



Meeting Notes:
Climate Opportunity Ideas Factory
Skills for a Just Transition

Fri 5 Nov 2021 9.30am for a 9.45am start.

City of Glasgow College 190 Cathedral St, Glasgow G4 0RF

Chaired by Dr Janet Brown, non-executive Board Member of Edinburgh Science



Agenda

9.30am - Delegate arrival and networking over coffee

9.45am - Introductions

- Welcome from Dr Paul Little, Principal, City of Glasgow College
- Opening remarks from Dr Janet Brown

9.55am - Chair-led discussions

What are the skills, challenges and opportunities that will arise in the following sectors?

- Energy; Oil and gas
- Transport
- Land-based roles
- Construction
- Technology

What does this mean for schools, colleges and universities? Considering the following:

- How do we ensure the next generation has a strong base on which to build the skills needed for a Just Transition?
- How do we ensure young people and people already in work become aware of the new opportunities arising from the transition?
- Focus and funding in the tertiary sector has mainly been directed at young people – but how can opportunities for adult retraining be encouraged and supported?
- What role does the private sector have in supporting and facilitating retraining opportunities?
- How do we best engage with Government to ensure a coherent approach?

11.15am - Conclusion and ideas

- Chair summarises key challenges for the skills sector
- Ideas invited

11.30am - Thank you from Hannah Schlesinger, Director of Development and Marketing at Edinburgh Science.

Meeting closes.

Skills for a Just Transition Round Table

The meeting aimed to generate discussion and ideas surrounding the skills that will be needed as Scotland transitions to a greener economy. We explored how we can collectively ensure there are appropriate learning opportunities available to support those entering the workforce, and for those currently in work to transition into existing and emerging 'green' jobs. This is especially important in industries such as oil and gas which will see major changes in the coming years. The challenge is equipping people, young and old, for rapidly-emerging opportunities and challenges in new and growing sectors.

Industry, the Education sector and government agencies all have a key role in defining, developing and delivering training and education to support a low-carbon economy. This event considers the discussion at a systems scale, and seeks to identify actions that can be taken forward.

Skills for a Just Transition Round Table Notes

05 November 2021

Welcome from Dr Paul Little – Principal, City of Glasgow College (COGC)

The world has come to Glasgow. As the Australian PM said, "we need to get behind the science". Part of that will mean that "you've got to kill your darlings¹" - not hold on to things that we need to stop.

We must engage the business community, civic society, and politicians to ensure a just transition and colleges have a key role to play in this transition. This college site is home to business and academic hubs. There are 40,000 young people like Greta Thunberg at COGC who want action now. All communities must be involved, it is no longer just about experts and scientists but about young people, and different disciplines to social scientists.

We are in a world which is about interdependence not independence. We can deliver collective action to deal with deep inequality. However, it has been said that the pandemic has set education back by 20 years.

We all now need to deliver the impossible in improbable timescales – as we at COGC did when we built and established the college in 10 years. We need to emulate JFK who was a man in a hurry, we mustn't think small. One person can make a difference, and everyone should try.

Welcome from Dr Simon Gage - CEO of Edinburgh Science

We are past seeing the climate challenge as a disaster and a threat – it's an opportunity. This is called the Ideas Factory: factories are where concrete things are made; ideas are the concrete things we want to produce. In 2019 Cristiana Figueres challenged a diverse group of CEOs to be bold in their innovation and wait for no one's permission. It is a pleasure to be in a room of people like you that see the opportunity.

Round table discussion led by Dr Janet Brown: addressing skills in the following sectors

Oil and gas, energy, and transport

- When the UK government issued a white paper to phase out coal by 2020, it seemed unrealistic. There is the same rhetoric from the oil and gas industry now – but it can happen. The energy sector has been responding to both pressure to change but also a realisation of the massive opportunity clean energy presents. The change is happening so fast that people working in energy are

¹ The phrase "in writing you must kill all your darlings" has been attributed to writer and Nobel prize laureate William Faulkner. It means that writers must ruthlessly eliminate any words, characters, side plots or turns of phrase that we personally love but that do nothing for the story. In our context, it refers to eliminating projects which don't fit with the vision of a greener future

not able to process it, and there is a lack of clean energy skills. We must accelerate this transition by implanting insiders (e.g. in oil and gas companies) who can speed up the change curve in each company.

