

Energy System Modeller

Candidate Information Pack

mutual*energy* 

A Northern Ireland company
working for consumers

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1. Overview of Mutual Energy

1.1. Who we are

Our purpose is to own and operate energy infrastructure in the long-term interests of Northern Ireland energy customers.

Our energy infrastructure is critical to maintaining the security of energy supply in Northern Ireland.


We are committed to driving the transition to zero carbon energy in NI.

1.2. Why we exist


OUR PURPOSE

To own and operate energy infrastructure in the long term interest of Northern Ireland energy consumers


OUR STRATEGY



1. Operate assets safely and cost effectively, outsourcing where appropriate




2. Deliver savings to current and future Northern Ireland consumers over the life of the assets



3. Collaborate with key stakeholders in the acceleration of decarbonisation



4. Manage market change and regulatory developments to minimise risk to the Northern Ireland consumer



5. Over the long term to acquire stable energy infrastructure assets at low cost to benefit the Northern Ireland consumer

Mutual Energy is a company limited by guarantee. It was formed to acquire, and hold, strategically significant energy infrastructure assets for the benefit of Northern Irish energy consumers.

As a mutual company, Mutual Energy does not have shareholders. Instead, there are around 30 *members* appointed to represent the interests of Northern Irish energy consumers.

This structure allows Mutual Energy to pass profits and savings generated by its infrastructure assets back to NI energy customers. It also means we do not represent the commercial interests of shareholders and can pursue policy positions and develop projects that are in the long-term interests of Northern Irish energy consumers.

Combined with our extensive industry experience and expertise, we can make a real difference in enabling a lower cost energy transition, delivering significant benefits to NI customers.

1.3. What we do

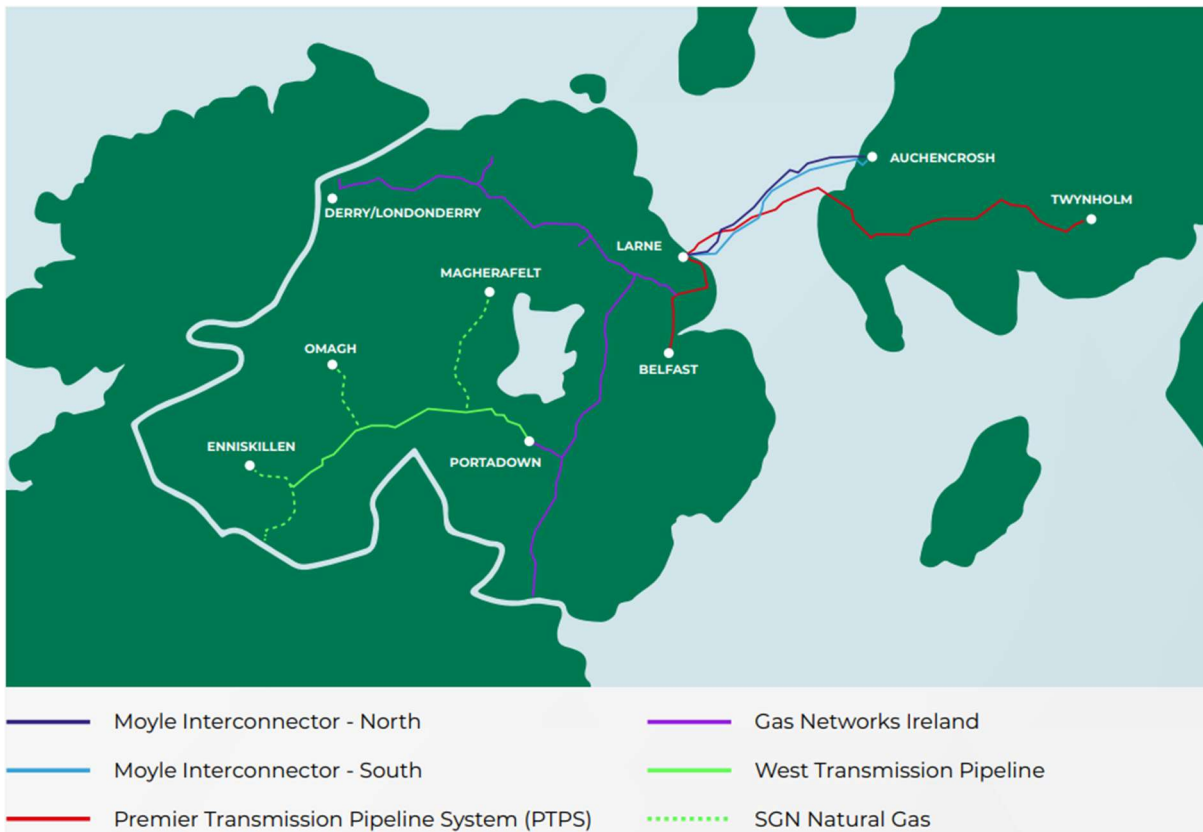
Mutual Energy currently has £800m of assets under management, including the electricity and gas interconnectors between Northern Ireland and Scotland, and much of the onshore gas transmission network in Northern Ireland.

