



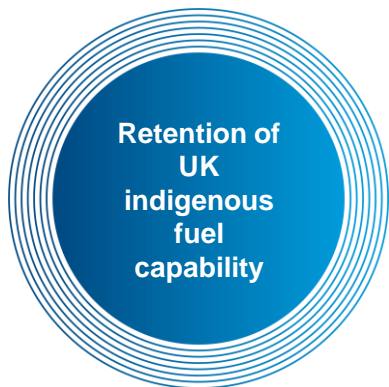
Advanced Fuel Cycle  
Programme

# Technical Breakouts

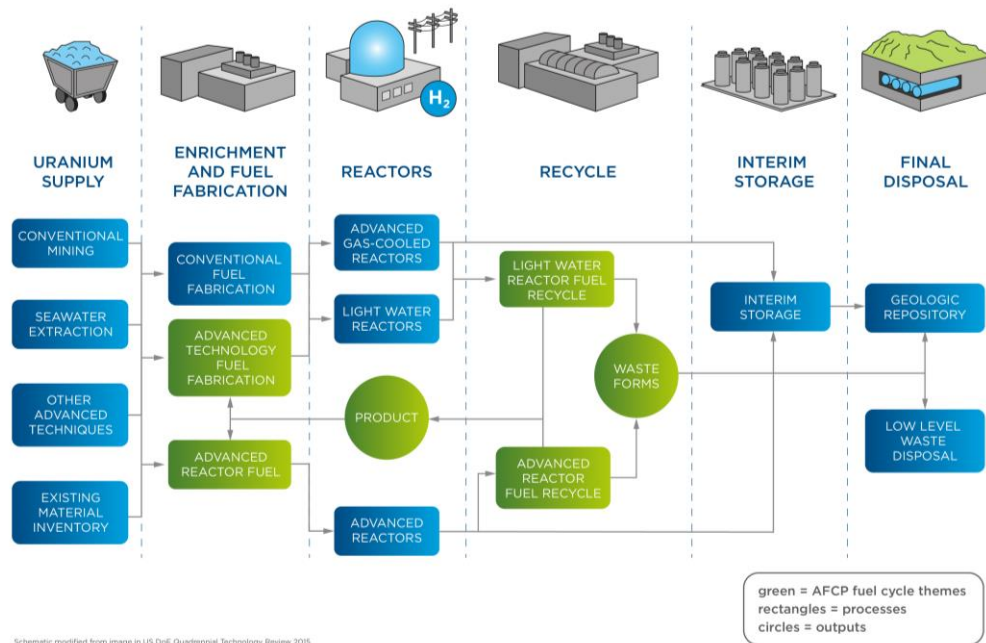
Paul Nevitt, Science and Technology Director

