

Moving Towards a Low Carbon Economy

A Royal Society of Edinburgh Roundtable Discussion – October 2018

Introduction

1. On 15 October 2018 the Royal Society of Edinburgh (RSE) held its annual MacCormick European lecture. The lecture was delivered by the Chair of the Intergovernmental Panel on Climate Change (IPCC), Dr Hoesung Lee, on the topic of 'Addressing Climate Change and Pursuing Economic Development'.
2. In advance of the lecture the RSE convened a group of experts and stakeholders to hold a roundtable discussion with the central theme of 'Moving Towards a Low Carbon Economy'. Participants included representatives from government, the third sector, trade unions, academia, and industry groups.
3. Attendees were prompted to consider the following areas:
 - The role of workforce behaviours in addressing climate change
 - The skills required in a future workforce
 - Just Transition
4. The meeting was held under the Chatham House rule. The report of proceedings will be submitted as formal evidence from the RSE to the Talanoa Dialogue,¹ serve as evidence for the RSE's inquiry into 'Scotland's Energy Future' and be published on the Society's website.
5. This report is a distillation of the key points of discussion at the roundtable and does not necessarily reflect the views of the Royal Society of Edinburgh.

A Strategic and Systematic Approach

6. An integrated systems-based approach to the transition towards a low carbon economy is paramount. Areas such as transport, agriculture and housing cannot be viewed in isolation when it comes to reducing emissions and meeting our climate obligations and there is a need for joined up action across the public and private sectors. Given the constitutional arrangements across the UK, this makes it vitally important that different levels of government (including local government), with jurisdiction over distinct policy areas, efficiently cooperate to ensure broad policy is complimentary and pulls in the same direction.
7. For example, an integrated approach to transport akin to what is the norm in Norway would be a positive step. Norway's use of mechanisms, such as emissions tolls and low emission zones for vehicles, highlights the lessons that can be drawn from other countries.

¹ The Talanoa Dialogue is a process designed to help countries implement and enhance their Nationally Determined Contributions by 2020. The Dialogue was mandated by the Parties to the United Nations Framework Convention for Climate Change to take stock of the collective global efforts to reduce the emissions of greenhouse gases, in line with the goals of the Paris Agreement.

8. Agriculture is a similarly important aspect. A safe and secure food supply is vital for the country, but how we source and produce food, and the decisions we make on what we consume, have significant impacts on a range of areas from climate to health. The health of the Scottish population is poor by international standards with obesity levels some of the worst in Europe. A strategic move towards sustainable consumption could have positive outcomes in a range of ways.
9. Allowing industry to thrive and supporting the development of innovative approaches will require long-term investment with associated certainty and security over the level and rate of this investment. It is important that when government makes a decision to support an industry or technology that it follows through on this commitment recognising the time it takes for innovative technologies to be developed, tested and scaled-up
10. Coherent strategy from the Scottish Government has not always been clear in certain areas. It is difficult to reconcile strong opposition to onshore unconventional gas extraction with support for continued use of similar techniques offshore or a willingness to import gas extracted using these methods from overseas. Similarly, there are questions around the rationale of the decision not to replace Scotland's current generation of nuclear power stations; an energy source which does not produce carbon emissions.
11. In the transition to a low carbon economy it should also not be forgotten that significant energy intensive industries, such as the petrochemical industry at Grangemouth or the oil and gas sector in the North East, are still located in Scotland. Part of a transparent approach will be providing candid and public information on what will happen to these industries and the implications for their workers including the scope for redeployment to other industries and / or reskilling.
12. Addressing how carbon emissions are accounted for is an important aspect of ensuring a strategic and transparent approach. Territorial carbon emissions exclude the significant emissions from imported fuel and the embedded carbon in other imported goods. It is important that for a genuine assessment of our carbon footprint to be made that all consumption is included.

Organisational Change

13. It is important that organisations (and governments) set ambitious targets on reducing carbon emissions. It is imperative, however, that these goals are considered, realistic and receive buy-in from senior management and staff, and are supported by the necessary funding. Sustainability teams play a key role in organisations looking to take action on their carbon footprints, but can only succeed if there is a clear understanding of why action is being taken and they are given the right support and tools by senior management.
14. Specific skillsets are needed to transition from traditional ways of working to more sustainable business models. These skills may not exist within organisations and have to be bought in in the short-to-medium term. Partnerships between organisations can serve to assist in identifying what skills are needed and what lessons can be learned from others in taking action to reduce carbon emissions.
15. Equally important is the need to ensure the programme of action required is responsibly costed to take account of both the skills which may need to be imported into an organisation, and to identify savings that could be made through working differently and

the pay-back period for any investments – for example investment in the self-generation of renewable energy.

16. Workplace cultures across the country will also need to change. This includes giving younger workers, whose future will be impacted by climate change to a larger degree, greater decision-making responsibility. Young people are frequently the driver of change in society in consumption and behaviour patterns.
17. Action is not just about individuals or businesses, however, but about the infrastructure that surrounds them. Better connectivity could play a key role in reducing carbon emissions by allowing some workers, who do not need to physically be at an office, to work remotely. The daily commuting of workers contributes significantly to emissions and could be greatly reduced. The decarbonisation of transport, improved public transport links and considered urban planning could all play important roles.

