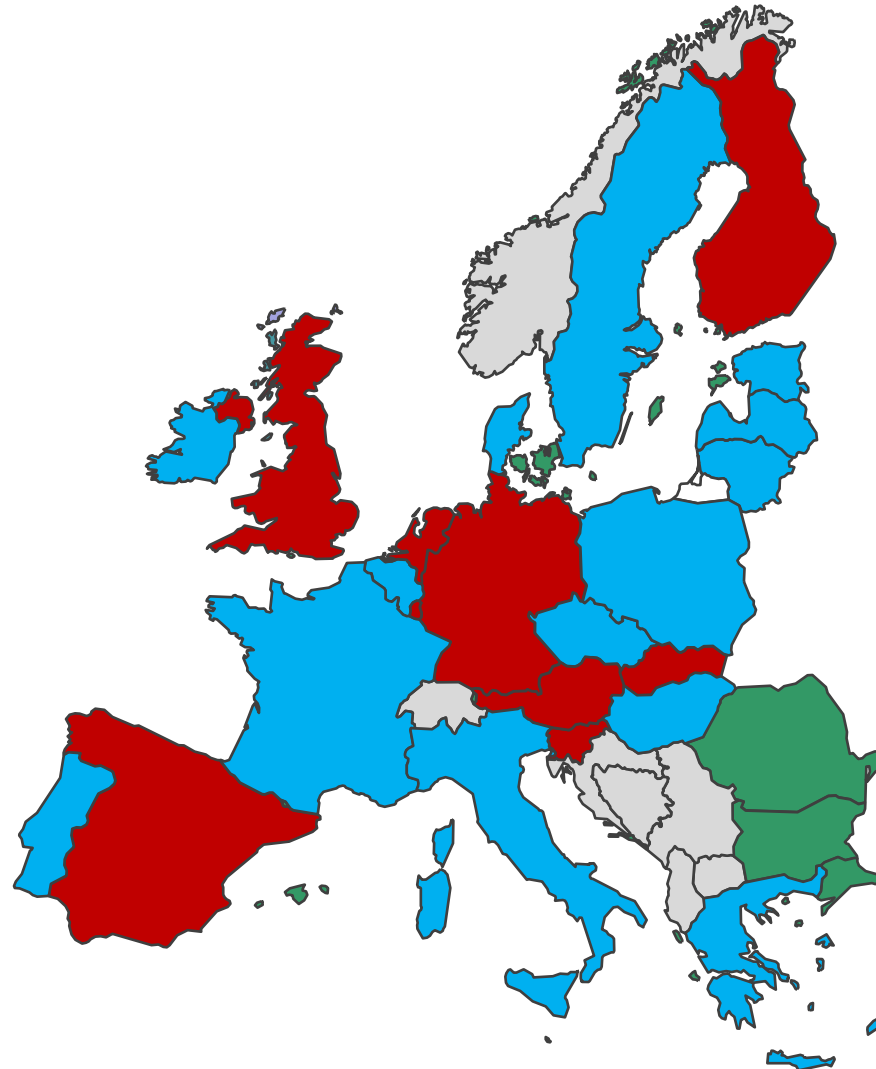
- Biofuels Directive
  - Introduced in 2003
  - Requires EU countries to provide support for biofuels
  - Set indicative targets: for 2005 (2% market share) and 2010 (5.75%)
  
- Energy Taxation Directive
  - Also introduced in 2003
  - Allows EU countries to reduce excise tax on biofuels used for transport fuels – would otherwise be prevented by “State Aid” legislation

