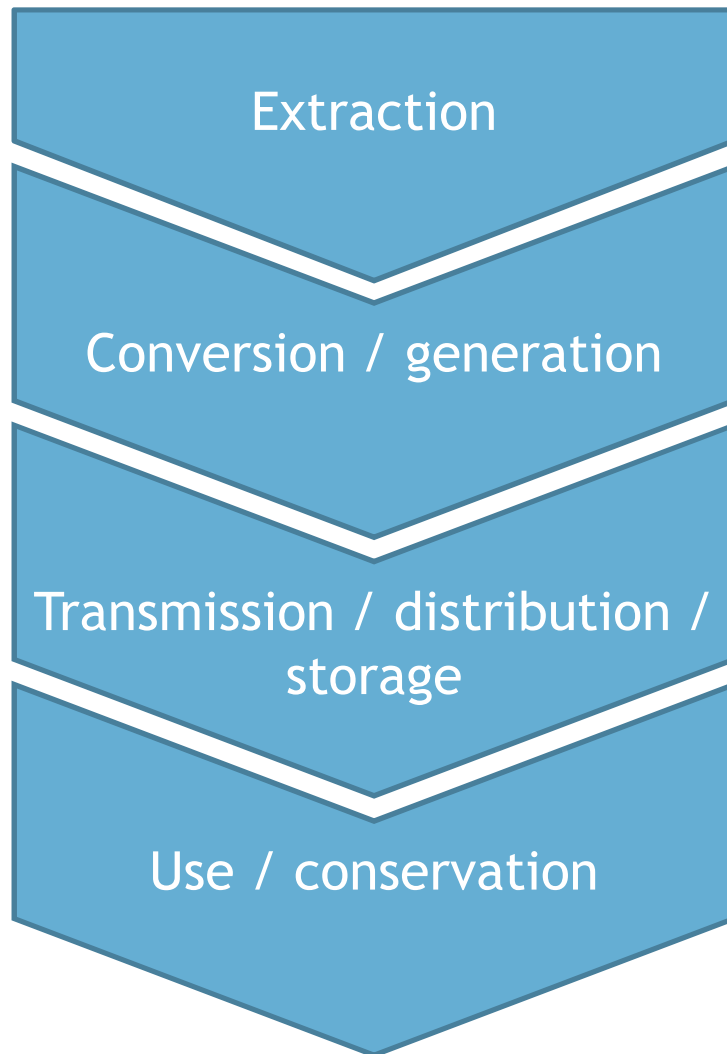


The Low Carbon and Renewable Energy Sector

Danny Dicks, Innovation Observatory

Renewables East Technology Acceleration Forum
24 February 2009, Robinson College, Cambridge

Looking at energy processes helps to define the low carbon / renewables sector



- Biomass, wind, tidal flow / stream, wave, solar (thermal and PV)
- Biofuels, fuel cells, generators
- Electrical power T&D network
- Heat and electricity storage technologies
- Buildings / processes: energy efficiency and management (domestic and industrial / commercial)
- Heat recovery, energy from waste

For established subsectors, the supply chain for major projects is very long ...

- 2005 ODE / DW report for Renewables East on Scroby Sands offshore wind farm:
 - Development design, environmental monitoring, insurance / legal, surveys, project management, detailed design
 - Procurement / manufacture, transport / delivery
 - Onshore pre-assembly and installation
 - Offshore installation, commissioning
 - Operation and maintenance

