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CAREER PATHWAYS

ENERGY & ENVIRONMENT SECTOR : NORTH WALES

CAREER PATHWAYS



OVERVIEW: TRENDS

This sector spans a broad range including nuclear, oil, gas, water, and renewable energy. This is an important growth sector for the region and particularly NW Wales, with renewable energy identified by policy and industry leaders as playing a key role in the future of the region.

There are new investments and programmes across the North Wales region spanning a wide range of energy generation, including nuclear, solar, tidal, wind (particularly offshore), and biomass. More information about regional trends in this sector are to be found in the **Meet the Ambassadors: Energy and Environment factsheet** available on the Shaping the Future website.

Readers with interests in the Energy and Environment sector should also access the Pathways Plus and other LMI resources for the Advance Materials and Manufacturing, and Life Sciences sectors as there is significant crossover between these sectors.

TABLE 1:**SECTOR- WIDE OVERVIEW OF NECESSARY QUALIFICATIONS AND SKILLS**

Key example: Engineer (energy sector)

Experience	5 years	5 to 10 years	15 years+
Essential qualifications	HND/ BTEC L3 Mechanical or electrical engineering	HND/ BTEC L3 Mechanical or electrical engineering	HND/ BTEC L3 Mechanical or electrical engineering
Desirable qualifications	BEng: Mechanical or electrical engineering NEBOSH Diploma in Safety, health and environment for the process industries Further sector- specific specialisms if required (see table 2)	BEng : Mechanical or electrical engineering NEBOSH Diploma in Safety, health and environment for the process industries L2 ILM Certificate in Team leading (QCF) Further sector-specific specialisms if required (see table 2)	BEng: Mechanical or electrical engineering MEng NEBOSH Diploma in Safety, health and environment for the process industries L2 ILM Certificate in Team leading (QCF) Further sector- specific specialisms if required (see table 2)
Key competencies/ skills	Responsible Problem solving and logistics skills Innovative and adaptable Teamwork skills STEM skills and qualifications	As for 5 years, plus: Some team leadership and/or project management experience	As for 10 years, plus: Leadership and management experience Project management experience
Budget responsibilities	Some budget responsibility	Some budget responsibility	Experience of project budget management
Staffing responsibilities	Evidence of good team work	Some experience of team leadership / management	Significant experience of staff management and team leadership
Experience / milestones / highlights that are expected to support each level of experience. i.e., What evidence should be on the CV?	Qualifications evidence Evidence of continuing professional development (e.g. accredited courses)	Evidence of continuing professional development (e.g. accredited courses) Evidence of experience in relevant industry roles Membership of relevant professional body	Evidence of continuing professional development (e.g. accredited courses) Track record of key role played in successful project delivery; management and team leadership examples Membership of relevant professional body

TABLE 2:**INDUSTRY SUB-SECTOR SPECIFIC SPECIALIST TRAINING**

	Wind	Nuclear	Marine	Petroleum and gas	Water and waste management	Solar
Licence to practice	HND/BTEC L3 Engineering	HND/BTEC L3 Engineering	HND/BTEC L3 Engineering	HND/BTEC L3 Engineering	HND/BTEC L3 Engineering	HND/BTEC L3 Engineering
Gold standard	NEBOSH Diploma BEng	NEBOSH Diploma BEng	NEBOSH Diploma BEng	NEBOSH Diploma BEng	NEBOSH Diploma BEng	NEBOSH Diploma BEng
Examples of further specialist qualifications and courses	Renewable working at heights IRATA Rope Access HND Wind turbine technology	BEng	Renewable Marine Safety Training Renewable Working at Heights HND marine engineering IRATA Rope Access	IRATA Rope Access Petroleum engineering degree	BTEC Environmental science	Renewable working at Heights IRATA Rope access HND/BTEC/degree Photovoltaics