# Most EU countries now have biofuel support policies in place

Countries with sales obligation

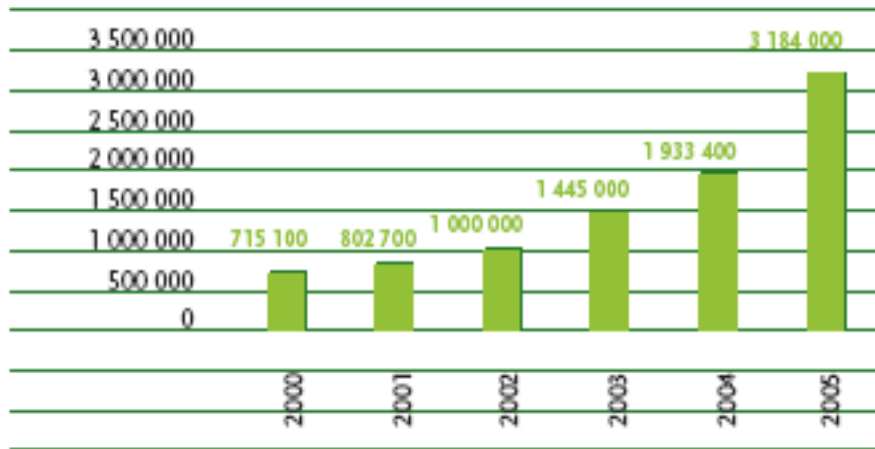
Countries with tax incentives

Unknown

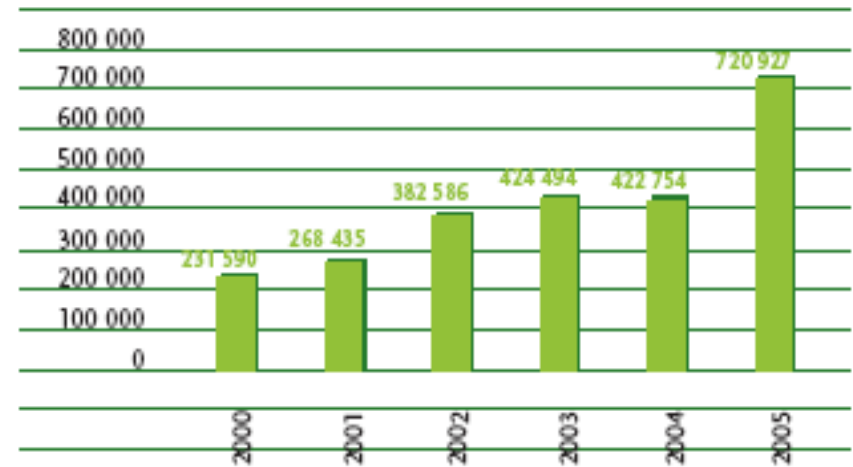


# This policy support has lead to rapid expansion in production of biofuels

*BIODIESEL PRODUCTION IN EUROPEAN UNION SINCE 2000 (IN TONS)*



*BIOETHANOL PRODUCTION IN EUROPEAN UNION SINCE 2000 (IN TONS)*

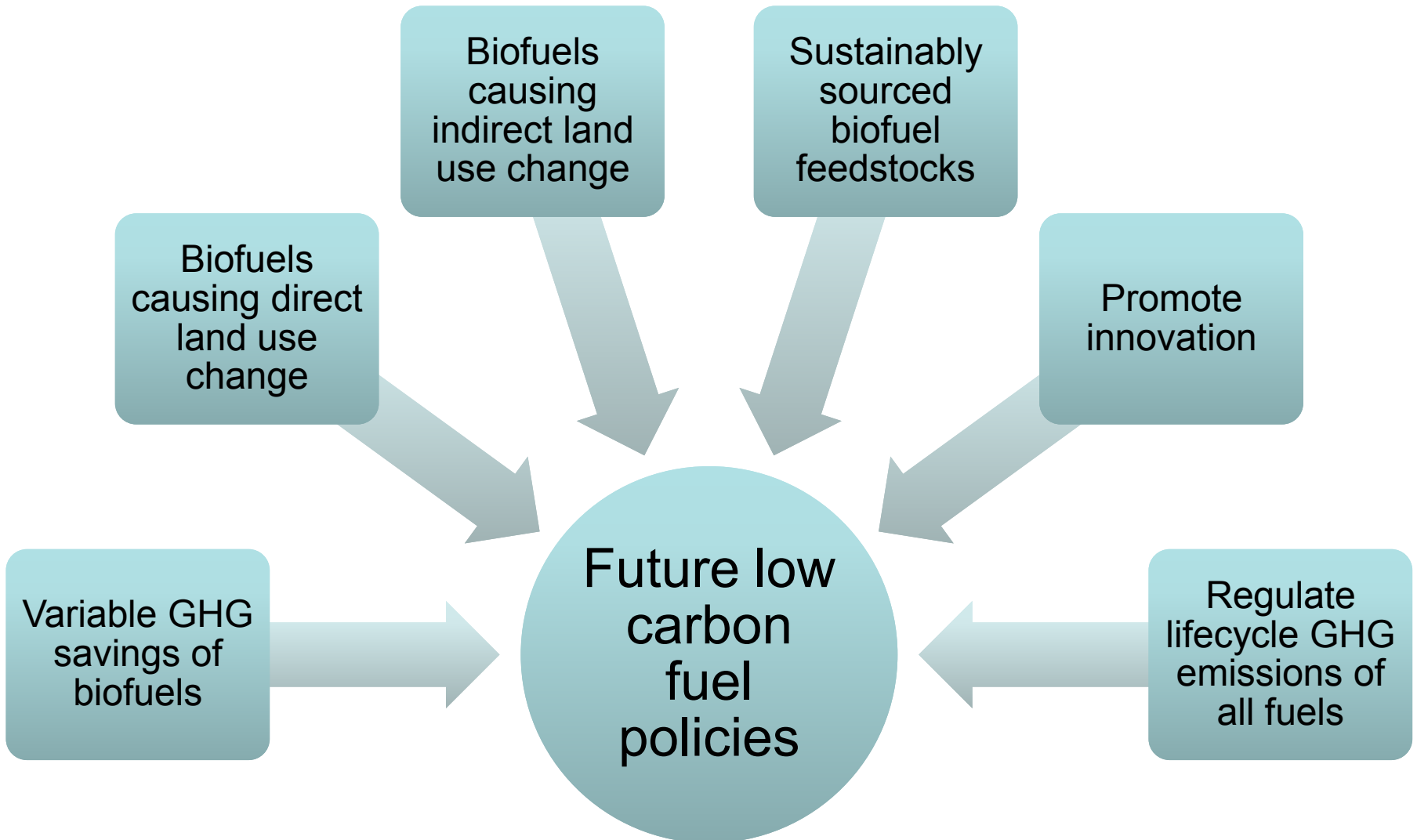


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## UK's Renewable Transport Fuel Obligation

# A range of issues are shaping future policy development



# The framework provided by EU policies is evolving to an integrated approach closely linked to policy objectives

- Renewable Energy Directive (proposed)
  - Sets mandatory target of 10% by 2020 for Europe
  - All biofuels are required to achieve a minimum 35% GHG saving
  - By default it is assumed a biofuel did not cause any land use change
  - Countries may reward biofuels on the basis of their GHG saving
  - Basic sustainability criteria only (must not destroy areas of high carbon stock or high biodiversity)
  - Additional incentives for advanced biofuels
- Fuel Quality Directive (proposed)
  - Requires a 10% reduction in lifecycle GHG emissions of all transport fuels between 2011-2020 – i.e. low carbon fuel standard
  - Same GHG saving and sustainability criteria as above

# Individual EU countries have also been considering the emerging issues when implementing new biofuels policies

	<b>UK</b>	<b>Netherlands</b>	<b>Germany</b>
<b>Minimum sustainability criteria</b>	No (reporting)	No (reporting)	Mandatory criteria
<b>Minimum GHG saving?</b>	No (reporting)	No (reporting)	Yes (30%, rising to 40% in 2011)
<b>Support linked to GHG saving?</b>	Proposed from 2010	No (likely in future)	Proposed from 2010

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## **Renewable Transport Fuel Obligation**

