

What's Next? Sustainable Energy Engineering

Bachelor of Engineering (Honours) in
Sustainable Energy Engineering

Sustainable energy is one of the great challenges facing the world today: how to source and supply energy to meet the needs of citizens and industry. Renewable energy targets have been set by the EU and Ireland is investing in a range of sustainable energy solutions in an effort to meet those targets.

In Ireland alone, the total estimated expenditure to 2020 across the range of energy technologies amounts to between €2.2 billion and €2.9 billion per year. Around 45% of the total investment is anticipated to be in energy efficiency technologies and associated services, 40% in renewables and the remainder in electricity transmission. The EU as a whole invested €124bn last year alone.

Sustainable Energy Engineers are specialists in understanding and applying engineering and technology principles of energy conversion and use.



Transferable Skills

Logical and mathematical reasoning

Research, analysis and problem solving

Teamwork & Communication

Project management & Organisation

Commercial awareness

Adaptable with ability to manage change

Professionalism – ethical practice.



Degree-specific Skills

Knowledge and understanding of mathematics, the physical sciences, ICT, design processes and methodologies and industrial practices relevant to Sustainable Energy Engineering.

Apply and modify mathematical and scientific tools and techniques to solve complex sustainable energy problems.

Skilled in data collection, modelling, analysis, design, simulation, communication and management.

Ability to select, evaluate and apply appropriate engineering, technological and management aids to design and implement a system, component or process to meet specified needs in complex situations.

Knowledge of the energy market and relevant legislation surrounding energy efficiency and carbon emissions.

Understands the diverse nature and the social context of energy engineering and the impact of engineering solutions in multiple global, societal, commercial and environmental contexts.

Knowledge and competence in 3D software, such as AutoCAD.

Ability to recognise, interpret and apply appropriate regulations and ethical considerations.

Core Skills

Career Options



A qualification in engineering is highly regarded and valued by many employers for the relevant, transferable skills and competencies you can bring to a wide range of professional fields.

Graduating from your engineering degree leaves you with a range of opportunities to think about and you need to spend time in your final year carefully researching your options, either graduate employment or further study.

Check the following links for more information on possible career options.

<https://www.prospects.ac.uk/job-profiles/energy-engineer>

<http://www.mycit.ie/careers>

www.gradireland.com

Employers

Some examples of types of employment within this sector:

- Energy Management
- Energy Systems Design
- Energy Project Management
- R&D Energy Engineer
- Process Engineer
- Design Engineer
- Engineering Consultant.



Starting Your Job Search

Job search takes focus, effort and commitment. It's essential that you create a strong online presence. You need to have a LinkedIn profile and work at building your network. If you blog or have a website, be sure to include links in LinkedIn and on your CV. LinkedIn is about where you want to go, not just about what you are doing now. An ideal starting point is to look for Alumni (former graduates of your college/course). You should also look up companies/industries you want to target. Aim to find the name of the HR Manager and employees in roles you are aiming for yourself. Examine their career journey and note the Groups that they belong to. Follow people who are where you want to go and make connections! Don't wait for jobs to be advertised, actively look for roles that interest you.

Graduate programmes are a great career starting point as extra training is provided. A Level 8 degree is the minimum for entry to most programmes and applications open early – start looking in September and October of your final year in college. Register with GradIreland: <https://gradireland.com/user>



Some examples of types of employers within this sector:

- SSE Airtricity
- Electric Ireland
- ESB International
- Ervia (formerly Bord Gáis)
- Energia
- Schneider Electric
- EirGrid plc
- PM Group
- DCC Group
- Topaz Energy
- Whitegate
- Chris Mee Safety Engineering
- AbbVie
- GE
- SWS
- Veolia
- Valero Energy Corporation
- Local Authorities
- Large Hospitals.
- Tullow Oil



Where are CIT graduates working?

Company

Agility
GE Healthcare
Verde Led
Enerco Energy
Jacobs Engineering

Fexco
Henry Construction Projects Limited
Em3
EPS
Enerco Energy Limited
Alternative Heating and Cooling
EPS Water Group

Regeneron
Dew Valley foods
Glan Agua Ltd
MSD

Job Role

Project Engineer
Junior Utilities Engineer
Applications Engineer
Project Engineer
Commissioning & Qualification Engineer
Customer Service Representative
Graduate Engineer
Energy Engineer
Industry Sales Engineer
Project Engineer - Solar
Heating Technician
Product Development & Technical Support
Biotech Production Specialist
Factory Technician/Supervisor
Graduate Engineer
Production Operator

Professional Groups & Associations



Engineers Ireland (EI) is the professional body in Ireland for engineers from all disciplines. Your BEng (Honours) degree from CIT is fully accredited by Engineers Ireland (EI) for membership eligibility. Since 2013, a Level 9 qualification is required to become a chartered engineer. Visit: www.engineersireland.ie to find out more.

EI has a useful Careers advice section including information on graduate programmes: <https://www.engineersireland.ie/Students/Careers> Your Sustainable Energy Engineering degree is also accredited by the Energy Institute, the professional body for the energy industry in the UK, which has an Irish branch. See their careers information and job-search advice at: <https://www.energyinst.org/membership-and-careers/careers>

The EI can also provide a range of professional development opportunities and help you work towards professional membership including Chartered Engineer (CEng), as well as Chartered Energy Engineer, Chartered Petroleum Engineer and Chartered Energy Manager.

Membership of a professional association is a useful way to meet new people in your field and will look good on your CV. Many professional bodies have jobs boards and these roles may not be advertised elsewhere. Relevant professional bodies include:

- **Engineers Ireland:** www.engineersireland.ie
- **Irish Department of Environment/Local Government:** www.environ.ie
- **Association of Consulting Engineers of Ireland:** www.acei.ie
- **Sustainable Energy Authority of Ireland:** www.seai.ie



Postgraduate Study

Graduates may pursue Masters programmes in:

- Sustainable Energy Engineering
- Energy Systems Engineering
- Offshore Wind Farm management
- Sustainability Engineering
- Ocean Energy Systems
- Energy Management

For Irish Energy Masters Degree search here; https://www.qualifax.ie/index.php?option=com_wrapper&view=wrapper&Itemid=15

For Energy Institute Accredited Courses search here; https://www.energyinst.org/search?query=&meta_degree=MEng&meta_doctype_or=Approved%20Training%20Provider&meta_doctype_or=Academic%20Course&meta_doctype_or=Graduate%20Scheme

For further information, go to the 'Further/Postgraduate Study' link on the Students page of our website: <http://www.mycit.ie/careers>. You can also use www.qualifax.ie

For information on Masters' programmes through English in universities across the EU: www.mastersportal.eu



Going Abroad

For career opportunities in the UK see: www.targetjobs.co.uk; www.gradjobs.co.uk and www.graduate-jobs.com

Jobs across the EU can be seen on the EURES website and financial supports are available for relocating to another EU country, visit: <https://ec.europa.eu/eures/eures-searchengine/page/main?lang=en#/search>

If you wish to work in the USA, Canada or Australia, check out work visa requirements first. There are graduate work visas available to the USA, a great opportunity to gain global experience in your field but you must begin the job within six months of finishing your college course and not six months from graduation.