The Moyle Interconnector links the electricity systems of Ireland and Scotland, facilitating the import and export of up to 500MW (roughly a third of Northern Ireland's peak electricity demand).

Mutual Energy also own and operate the Premier Transmission Pipeline System (PTPS), including the Scotland-Northern Ireland Pipeline (SNIP), which supplies almost all the natural gas consumed within Northern Ireland, and the West Transmission Pipeline.

The Moyle interconnector and SNIP provide vital links to the energy markets in Great Britain, improving the security of supply in NI. Combined, these assets provide essential conduits for the wholesale supply of energy to, from and within Northern Ireland.

Mutual Energy, via three subsidiary companies, is a licenced transmission system operator (TSO) for gas in Northern Ireland. Along with GNI(UK), the other licenced TSO, we also have a contractual joint venture providing gas market operator services to gas shippers in NI ([GMO NI](#)).



2. Job description

2.1. Job title

Energy System Modeller

2.2. Location

Belfast

2.3. Reporting to

Network planning lead

2.4. Reason for the role

As a TSO, Mutual Energy has responsibility for ensuring that its network is capable of meeting the current and future needs of NI consumers.

As demand for gas in Northern Ireland has grown over the years, the network has become increasingly tight. With the imminent conversion from coal to gas of a large power station, this is expected to put even more stress on the network.

As the energy transition gathers momentum, there will also be alternative sources of gas, for example biomethane and hydrogen, as well as changes in demand levels. The electrification of transport, for example, will mean that electricity demand increases substantially, and while some of this increase will be met by renewable electricity, there will likely need to be an increase in gas-fired generation to meet the demand when it is not windy. This could mean that demand on the gas network increases further. There is an open policy question around the best way to meet heat demand, but whatever is decided is likely to lead to changed demands on the gas network in some form.

To ensure that security of supply is maintained for consumers, as a gas network owner we need to ensure that investments and developments are undertaken ahead of time, before potential issues actually appear on the gas network.

Currently, the mechanism for doing this is via the Northern Ireland Gas Capacity Statement (NIGCS), produced jointly between Mutual Energy and GNI(UK). The NIGCS in its current form, however, is not designed to do what is needed going forward, and as such an enhanced network planning process is required, along with closer co-operation between the gas and electricity network operators, to ensure that overall energy consumer interests are considered.

To do this, Mutual Energy is establishing a dedicated network planning team. The successful candidate will have a key role to play in developing this team's technical capability.

2.5. Key responsibilities

This is an expansion role. The successful candidate will develop, enhance and implement Mutual Energy's energy market and network modelling capability.

This is an excellent opportunity to feed into Mutual Energy's – and the wider NI energy sector's – thinking on the energy transition and security of supply, ensuring decision-making is grounded in evidence and actions taken are in the interest of Northern Ireland's energy consumers.

You will be responsible for developing a long-term model of the Northern Ireland energy system, including its interaction with the wider environment, such as the agricultural and transport sectors.

You will work collaboratively with policy and engineering colleagues both within Mutual Energy and in key external stakeholder organisations to develop credible future scenarios for the NI gas network within

the wider context of a fully decarbonised energy system. You will then assess these scenarios of the roll-out of renewable gases in terms of their ability to support wider NI policy objectives and targets.

You will also work with operational colleagues to undertake detailed technical modelling of the NI gas network in the short- to medium-term, ensuring that the network is able to meet the needs of customers throughout the transition to net zero. That is to say, the energy transition happens at best cost to consumers, while ensuring that energy is available when and where it is demanded.

Where you determine that the existing network could be improved, you will contribute to assessing various physical investments or market-based solutions to the issues identified.

You will work with the network planning lead to promote the findings of your analysis to wider industry and key stakeholders such as the Utility Regulator and the Department for the Economy.

2.6. Candidate requirements

2.6.1. Essential criteria

The successful candidate must be able to explicitly demonstrate how they meet the following criteria in their application:

1. At least three years' demonstrable experience of energy system modelling or modelling of other complex interrelated systems. This could be either techno-economic modelling and/or technical modelling achieved in either an industry environment or in a post-graduate academic or research context.
2. Experience of writing technical reports or papers
3. Strong working knowledge of Microsoft Office, in particular MS Excel
4. Able to demonstrate the following core competencies:
 - a. Ability to think innovatively and identify and implement new solutions to problems, including clarifying ambiguous problems
 - b. Ability to work collaboratively with others, including those with complementary skills and expertise, and sharing knowledge and skills with others
 - c. Ability to deliver high quality outputs, paying close attention to detail
 - d. Good organisational skills and an ability to manage and prioritise your own workload effectively
 - e. Excellent communication skills, both written and oral, and an ability to effectively convey complex technical information to a non-expert audience
 - f. Demonstrates professional integrity in their actions
5. The right to work in the UK¹. Please **explicitly** state that you have the right to work in the UK in your CV or cover letter, otherwise your application may be rejected.