# Introduction to the Renewable Transport Fuels Obligation

- The Renewable Transport Fuels Obligation (RTFO), requires suppliers of fossil fuels to ensure that a specified percentage of the road fuels they supply in the UK is made up of renewable fuels.
- The following obligations have been set:
  - 2008/09: 2.5 percent
  - 2009/10: 3.9 percent
  - 2010/11: 5.3 percent
- Fuel suppliers may “buy out” of their obligation for £0.30/litre (CAD 0.60)
- Fuel suppliers are required to provide monthly reports on the carbon and sustainability of the biofuels supplied

# A “meta-standard” approach is taken to assessing a biofuel’s sustainability performance

- Scope constrained to feedstock production only
- The sustainability of feedstock production is assessed against the “RTFO Meta-Standard” which sets out principles, criteria and indicators.
- Compliance with environmental and social aspects of the Meta-Standard are tested separately. It can be achieved by:
  - Auditing feedstock production directly against the RTFO Meta-Standard, or
  - Through compliance with an existing agri-environmental standard which is cross-compliant with the RTFO Meta-Standard
- Fuel suppliers are not obliged to supply sustainably sourced biofuels. However, companies will be “named and shamed”, particularly if they do not meet indicative targets

# Simplifying assessment of GHG saving for monthly reporting requires “answers” to three key questions

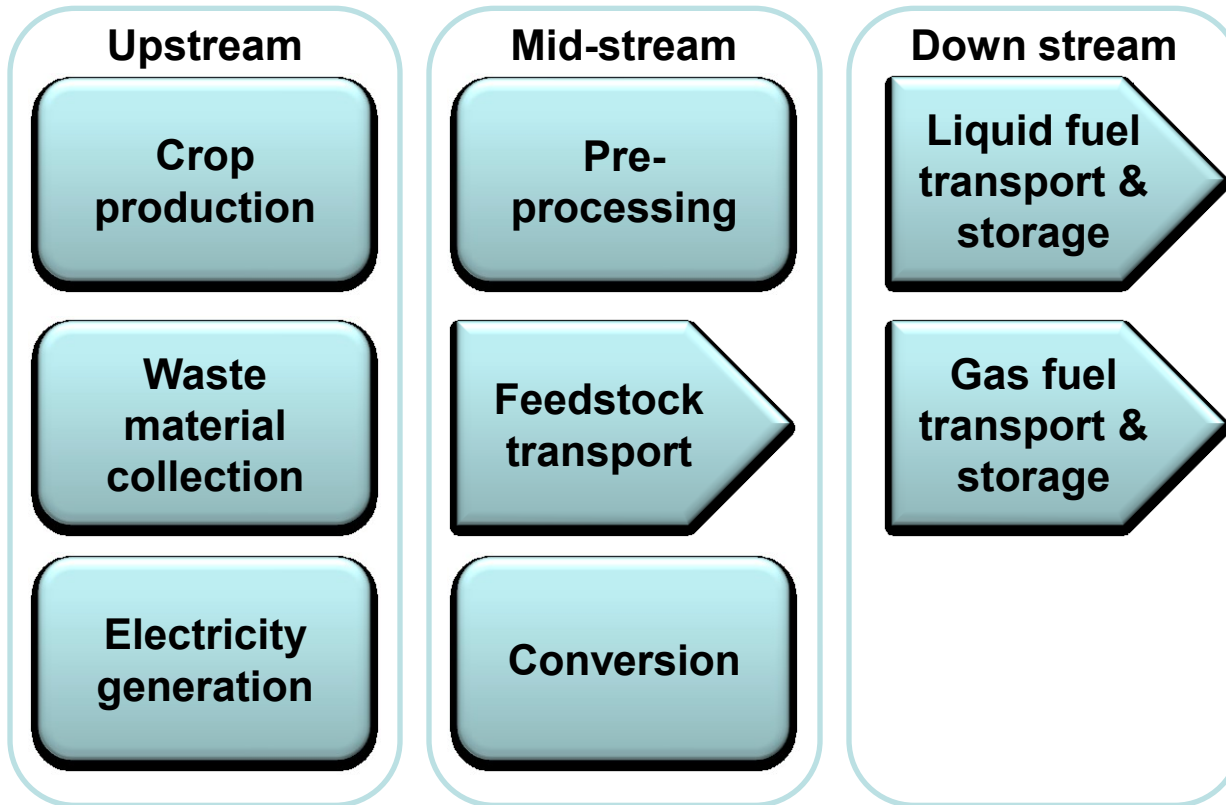


What calculations?

