

**Ministerial Energy &  
Manufacturing Advisory  
Group  
Report**

March 2016

# 1. Chair's Foreword



As Chairman of the Energy and Manufacturing Advisory Group (EMAG), I want to thank the other members of the Group for their hard work and input to this report as well as the many external organisations and groups which submitted written and oral evidence to us. This report details our emerging findings with further follow up work required to address some of the issues identified. Due to the tight deadline to produce this report, it largely focuses on electricity costs rather than gas. It is hoped that more detailed work will be carried out on local gas costs in the follow up to this report.

The Group is mindful that the implementation of ISEM (Integrated Single Electricity Market), which will harmonise cross border trading arrangements across Europe, will lead to significant changes in the way electricity is traded and generating capacity managed. Until ISEM is implemented (target date Q4 2017), there is considerable uncertainty as to its exact impact on manufacturers' electricity costs.

A strong, flourishing manufacturing sector, delivering growth in exports is at the core of the Executive's vision to grow and rebalance the Northern Ireland economy. In 2015 the sector directly provided 85,200 jobs and made a Gross Value Added GDP contribution of £4.7 billion. However, manufacturing's contribution extends significantly beyond this direct economic impact. When allowance is made for the sector's procurement of goods and services from its local supply chain, including 48,000 jobs in agriculture supported by food and drink processing, the overall contribution from the sector is more than double its directly measured impact. Manufacturing and its supply chain therefore provides around 25% of all jobs and over 30% of total economic output of the region.

Despite recent well publicised job losses in the sector, manufacturing activity is expected to continue to grow in output and employment terms. Recent closures clearly highlight that there is no room for complacency and that if the sector is to deliver much needed growth, then everything possible must be done to ensure our manufacturers are internationally competitive. It is essential that Government create a business friendly environment with modern infrastructure and competitive operating costs.

Energy costs are a significant challenge for local manufacturers. Evidence reviewed by this group including the NIAUR's Quarterly Transparency Reports, DETI's Energy in Northern Ireland 2016 publication and data from some of our largest energy users, indicates that local energy costs faced by our manufacturing sector are some of the highest in Europe. This is most acute for large energy users (LEUs) who face electricity prices almost 60% higher than the EU-15 median, while for medium and small/medium users, the price differential is over 40%. Understanding why this is so, and what practical steps can be taken to deliver competitive energy costs to all consumers, especially LEUs and energy intensive manufacturers who compete internationally, have been core to the group's work.

The factors that influence demand and supply of energy, and the prices paid for energy are many and complex. The recommendations in this report cover a range of topics from grid connectivity and increased competition to energy efficiency and demand management.

The guiding principles underlying the recommendations that follow aim to ensure that:

1. Local energy costs for all consumers, especially LEUs and energy intensive manufacturing users, are competitive in an EU context.
2. The market design and operation is based on the application of economic principles that deliver the most efficient management of resources in network management, power generation and demand management in order to meet future demand and deliver the lowest cost outcome to all.
3. Government policy avoids unnecessary management, incentive costs and levies and encourages the most efficient operation of the market.

We commend the recommendations in this report to the Minister and the wider Executive & Assembly and look forward to their consideration and implementation.

A handwritten signature in dark ink, appearing to read 'David Dobbin', written in a cursive style.

Dr David Dobbin CBE Chair

## 2. Recommendations to improve the competitiveness and effectiveness of NI's electricity market

The recommendations that follow reflect the agreed position of the EMAG group and cover a broad range of topics, including policy direction, interconnection, grid investment, energy's role in economic development, energy efficiency and innovation. EMAG believes that the implementation of these recommendations will make a significant contribution to delivering better outcomes for all electricity consumers.

### Policy Direction

It is essential that the Executive has a clear and unambiguous objective to deliver competitive local energy costs in an EU context, especially for LEUs and energy intensive manufacturers who have to compete internationally.

