North West Nuclear Arc
Our Vision

Cheap, clean energy that doesn’t cost the Earth.
Our Ambitions

Clean up the environment - faster, cheaper through innovation in decommissioning

Provide cheap, clean energy – supporting the development and deployment of advanced nuclear technologies

Sustain and strengthen NWNA’s unique position in the nuclear industry

Create an innovation eco-system that supports jobs & business opportunity for NWNA communities & UK PLC
The North West Nuclear Arc (NWNA): Cumbria, Lancashire, Sheffield, Manchester, Liverpool, Warrington, Wylfa & Trawsfynydd, North Wales.

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<tr>
<th>NWNA Programme</th>
<th>Facility</th>
<th>Site</th>
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<tr>
<td>Small Modular and Advanced Modular Reactors</td>
<td>Trawsfynydd FOAK UKHRI</td>
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<td></td>
<td>Capenhurst FOAK U Battery</td>
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<td>Fellside FOAK AMH (for process heat)</td>
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<td>New Generation Deployment Siting</td>
<td>Ainscough/Sellafield</td>
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<td>Trawsfynydd</td>
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<td>Advanced Manufacturing Development</td>
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<td>Nuclear Fuels Development and Manufacturing</td>
<td>NNL Preston Labs</td>
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<td>Springfields</td>
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<td>Nuclear Environmental Remediation and Exports</td>
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<td>Nuclear Waste Management and Disposal</td>
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<td>Sellafield</td>
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NWNA’s people, facilities, skills & capabilities - cannot be replicated elsewhere

We employ 50,000 people including 3,000 apprentices & graduates

NWNA is a unique global asset
A partnership of private, public and academic innovators from the grassroots of the nuclear industry
NWNA a vehicle for collaboration within the sector to create more opportunity and promote growth

Joins up the dots and supports existing stakeholders to take collective action

Local ‘place’ based growth and development through enactment of clean growth, energy and nuclear policies on the ground
Four Key Platforms
Promotion and one voice

Investment and business opportunity

Vibrant innovation system

Net Zero Carbon Target 2050
Promotion and one voice

Speak with one voice to government and key investors to promote NWNA’s nuclear capability as the largest nuclear asset in the UK.

Join up and collaborate to create investment win wins for nuclear stakeholders throughout the NWNA region.

Secure and strengthen NWNA as a leading nuclear cluster in the UK and internationally.
Capture, map and make visible NWNA’s unique assets, capabilities and investment opportunities.

Support the development of the marketplace for UK’s advanced nuclear programme.

Identify and facilitate opportunities for nuclear supply chain including trade, diversification and technology transfer.

Investment and business opportunity.
Identify innovation system gaps and join up innovation assets and activity across NWNA

Support development of new nuclear innovation and R&D assets for environmental remediation and advanced nuclear technologies

Working with partners across Tier 1 – 5 identify opportunities to speed up the deployment of innovative technologies
Promote NWNA’s nuclear capability as part of the low carbon energy mix.

Engage with other low carbon energy sector stakeholders to collaborate to build low carbon assets and capability across the Arc.

Promote ‘low carbon nuclear’ message with NWNA’s nuclear communities and businesses on the ground. Supporting ownership, pride and activism of nuclear and its role against climate change.

Net Zero Carbon Target 2050
Current Activities & Projects

1. NWNA Innovation Ecosystem Mapping project
3. North Wales Low Carbon Centre of Excellence
4. Low Carbon – Strength in Places
5. Cumbria Robotics and Artificial Intelligence proposal
6. North Wales Thermal Hydraulics Facility project
7. Cumbria, Wales and Warrington – NWNA Trade Mission proposal
8. NWNA one voice - Energy White Paper & policy submission
9. Advanced nuclear technology sites promotion - Trawsfynydd, Sellafield & Moorside, Springfields and Capenhurst, Heysham
1. NWNA Innovation Ecosystem Mapping

Project Aim: Investigate the ways in which innovation ecosystems are created, supported and exploited to support economic activity and industrial diversity

- Highlight best practice from other sectors and geographies
- Identify roles of boundary spanning individuals and organisations in developing new innovative relations that can generate new markets and new opportunities for growth
- Develop case study of NWNA ecosystem identify strengths, weaknesses and potential areas for intervention
- Describe the innovative SME population in Cumbria

Project Aim: The supply of low carbon electricity must be quadrupled by 2050 to meet NZCT 2050. The purpose is to show at a high level how the nuclear sector can deliver this. The roadmap will:

- Provide preparation for a collective response to the Energy White Paper
- Include a communications and dissemination plan
- Define the sectors capabilities to support NZC2050
- Identifies milestones and priority projects
- Quantified where possible
- Maps current capability (drawing on and updating information in NWNA SIA)
- Identifies gaps and requirements
- Output is visual
Project Aim: Provide facilities for low carbon technology development

- Identified Plot 3A on M-Sparc North Wales
- Partners include NAMRC (Catapult)
- To develop capacity in the region
- Initial concepts prepared
- Discussions re potential Validation & Verification required.
- Aligned with the NTHF
- Proposed home for the Strength in Places Project. (Low Carbon)
4. Low Carbon - Strength in Places

Project Aim: Drive Low Carbon Technology Development across North Wales

- Support the Low Carbon Developments in North Wales initially
- Led by Bangor University in partnership with M-SParc
- Technology Specific Teams working across Low Carbon Technologies
- Business Support and Engagement along with STEM activity
- Based in M-SParc (Low Carbon Building)
5. Cumbria Robotics, AI & Digital

Project Aim: To build on robotics, AI and Digital capability in Cumbria to 1) meet the needs of decommissioning and 2) create opportunity for cross sector adoption of RAI & Digital—strengthening Cumbria’s economy, developing skills and creating more non nuclear jobs.

• Align suppliers and customers for robotics, AI & Digital

• Create robotics, AI and Digital innovation pipeline that:
  • meets needs of Sellafield
  • Enhances existing supply chain capability
  • Provides open accessible collaborative space
  • Technology and knowledge transfer with adjacent sectors
  • Skills development and new job creation
Project Aim: Establish the UK as a world leader in nuclear thermal hydraulics and take advantage of nuclear fission new build

- Identified Plot 3B
- Discussion with planners held
- Design Phase Underway
- Support of Local Authority
- Business Planning
7. Advanced Fuels Capability Programme

Project Aim: A UK Government programme investing in advanced fuel cycle technologies, infrastructure and skills to support future nuclear reactor requirements in the UK and overseas

- World leading research and development into uranic and fast reactor fuels, including materials, coatings and recycling technologies.
- A cross industry approach working across academia, fuel manufacturers, reactor vendors and supply chain SME’s.
8. NWNA Trade Mission

Project Aim: Develop proposal for NPH DIT re NWNA Trade Mission

• Initial proposal under development
• Engaged with BECBC, NNA and WNF, Cumbria LEP
• To include series of engagement and promotion events i.e. 2020 UN climate summit Glasgow,
• Possible Robotics, AI and Digital theme
• Possible markets: Canada, Japan, Germany
NWNA Chairs - Rebecca Weston & Gwen Parry-Jones
NWNA Programme Lead - Al Mather
www.nwnucleararc.co.uk