¹ You must have the legal right to work in the UK and – in line with its legal obligations – Mutual Energy will carry out Right to Work documentation checks prior to appointment. This will include checking documentation for those with Settled or Pre Settled status under the EU Settlement Scheme. Please note that, whilst we welcome all applications regardless of national origin, we do not hold a UK Home Office Sponsor Licence and we are therefore unable to sponsor applicants under the UK Home Office points based immigration process.

2.6.2. Desirable criteria

Additionally, we would particularly welcome candidates who can demonstrate the following criteria. In the case of a large number of high-quality applications meeting the essential criteria, we may shortlist candidates who can demonstrate the following:

- An understanding of economic decision-making analysis, for example cost-benefit analysis, and experience of writing business cases for potential projects.
- Experience of hydraulic modelling of gas networks
- Knowledge of Python and SQL programming languages, experience with Python for Power System Analysis (PyPSA) would be particularly valuable
- Experience of analysing and assessing environmental or decarbonisation policies
- Understanding of the NI gas and/or electricity markets
- Familiarity with Geographic Information Systems (GIS)

3. The appointment process

3.1. How to apply

To apply for this position, please send a copy of your CV and a brief cover letter outlining how you meet the essential and relevant desirable criteria to Roisin.Clarke@mutual-energy.com. Please also include a copy of the [Monitoring Form](#).

3.2. Deadline

Applications close at 23:59 on 4 February 2024.

Applications received after this deadline will be rejected.

3.3. Monitoring form

Mutual Energy Limited monitors applications for employment in terms of community background, sex, disability and race. The use and confidentiality of Community Background information is protected by the Fair Employment and Treatment (Northern Ireland) Order 1998. It will be used only for monitoring, investigations or proceedings under the requirements of the above legislation.

3.4. Eligibility sift

.After the closing date, the first stage in the selection process will be to conduct a sift against the eligibility criteria. Applicants who have not fully demonstrated on their CV how they meet each of the eligibility criteria will not be progressed to the next stage of the process.

In the event of a large number of applications, further sifting may also be undertaken on the desirable criteria to form a shortlist for interview.

3.5. First interview stage

It is expected that the interviews will take place week commencing 19 February 2024.

Those invited should make every effort to attend on the specific date and time.

3.6. Final interview stage (as required)

Shortlisted applicants may be required to attend a final stage interview, candidates will be informed of the details around this after conclusion of the first interview stage.

3.7. Pre-employment checks

3.7.1. References

Applicants are required to provide details for two referees, at least one of which should be from your previous employment. Referees will not be contacted until after the interview process.

3.7.2. Right to work in the UK

Prior to being employed in this role, applicants will be required to provide evidence as necessary to assist Mutual Energy with ascertaining their right to work in the UK.

3.7.3. Security clearance

The Mutual Energy assets provide an essential service for security of gas and electricity supplies. As such, the company conducts background screening of potential new employees. This process is guided by BS7858 which sets out recommendations for the security screening of individuals to be employed in an environment where the security and/or safety of people, services, personal data or property is essential.

3.7.4. Medical information

If we wish to offer you employment, you will need to undergo a pre-employment medical. If you are aware of a medical condition which you think could be affected by the nature of the job, please make us aware of this.

3.8. Further information

Should you have any further queries about the recruitment and selection process, please contact Roisin Clarke directly at Roisin.Clarke@mutual-energy.com or (+44) 028 9043 7580.

Mutual Energy is an equal opportunities employer.

All applications for employment are considered strictly on the basis of merit.

4. Terms and conditions of employment

Contract type	Permanent
Location	The Arena Building, Ormeau Road, Belfast.
Remuneration	£35,000 - £50,000 (exclusive of bonus) subject to experience. A higher salary may be considered for a candidate with extensive relevant experience that can demonstrate they are exceptionally well qualified for the role.
Bonus	A 10% bonus based on company and individual performance will come with this role.
Pension	8% employer contribution to pension without the need for employee contribution, and matching contribution up to 9.5%
Private medical	Private medical insurance is offered for the individual and family.
Life assurance	Life assurance is available with this role.
Critical illness	Critical illness cover is provided with this position.
Hours of work	The standard hours of work are 9am - 5pm although a higher degree of commitment and flexibility may be required to meet deadlines.
Hybrid working	The company offers non-contractual hybrid working arrangements, with a minimum of two working days per week within the office, subject to particular work requirements. Staff are expected to be flexible – e.g. if ‘face to face’ meetings require their presence in the office more frequently.
Annual leave	25 days annual leave plus 11 statutory days.
Notice period	Up to 3 months by either side.
Probation period	3 months.
Travel	The vast majority of the work will be within Northern Ireland, though a degree of travel across the UK, Ireland and Europe may be necessary with this role.