**Recommendation 1: The Executive should include an objective to deliver competitive local energy costs for business in an EU context in its Programme for Government and Strategic Energy Framework, especially for LEUs and energy intensive manufacturers.**

**Recommendation 2: The Executive should set a long term goal that NI electricity prices for LEUs and energy intensive manufacturers should be equal to the EU median. An initial target should be that NI electricity prices for this group are no higher than those of their equivalents in ROI given that they are in the same Single Electricity Market (SEM) and that they compete head on in the Island economy. Performance against this target should be reviewed annually and the target price updated.**

**Recommendation 3: The Executive should provide long term policy certainty by developing a clear, consistent long-term energy and decarbonisation strategy for Northern Ireland to 2030.**

**Recommendation 4: DETI/Department of the Economy should urgently clarify its position on the subsidy arrangements for renewable generation following the closure of NIRO and should avoid where at all possible any further policy costs on manufacturers' bills.**

### Interconnection

While Northern Ireland is part of a single all island electricity market, the current level of North-South connectivity is unable to fully facilitate the transmission of electricity from generators in ROI, leading to increased costs and the risk of supply shortages. The strategic importance of the second North-South electricity interconnector and its contribution to improving security of supply and reducing costs for all consumers is well understood. This importance should be reflected in the planning approval process and must be supported at the highest political level in both jurisdictions.

There have also previously been problems in connectivity to the GB grid with the Moyle interconnector not being fully functional. The cable issues have now been addressed, however, there are still constraints in the Scottish grid on power exported from NI. These past and current issues have constrained efficient electricity trading and resulted in increased NI electricity costs. It is essential that the Moyle interconnector capacity can be fully utilised and EMAG therefore welcomes the ongoing work of the Regulator and its GB counterparts to reduce/remove remaining constraints.

**Recommendation 5: The Executive should do everything it can to ensure that planning permission for a second, over-ground North-South interconnector is granted and that the additional capacity is fully operational by 2020.**

**Recommendation 6: The Regulator should continue to work closely with GB counterparts to ensure constraints NI power exports are fully addressed.**

## Transmission and distribution system investment

A modern, fit for purpose grid system with sufficient capacity to service future demand is a key enabler of economic development. High costs and long lead times for new local network connections are reported to be stifling investment and growth as well as limiting the uptake of additional renewable supplies and manufacturers' generating capability. Northern Ireland expects a significant boost to economic performance from a reduced corporation tax rate and it is therefore critically important that the electricity grid is fully able to facilitate future economic growth, especially in the West where there are more acute grid capacity issues. It is essential that there is a long term strategic plan for grid development to address future demand, facilitate economic development and enable the uptake of renewable energy and industry self-generation projects. It is also essential that the Executive consider strategic investment to strengthen the grid network, especially in outlying areas, in a similar way that it invested in the broadband network across North Ireland. Such investment would help reduce connection costs and lead times, boost economic development and the deployment of renewable energy.

**Recommendation 7: DETI/Department of the Economy should commission a long term strategic plan for the grid from NIE Networks and system operator SONI, with the input of other industry stakeholders, that will meet future needs, facilitate economic development and enable the uptake of renewable and industry self-generation projects. This should include a review of whether strategic grid investment by the Executive is needed, beyond what would normally be approved by the Regulator, particularly in the west of Northern Ireland to support regional economic development and facilitate the deployment of renewable energy. Should such a need be identified, the Regulator should adjust the NIE Networks' Regulated Asset Base to take into account the benefit of any investment provided by Government in grid infrastructure.**

## The value of manufacturing to the NI electricity market

The cost of energy and achieving critical mass in the scale of its use are important factors in international competitiveness and economic growth. High local electricity costs have resulted in an increasing trend for LEUs to go 'off grid'. This presents a challenge for all consumers, given the significant base load LEUs provide to the market and the contribution they make towards network and other costs. Other jurisdictions, notably the Republic of Ireland, have chosen to take into account the benefit that LEUs bring to the electricity costs of all consumers and to reflect this in the way LEUs are charged. The result is that LEUs in the Republic of Ireland pay lower electricity prices, giving them a significant advantage, especially over large and energy intensive users in NI. The interrelated issues of the equitability of cost allocation and the potential impact of LEUs going off grid require further research.