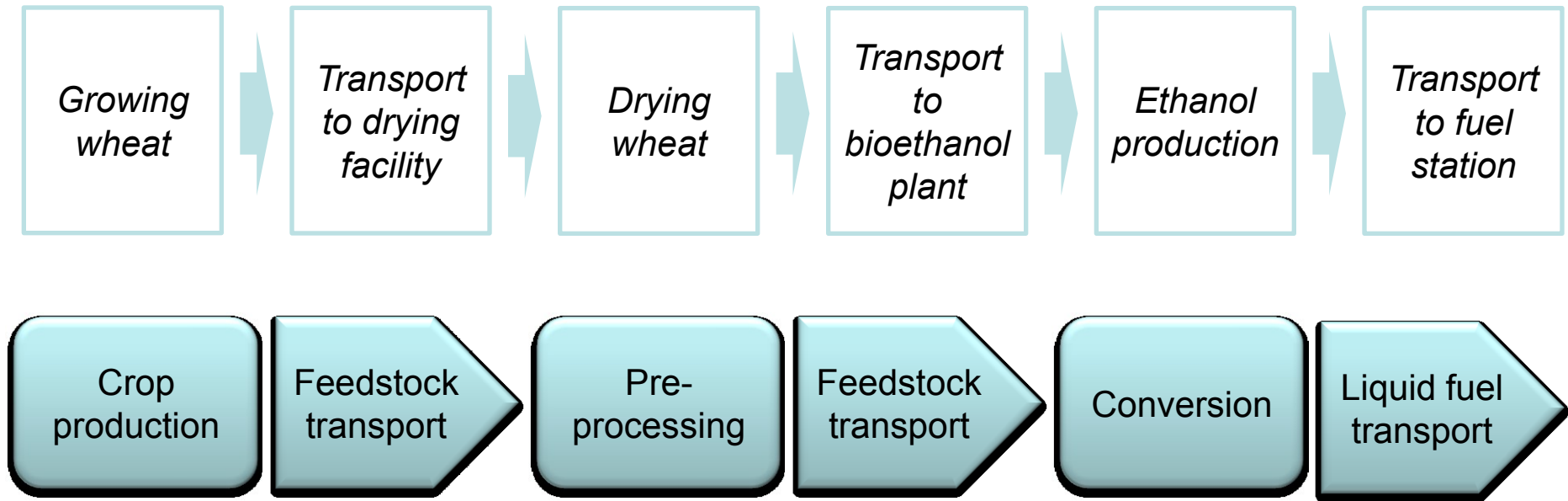
What data?

What if I have no information?