← The biggest % of total value, by far

← The next biggest % of total value



All subsectors have many technologies, products and services behind them

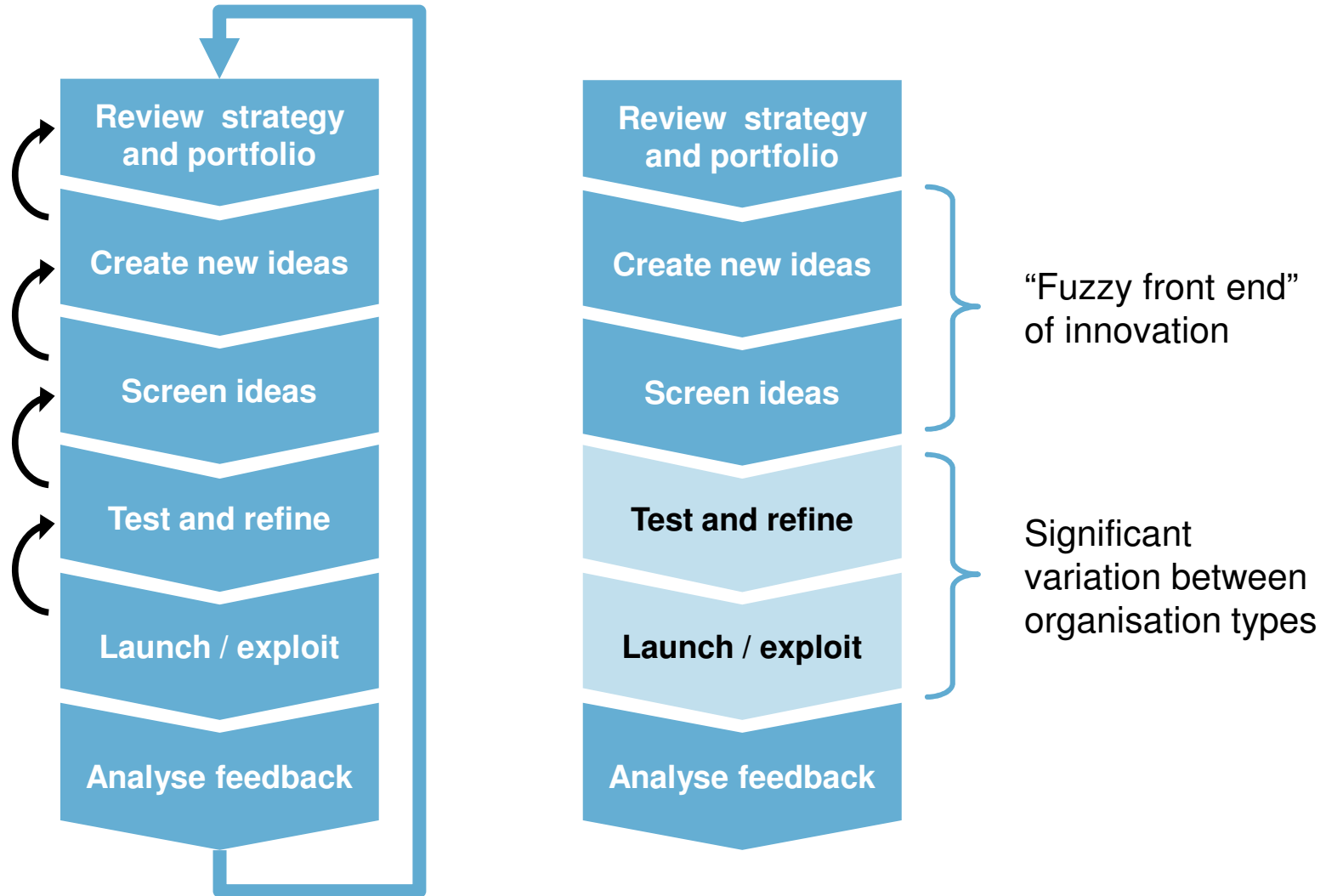
- **Materials science and engineering**
 - Composites, coatings, joining, etc
- **Mechanical engineering / design**
 - Novel energy conversion, hydraulics, bearings, rotating machinery, etc
- **Process engineering**
 - Chemical and biochemical processes and equipment, enzyme development, etc
- **Construction / installation technologies**
 - Fabrication, erection, foundations / piling, offshore services, etc
- **Electrical power, instrumentation and control technologies**
 - Switchgear, motor controlgear, transmission / distribution, control systems, energy management, monitoring / SCADA, cable manufacture / laying / jointing, data communications, etc