# A world-leading programme

Advanced fuel cycle innovation to enable a clean energy future

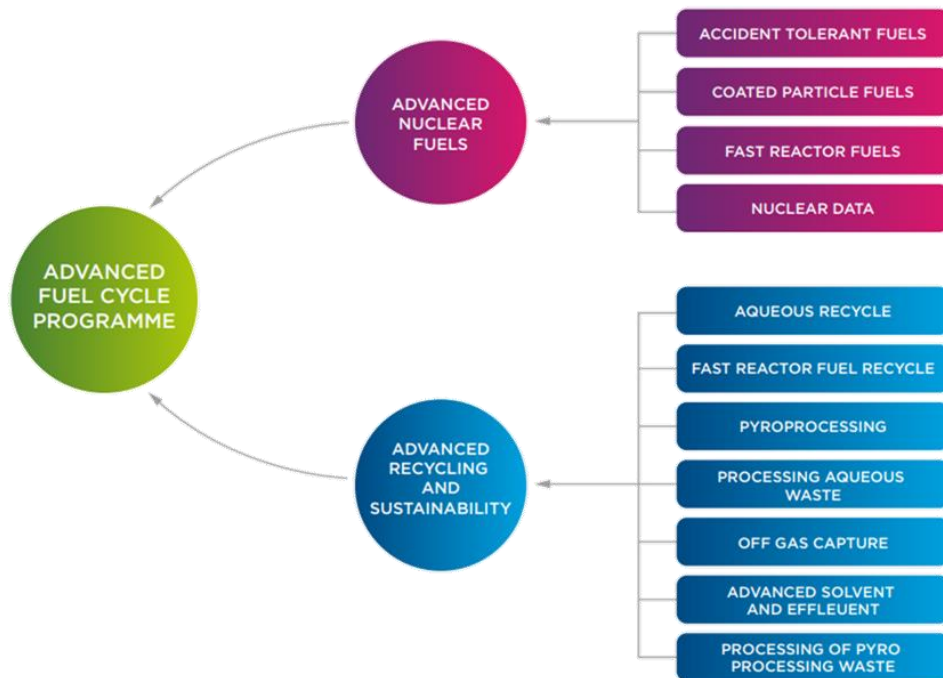


# The programme



AFCP is part of the Department for Business, Energy and Industrial Strategy's (BEIS) £505m Energy Innovation Programme.