Further examples of required skills, qualifications, training and competencies related to selected job roles in this sector can be found in the **Career Pathways** briefings on the Shaping the Future website and on relevant National Careers Service website pages:

<http://tinyurl.com/NCS-enviroscience> <http://tinyurl.com/NCS-direct>

REGIONAL SKILLS AND QUALIFICATIONS GAPS

A recent **Sector Skills Assessment for Energy and Utilities** (Oct 2012) states that energy sector vacancies are more likely than average to be reported in Wales for associate professionals, admin/clerical staff and sales and customer services staff. It notes that *higher level skills (level 4+) will become increasingly in demand from sector employers... Energy sector employers are reporting vacancies in associate professional (level 4), operative (level 2) and skilled trades (level 3) roles.*

The report goes on to state that within the energy sector, hard-to-fill vacancies are particularly prevalent in the professional and skilled trades. Hard-to-fill vacancies reflect skills gaps and shortages. The report notes that **one-third** (32 per cent) of such vacancies in Wales are proving hard-to-fill. Within the energy sector, job specific and technical or practical skills are in even more short supply than average. Specialist skills gaps in nuclear and renewables are particularly identified, as are skills gaps in Wales in STEM (Science, Technology, Engineering and Maths) subjects. The report also notes that *employers in the Welsh energy sector seem particularly vulnerable to staff retention issues.*

The full report can be downloaded at <http://tinyurl.com/UKCES-energy>

Further information about specific skills gaps in Wales - the Sector Skills Councils Working in Wales Thematic Report - can be found on the LMI page of the Shaping the Future Website: <http://tinyurl.com/STF-LMI>

REGIONAL TRAINING PROVISION

A wide range of HND, BTEC, under and post graduate degree level courses are available in the North Wales region, including gold standard engineering and NEBOSH courses and sector-specific specialist provision, such as photovoltaics degrees at Bangor University and the marine engineering BTEC at Coleg Llandrillo.

Further specialist provision such as IRATA rope access courses are also available in the region. Core providers include Bangor University, Glyndwr University, and Coleg Menai /Llandrillo. Coleg Llandrillo has established the Renewable Energy & Sustainability Centre for Wales (RESCW) and the Marine and Built Environment Centre. On Anglesey, Wylfa operator Magnox has moved its centralised UK Learning & Development team to co-locate with Coleg Menai's £6 million Canolfan Ynni (energy centre).

Further information about regional training provision is available in the **Meet the Ambassadors: Creative Industries factsheet** available on the Shaping the Future website, and on key Sector Skills websites; these are listed at the end of this briefing.

RELEVANCE OF JOBS IN SECTOR TO EXISTING MAGNOX JOB ROLES

Jobs in this sector, many of which relate to engineering and technician roles, are an excellent match for many Magnox jobs and employees are likely to have skills, experience and qualifications which are highly transferrable for this sector and which will give them a competitive advantage. With additional, carefully chosen, qualifications and training, for example specialist renewable energy qualifications, Magnox employees are in a strong position to take advantage of opportunities in this sector.

KEY WEBSITES

For a wide range of further information including job roles, skills, qualifications and training courses across this broad sector, see

<http://tinyurl.com/NCS-enviroscience>

<http://tinyurl.com/NCS-direct>

<http://www.euskills.co.uk/>

<http://www.cogent-ssc.com/>

<http://www.ukces.org.uk/>

For the latest report on UK and Wales-specific skills trends in this sector see

<http://tinyurl.com/UKCES-energy>

http://www.cogent-ssc.com/research/Publications/Wales_SSA.PDF

For more Wales-specific skills gaps and shortages in this sector see the Sector Skills Wales Thematic Report at

<http://tinyurl.com/STF-LMI>

For further relevant LMI resources in Wales relating to skills and training see

<http://www.learningobservatory.com/>

For access to relevant Shaping the Future LMI resources, including Meet the Ambassador and Career Pathways briefings, see

<http://tinyurl.com/STF-LMI>



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