Service provider support, the marketplace and matching service

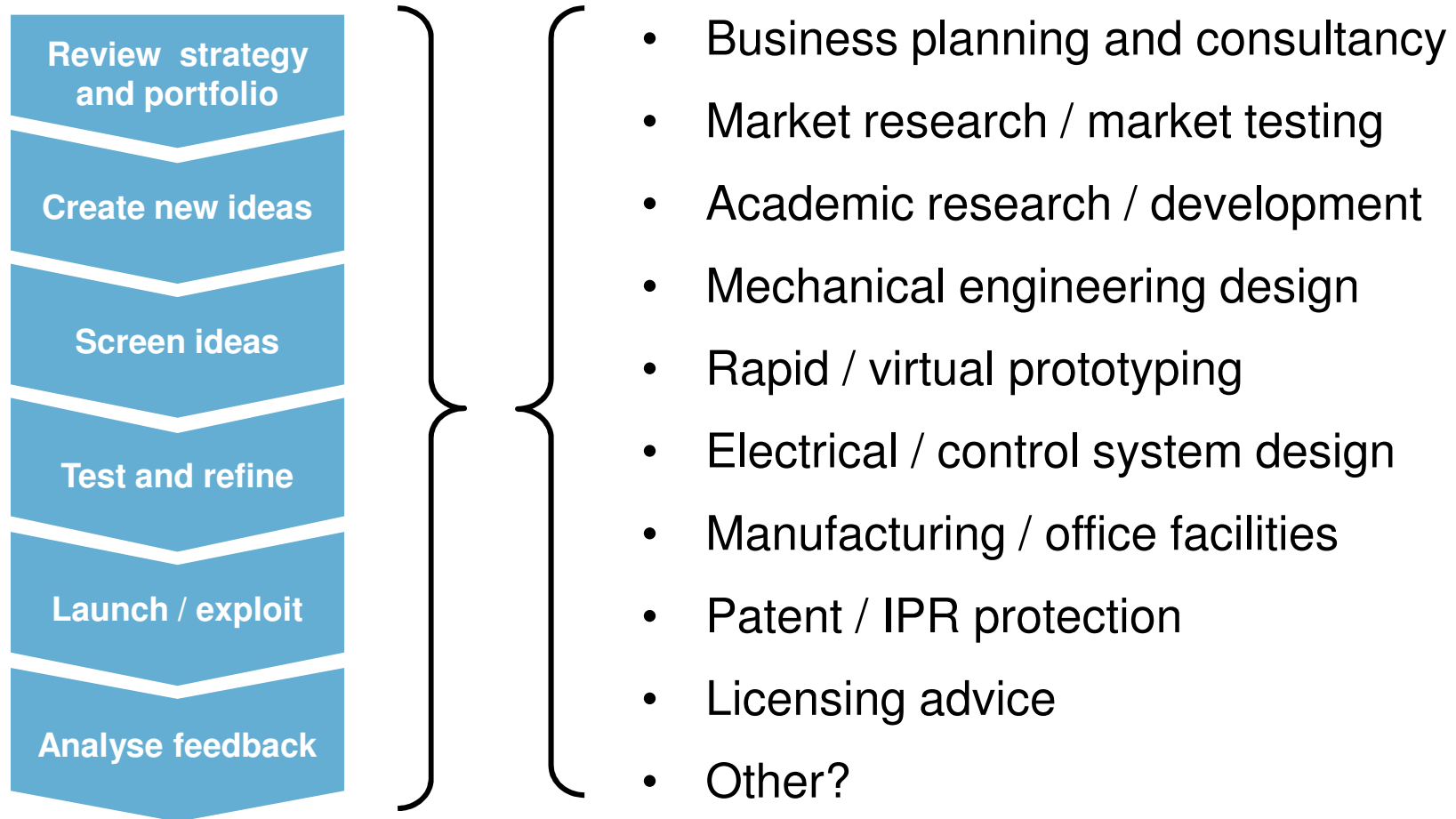
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Innovation is a continuous and complex process



Support is valuable at all stages of the process




There are two more forms of help today, and beyond


Have lunch and talk to people, and visit the exhibitors' stalls



Fill in the feedback form – we'll match your needs to suppliers



Low Carbon Technology Acceleration Forum



Tell us what you need – and what you think

We want to make sure we give the right sort of support to companies in the low-carbon sector in the East of England and East Midlands. Please complete this card and hand it in to an event organiser at the end of the day, or post it to *Renewables East, Zicer Building, UEA, Norwich, NR4 7TJ.*

Your details (please print)

Name	
Company / organisation	
Email address	
Postcode	
Telephone number	

What help do you need?

Tick the boxes that best describe the help you need to take your product and service idea further.

Mechanical engineering design	<input type="checkbox"/>	Academic research / development	<input type="checkbox"/>
Rapid or virtual prototyping / modelling	<input type="checkbox"/>	Market research / market testing	<input type="checkbox"/>
Patent / IPR protection	<input type="checkbox"/>	Electrical / control system design	<input type="checkbox"/>
Licensing advice	<input type="checkbox"/>	Manufacturing / office facilities	<input type="checkbox"/>
Business planning / consultancy	<input type="checkbox"/>	Other:	<input type="checkbox"/>

We will pass your information to selected companies and other organisations associated with this Renewables East event, and ask them to contact you with relevant information. Please tick this box if you do not wish your information



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