# The programme



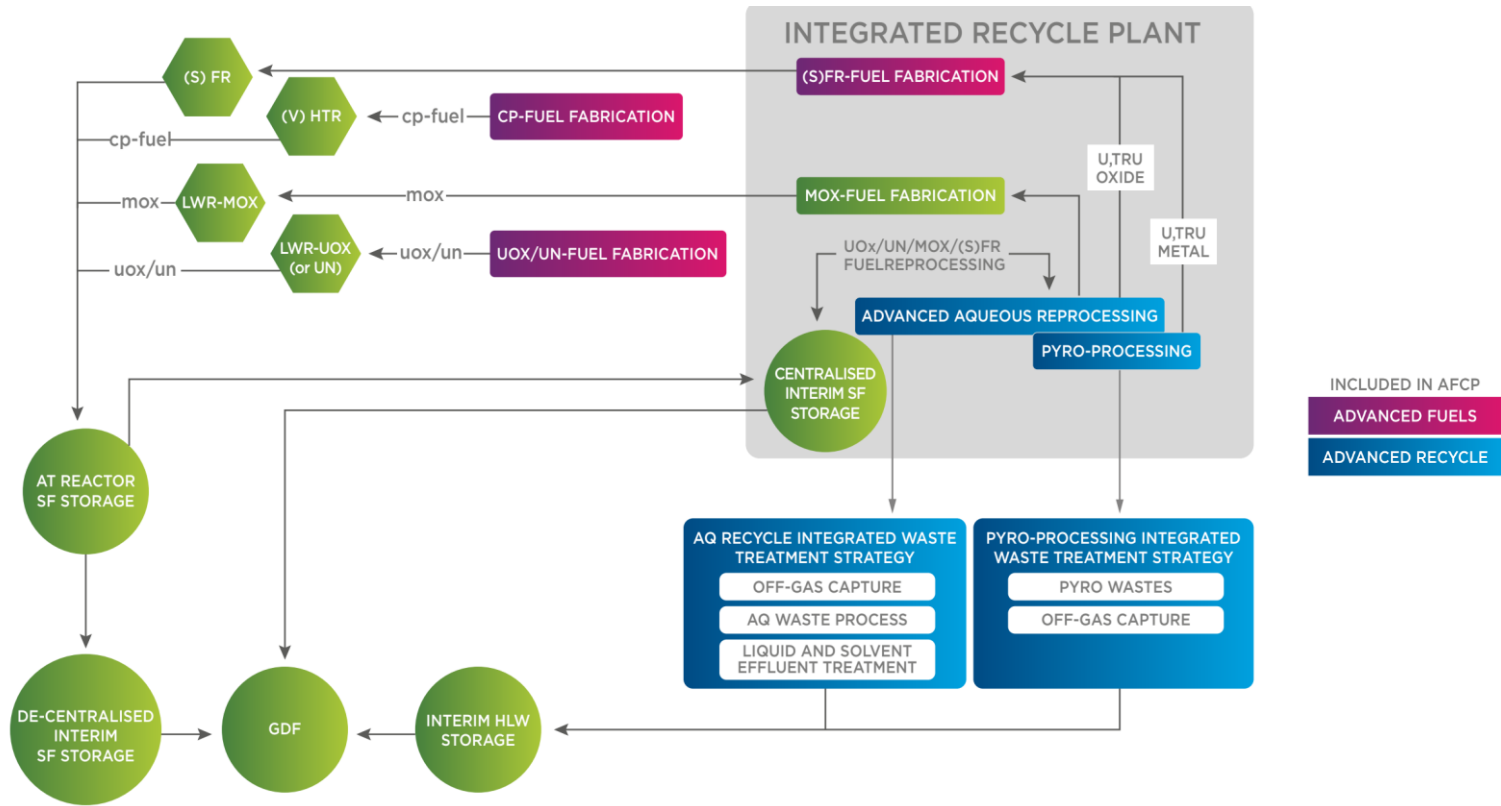
# Breakout sessions

**Coated  
Particle Fuel**

**Advanced  
Technology  
Fuel (ATF)**

**Fast Reactor  
Fuel and  
Pyroprocessing**

**Aqueous  
Recycle**



# Strategic outcomes focus

**IDEAS**



**INFRASTRUCTURE**



**INDUSTRY ALIGNMENT**



**NET ZERO FUTURES ROADMAP**

**PEOPLE**



**SUPPLY  
CHAIN**



**STAKEHOLDER  
ENGAGEMENT**



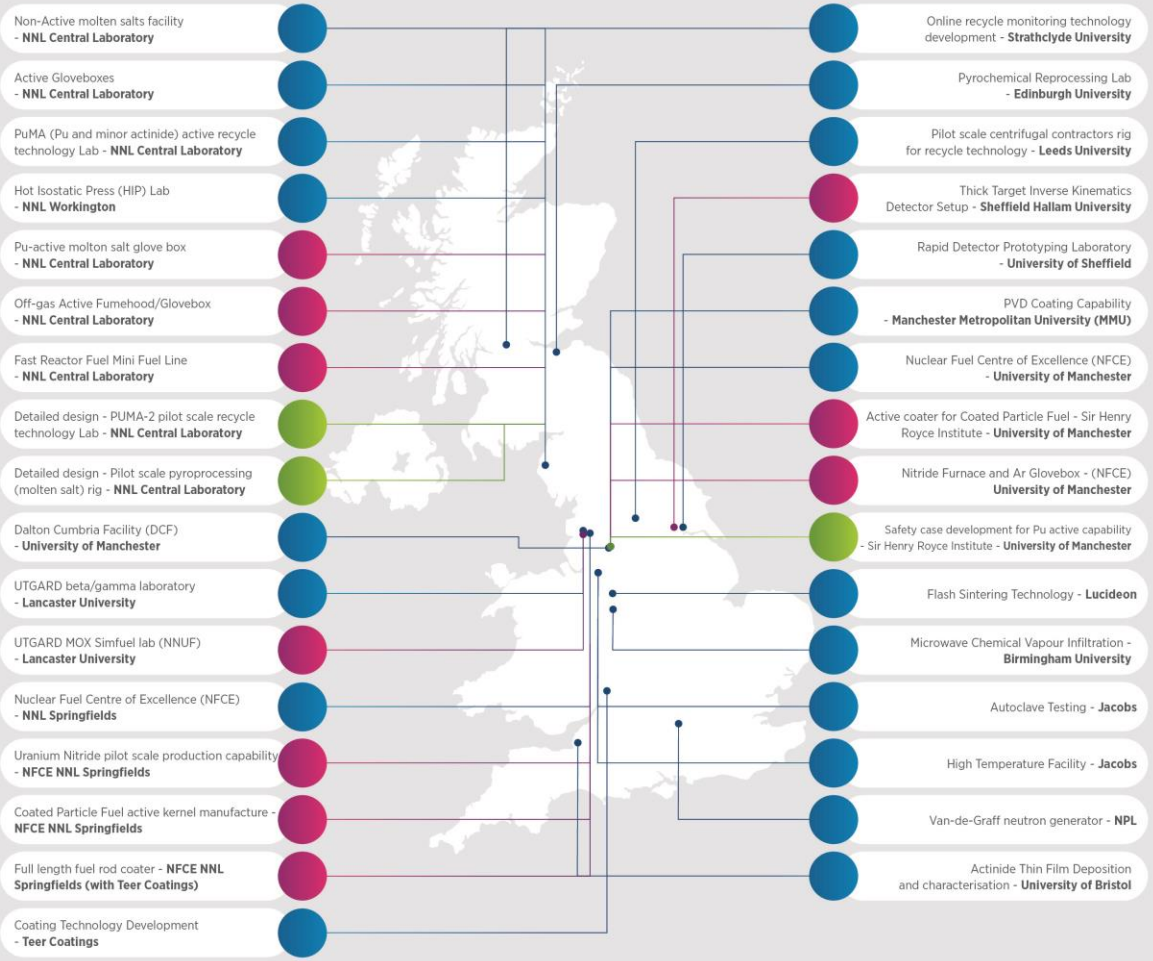
**INTERNATIONAL  
INFLUENCE**



# Technical progress

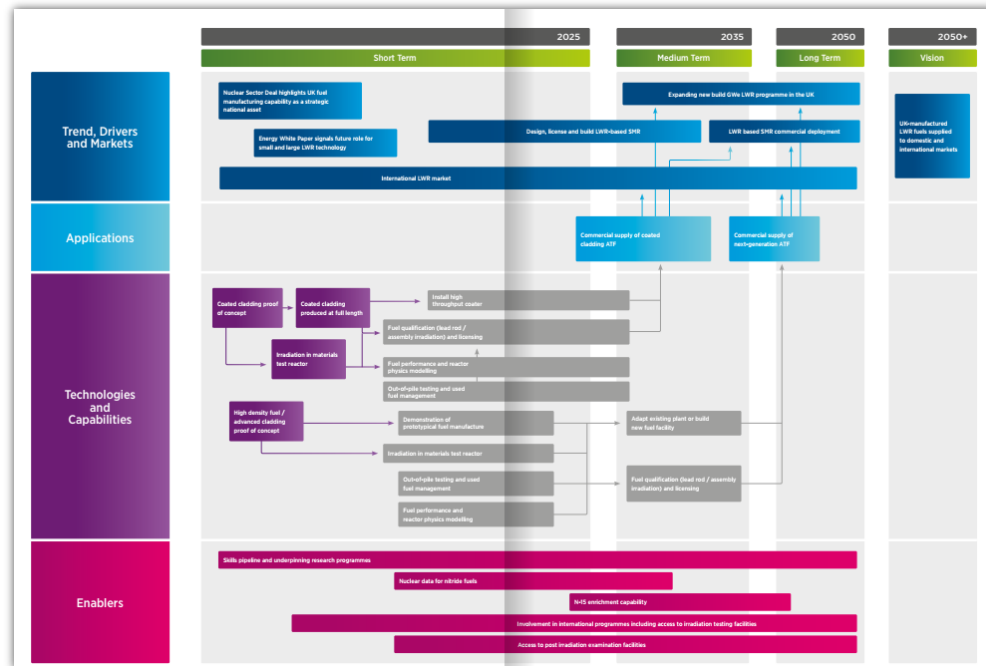