**Recommendation 8: DETI/Department of the Economy should undertake a programme of research to:**

- **Compare the approach taken to the allocation of energy costs in NI (network, policy and taxation) with other EU countries where privileging for energy intensive manufacturers is evident. This work should take into account the impact of electricity costs on economic development, jobs, GDP and exports.**
- **Examine the direct and wider economic impact on all NI electricity consumers of;**
- **A significant proportion of LEUs going off grid including any subsequent positive impact, if any, on gas network costs.**
- **A significant proportion of LEUs closing NI operations and relocating business to other countries.**
- **A charging structure for network and/or statutory (CCL, PSO, tax) costs to LEUs and energy intensive users which reflects the benefits they offer in base load and critical mass as well as their contribution in supporting economic development.**

## Integrated Single Electricity Market (ISEM)

The new wholesale electricity market (ISEM) is being introduced in 2017 as a requirement of

European legislation, and is designed to harmonise cross border trading arrangements across all European electricity markets. However, there is significant uncertainty about electricity prices following its implementation. This uncertainty is further compounded by the fact that market participants are currently unable to hedge beyond October 2017 until ISEM is implemented. This is creating a competitive disadvantage for NI businesses which are unable to capitalise on the lowest global fuel prices in 30 years. EMAG believes that the timely delivery of a transparent integrated single electricity market is crucial for promoting confidence among energy generators and consumers, and recommends the following:

**Recommendation 9: The Regulator and market operator should ensure that the ISEM is transparent and delivers for Northern Ireland in the context of policy objectives, cost competitiveness and security of supply. ISEM delivery should be least cost in terms of implementation and delivered on time to reduce risk.**

**Recommendation 10: The Regulator should ensure that business consumers, especially LEUs and energy intensive manufacturers, are aware of changes that ISEM implementation will bring.**

**Recommendation 11: The Regulator should engage with electricity suppliers and their business customers to facilitate the provision of indicative prices for the new market once energy trading rules are established by Q2 2017.**

**Recommendation 12: The Regulator should engage with generators, supply companies and LEUs to consider how hedging can be arranged beyond October 2017, as soon as possible.**

**Recommendation 13: The Regulator should ensure that the lack of liquidity and potential for the abuse of market power which exist under current market arrangements are addressed with the implementation of ISEM.**

**Recommendation 14: The Regulator should ensure that the ISEM delivers market signals that encourage all market participants to maximize flexibility and competitiveness. It is essential that generator constraints including start-up costs are identified and addressed by the Regulator with the implementation of ISEM.**

## **Delivering a secure, sustainable electricity system (DS3)**

The underlying objective behind DS3 is to maximize the uptake of renewable energy beyond current system limitations and ultimately to improve the stability and flexibility of the grid and reduce electricity costs to all consumers. This has required significant investment, the cost of which will be borne by all electricity consumers and it is crucial that the projected benefits to consumers are secured. It is essential that the outcomes of DS3 are closely monitored to ensure that it delivers a positive outcome and value for money.

**Recommendation 15: Progress on DS3 should be closely monitored to ensure it is on track to deliver benefits to consumers.**

**Recommendation 16: A review of the cost effectiveness of DS3 should be carried out in 2020 to ensure that it has delivered outcomes in line with expectations and value for money.**

## Energy Efficiency

Energy efficiency is a key factor in ensuring reduced energy costs for all consumers and improved competitiveness for industrial users. While there is a range of existing incentives and support mechanisms available to manufacturers, uptake has been limited.

**Recommendation 17: The Department of the Economy should review the evidence on barriers to the implementation of energy efficiency measures by business consumers. Remedial actions should be enacted along with appropriate incentives to encourage high levels of energy efficiency, particularly for energy intensive, export-focused manufacturing businesses.**

**Recommendation 18: The costs of energy efficiency policy measures for household consumers should be borne by the domestic sector and not charged to commercial users. Similarly, the costs of measures aimed at commercial users should be charged only to the commercial sector.**

**Recommendation 19: The Department of the Economy should provide energy assessments and prioritise funding for energy efficiency measures to companies that hold Climate Change Agreements, or have undertaken Energy Saving Opportunity Scheme assessments.**

## Demand Management and Innovation

It is essential that all electricity consumers (domestic and industrial) manage their demand to avoid additional costs in meeting periods of peak demand. The dominance of fixed price tariffs (especially for domestic consumers) means that consumers are not receiving appropriate price signals to avoid peak period usage and base load consumers are consequently paying disproportionately high energy prices.