# A set of modules which contain pre-defined calculations can be used to describe any fuel chain



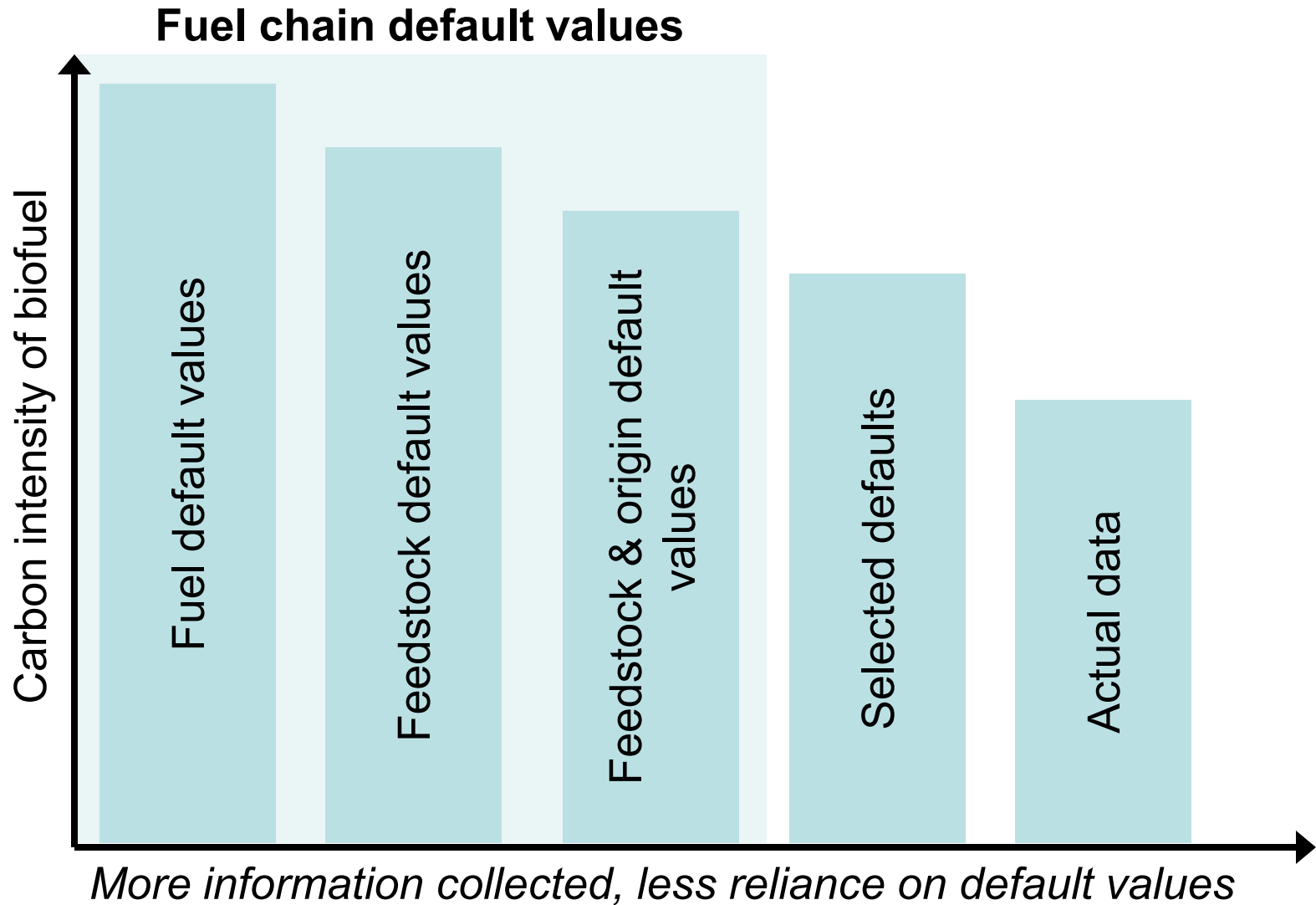
# Each step in a fuel chain is mapped to a module