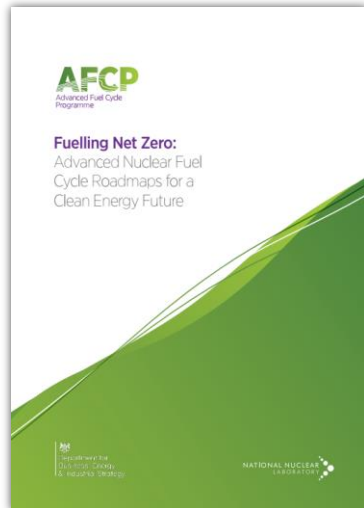
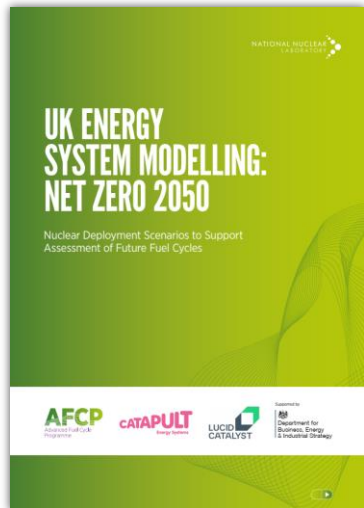
The UK Advanced Fuel Cycle Programme (AFCP)		TRL at start of AFCP	TRL
Accident tolerant fuels (ATF) or advanced technology fuels for light water reactors (LWRs)	High density fuels	1	3
	Coated cladding	2	6
	SiC cladding	2	3
Coated particle fuels (CPF) for high temperature reactors (HTRs)	Kernels	3	4
	Coating	3	3
Fast reactor fuels		3	3
Advanced aqueous fuel recycle technology		2	4
Pyro-processing fuel recycle technology		2	2