Economic Growth

18. The low carbon transition and economic growth agendas are intrinsically linked. Transition to a new, more sustainable economy must not be undertaken in a way that results in substantial job losses.
19. Economic transition is never an easy task, but strategies from the Scottish Government on the low carbon transition are intended to go hand in hand with inclusive economic growth. The Scottish Government's published strategies on energy and climate change are based around three key objectives of: reducing carbon emissions, driving economic growth and, improving equality in society.
20. The UK Government's Industrial Strategy also positions clean growth as one of its primary goals. The UK Government has looked to facilitate this by highlighting where relevant funding is available and making a commitment to increasing spending on research and development. Accepting that an evidence-based approach is required, both the UK and Scottish governments have sought advice from the Committee on Climate Change on how to reach their climate targets.
21. There is a need for serious dialogue between all affected parties on the transition to a low carbon economy and what it may mean for jobs, the economy and how we live our lives. Identifying the skills that will be needed in the future economy and how the workforce is educated and reskilled are important parts of this conversation, as is how we manage the move from traditional industries to new ones.

A Just (or Unjust) Transition

22. Nine countries are currently looking at Just Transition in terms of how to move to a low carbon economy in a way that does not disadvantage communities and helps create a fairer society, with many more thinking similarly albeit using different terminology. Lessons can be learned from the successes and failures of others and Scotland must be open to doing this.
23. The Scottish Government's Just Transition Commission was recently launched with the task of advising on how Scotland can move away from an economy based on fossil fuels and maximise the opportunities available from decarbonisation in a way that is fair and just. Of equal importance to the findings of this Commission will be the delivery of its recommendations. Convening an expert taskforce to address this issue will count for

nought if its conclusions are not carried through. This will require consideration of how best to incentivise change as well as the potential role of regulation and enforcement measures.

24. This is critical. While carbon emissions have reduced in Scotland, reductions have often come at the cost of closing or relocating certain industries with workers largely powerless in this process. Similarly, while there are undoubtedly jobs being created from the transition to a low carbon economy – for example, it is estimated that around 49,000 jobs in the Scottish economy are related to the renewables sector and its supply chains – these jobs are often not of the same standard or pay as positions in the oil and gas sector. In addition, importing the materials needed for renewable generation from international markets and employing skilled workers from abroad may be cost effective, but does not always create Scottish jobs and more consideration requires to be given to the possibilities around local procurement of labour.
25. Issues such as these, however, do not exist in isolation. The status and rights of workers across the country face increasing challenges including from the growing prevalence of zero-hours contracts and the erosion of pension rights. These are wider societal issues not exclusively tied to the transition to a low carbon economy and much of this transition has been driven by wider global forces. There is concern among some groups that planning to temper the adverse consequences of the move has been insufficient.
26. A Just Transition is a noble and necessary policy goal. A positive impact from this, however, is yet to be felt. It must be accepted that finding balance during such a change to the economy will take time and contain significant obstacles. This is a fundamental change to the system and it is important that challenges are faced head on and discussed openly if we are to make a successful move to a more sustainable economy.

Opportunities

27. The move towards a low carbon economy presents many opportunities for Scotland to expand certain sectors and take a leading role in others. Keeping global temperatures to one and half degrees above pre-industrial levels will likely require carbon to be taken out of the atmosphere. One option to achieve this is through carbon capture and storage (CCS) technology. All the skills required for a successful CCS industry already exist within the oil and gas sector in Scotland. Embracing CCS would utilise these skills rather than losing them. As the oil and gas sector inevitably declines there will also be jobs in decommissioning.
28. Marine energy is another area in which Scotland could look to lead. It has the expertise and natural resources to capitalise on marine renewables, but more action is needed to successfully harness these opportunities. Many other nations with significant coastal resources have maritime strategies. Scotland will need to ensure its own strategy is forward looking and fit for purpose if it is to take full advantage of the emerging marine renewables sector.
29. Significant opportunities exist within Scotland's digital technology, data science and energy sectors. These sectors, however, do not always communicate effectively with one another. Improving the lines of communication between industries could help facilitate a transfer of jobs and skills between sectors. While Scotland faces significant skill shortages in areas such as data science and coding, workers in traditional industries, such as the oil and gas sector, could have the right skills to transition even if overlap between roles does not seem immediately obvious. In that context, it is worth highlighting

plans in the Edinburgh and South East Scotland City Regional Deal to train 100,000 people in digital skills over the next ten years. Projects like this are an important and welcome step.

30. There are also opportunities associated with increasing access to data. Areas as such grid balancing and electricity management, for example, present opportunities for Scotland to ensure it is ahead of the curve. For Scotland to capitalise on these opportunities, however, it must look to improve its record on successfully commercialising research.
31. There are potentially enormous first movement benefits for Scotland if it can position itself at the vanguard of developing new industries. One of the challenges faced, however, is identification of which opportunities in which to invest. Inevitably some avenues will fail, but that is the nature of innovation and a 'no regrets' attitude to selection must be adopted, albeit as part of an evidence-based process where the rationale for decisions is clear.
32. Historically, technological options and solutions have been at the forefront of thinking. The opportunities presented by changing patterns of work, consumption and behaviour should not be overlooked.

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