There is a growing sense that the electricity sector is fast reaching a period of technology led disruption that has been experienced in other sectors (e.g. contactless and mobile payments in banking). Current pricing and metering practices are no longer suitable for future electricity supply markets. Demand management and the adoption of smart technologies could see Northern Ireland become an exemplar region for smart electricity and the following recommendations would support such an aim. EMAG recommends that:

**Recommendation 20: The Executive and the Regulator should act to accelerate the deployment of demand side management and smart technologies which can reduce both total energy requirement and the spikes in demand which lead to higher prices for all consumers.**

**Measures should include:**

- **Designing a market that provides LEUs with clear pricing signals to reduce consumption during periods of peak demand.**
- **Increasing awareness of potential new income streams for manufacturers, such as the provision of demand response and/or load on demand.**
- **Carrying out a cost-benefit analysis of the deployment of smart meters and time of use tariffs.**
- **Addressing any administrative, market or regulatory barriers to the implementation of innovative energy solutions.**
- **Carrying out a review of where energy storage can create value for LEUs and the all-island electricity system.**
- **The deployment of innovative energy solutions should be championed by public bodies to provide exemplars of successful deployment.**
- **New distributed energy projects over a certain threshold should be smart metered so that they are visible to the system operator, reducing demand forecast uncertainty and facilitating more efficient system operation.**

## Regulator role and remit

Throughout the call for evidence, EMAG heard a consistent call for greater transparency and prompt, easy to access market intelligence.

**Recommendation 21: The statutory remit of the Regulator should be expanded to explicitly include consideration of developing a competitive energy cost environment for manufacturing and ensuring that the costs for LEU's and energy intensive users are competitive in an EU context.**

**Recommendation 22: The Regulator should conduct a review into the timeliness and effectiveness of generator profitability reports. Overdue reports should be published without delay and action taken to address findings, where appropriate. The Regulator should commit to maintaining a consistent publication schedule.**

**Recommendation 23: The Regulator should implement a code of practice in line with that used by OFGEM, providing advice to business consumers and requiring brokers and other third party intermediaries to be completely clear with businesses about their fees, the contracts they offer and which suppliers they represent.**

## **The role of gas**

Given the time frame for undertaking this work, the focus has largely been on electricity costs rather than gas. The role of gas requires proper consideration and EMAG recommends that DETI should convene a group to assess the cost competitiveness of natural gas in Northern Ireland and alignment of the natural gas both with the ISEM and across the island and report with findings and recommendations to ensure the gas market is operating effectively and efficiently.

**Recommendation 24: The Department of the Economy should commission a follow up review on the accessibility and cost competitiveness of natural gas in Northern Ireland and the role it could play in improving overall energy cost competitiveness of manufacturing industry versus European benchmarks.**

## Appendices

### Group Membership

Chair: Dr David Dobbin CBE, Group Chief Executive Dale Farm

Declan Billington, Managing Director John Thompson and Sons

Stephen Kelly, Chief Executive Manufacturing NI

Robin McCormick, Director, Operations, Planning and Innovation and General Manager SONI

Dr Bill McGinnis CBE DL

Mark Nodder OBE, Chairman and CEO Wrights Group Ltd

Jackie Pollock, Regional Coordinating Officer, Unite the Union

Dr Mark Sweeney OBE, Non-Executive Director Invest NI

Nicholas Tarrant, Managing Director, Northern Ireland Electricity Networks

Carla Tully, President AES UK and Ireland

#### **Secretariat & Research Support**

The work of the Energy Manufacturing Advisory Group was supported by:

- Ulster University Business School
- Dr Patrick Keatley, Ulster University Centre for Sustainable Technologies
- Andrew Webb, Ulster University Economic Policy Centre
- Colin McAlister, Ulster University Economic Policy Centre

#### **DETI Observer**

Chris Stewart



## A. Terms of Reference

The terms of reference for the Panel were:

- To review the evidence on the effect of energy costs on the competitiveness of manufacturing industry in Northern Ireland.
- To identify effective policies, strategies and examples of industry good practice (locally and internationally) in reducing energy costs for manufacturing industry.
- To provide advice and recommendations to the Minister for Enterprise, Trade and Investment on energy cost reduction measures to be included in the forthcoming refreshed Economic Strategy and Strategic Energy Framework.

## **B. Call for Evidence Submissions**

Action Renewables

AES, UK & Ireland

Confederation of British Industry

Consumer Council for Northern Ireland

Energia

Institute of Directors

John Simpson, Economics commentator

Lightsource

Manufacturing NI

Mutual Energy Ltd

Northern Ireland Chamber of Commerce

Power NI

SSE