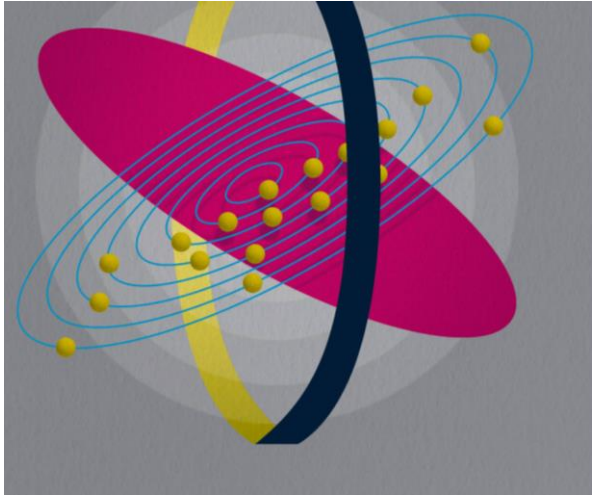




- In operation and used in current AFCP
- New capability ready
- Design/safety case ready

# Future roadmaps





NATIONAL NUCLEAR LABORATORY

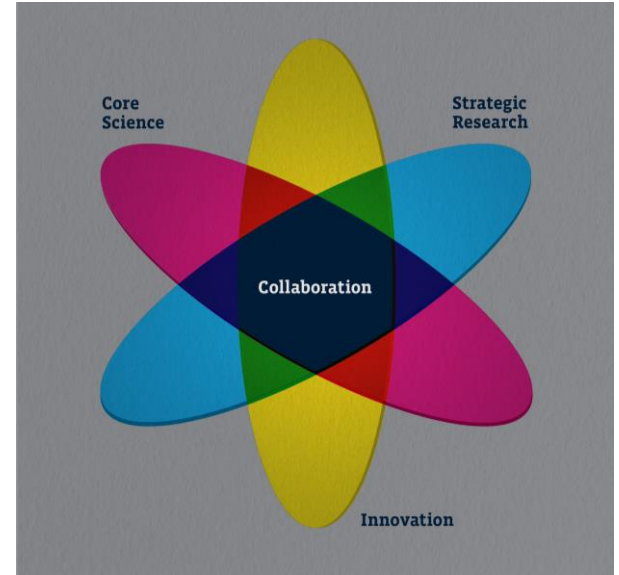
The UK's National Nuclear Laboratory

# Our Science and Technology Agenda

Unleashing Innovation and Meeting the UK's Climate Change Targets

Nuclear Science to Benefit Society  
#NewClearFuture  
2021-2026

## Our Science and Technology Agenda



# More information and share your thoughts

<https://afcp.nnl.co.uk/>



Advanced Fuel Cycle Programme



afcp\_uknnl

**#FuellingNetZero**