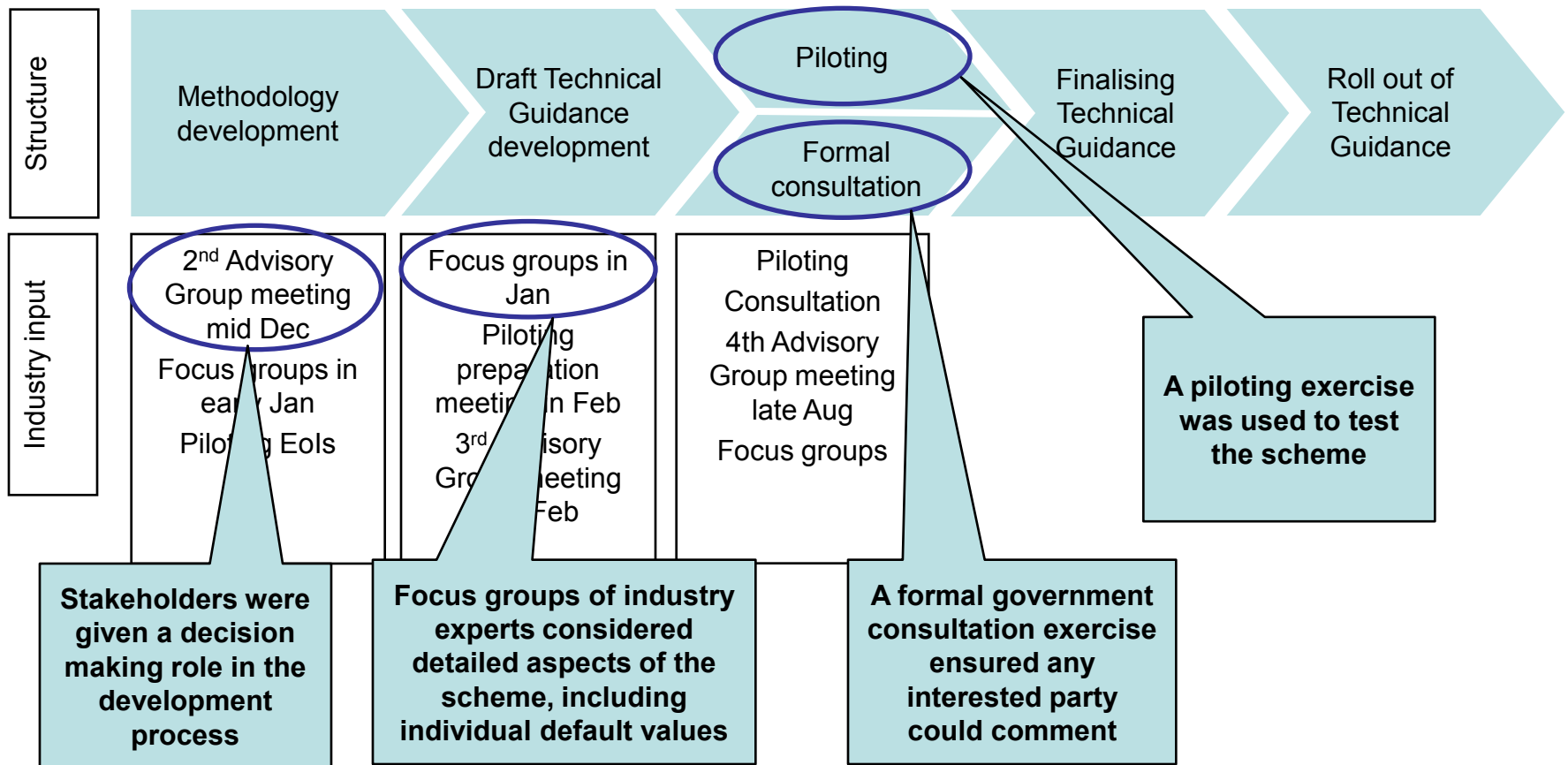
# Default values are used extensively in the RTFO approach

- Default fuel chains, which set out the steps which occur during biofuel production, are specified for every fuel chain likely to enter the UK market – nearly 80 unique fuel chains.
- Individual default values are established for every single data point required to calculate a biofuel's carbon intensity – nearly 4000 values!
  - Companies can use a combination of single default values and actual data, except where there is a strong correlation between two data points (e.g. crop yield and nitrogen fertiliser application rate) and therefore a risk of gaming.
- “Fuel chain default values” are also set, so companies can select a default value based on what they know about: fuel type, feedstock type, country of feedstock origin.

# Companies can rely on default values or collect information about the biofuel & how it was produced



# Stakeholder input was a vital part of developing the carbon and sustainability aspects of the RTFO



# Conclusions: key lessons from the UK scheme (so far)

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- Stakeholder engagement should:
  - Be throughout policy development process
  - Include a decision making role
  - Include stakeholders from all communities
- Leverage existing schemes as much as possible (e.g. the meta-standard approach)
- Simplify reporting on lifecycle GHG emissions by:
  - Prescribing calculations
  - Defining (conservative) high-level default values