- Oil companies are actually moving fast because there is a business case for green energy. There are job opportunities – 130k people work in North Sea oil and gas. Wind alone needs 70k people by 2026. (45k more than now). How do we take oil and gas skills, and move them into renewables? Opito works on this through the Energy Skills Alliance and People and Skills plan. Industry and education work together to develop skills.
- This transition needs to be action-focused not policy-focused. A whole shift is needed in terms of product consumption. According to CEO of Total, two thirds of oil and gas is not used in transport. Scotland will become a global leader in floating wind where the majority of skillset is subsea engineering, it is important that we remember that there is a lot of overlap in the skills that will be required in the future that are currently in place in the off-shore Oil & Gas industry. But we need to look at the bigger picture, beyond just generation: how do you store clean power, and those electrons? How do you insulate houses, change gas boilers – trade skills are hugely important. Hydrogen – who will maintain the infrastructure? Energy transition is a journey – engage young people in future energy sector. E.g. Core petroleum reservoir engineer skills will be needed for Carbon Capture and Storage (CCS) - a massive tool to get to Net Zero. We need an entrepreneurial vision for hydrogen and floating wind, and for colleges to grasp the solutions.
- Real requirement is for system level thinking not just individual solutions.
- 40-50 years ago, we were at the frontier of coal versus oil. There is a similar frontier now.
- Lots going on in this space to make sure transport is included in the curriculum. But we need to ACCELERATE this transition. Climate Emergency Skills Action Plan helps this.

Challenges to Accelerating Transition

- Demand: there are few green jobs currently because of little demand for their outputs. Demand will drive change - how do we stimulate that? Currently 99% of hydrogen demand is in refining and petrochemical sector. CCS – there will likely be a skills demand in 2030 and an ambition for green Hydrogen.
- Cultural shift – skills applicable to the oil and gas sector are similar to some skills with a clean outcome e.g. geothermal energy, CCS. We need to open these opportunities and engage skilled oil and gas workers to shift to these clean energies, and ensure that young people are not shying away from gaining these skills because of the stigma around oil and gas.
- Do you wait for jobs, then train people, or do you train them then hope the jobs appear? It is hard to invest in skills ahead of time when no clear employment pathway.
- Demographics is a concern for Scotland – we have an ageing population. This creates an imperative to act as people and skills will be scarce. We invest a lot into 16-24 year olds, but we need to think about funding models to support skills acquisition and development of other age groups and a move toward upskilling and reskilling.
- Young people associate hydrogen and CCS with oil and gas, and don't want to touch it. Lots of people who are very influential to young people believe these companies (e.g. oil and gas) have no place in a Net Zero society. How do you deal with messaging around this? CCS is circular economy – need to work together to push back on the negative narrative and set the right context.
- The message has to start at school level to embed climate change and sustainability into the curriculum and highlight career opportunities in the green economy. We can't just rely on creative, progressive teachers – engagement across the whole system is needed and we need new voices to support changes in teaching. After Covid, we face a challenge with mental health and the wellbeing of young people, and a positive action would be to inspire young people to make a difference for their futures. This will require a variety of different resources not just made available by the state but engagement with Industry and society as a whole. There is huge inequality in education in Scotland.
- Climate science will now be embedded into the curriculum in schools in England and Wales from early years. Climate change is embedded in the Curriculum for Excellence via core subjects - details of the Scottish Government's Climate Change in Scottish Education Briefing (2019) are available in Appendix (ii).

- Parents are a major influence of young people's career choices. This can result in fewer young people, particularly women wanting to access STEM and transport careers, or land-based roles, so we must engage them too.
- We also need to grow skills in smart digital systems to control the way we generate and use energy and develop Innovative solutions e.g. optimisation of fuel needed, computer models of wind power for future green ships etc.

Nature based roles

- Big transition is needed in land and ocean management. Climate and biodiversity are twin challenges. Using nature-based solutions, we can address 30% of carbon reductions that we Scotland needs. Some of this is easier than what we have been talking about: peat emits 20% of our carbon dioxide so restoring it goes a long way. There's a skills gap – but people working in planning engineering and construction could have a nature-based education to bring this into design. In schools, outdoor learning plays a key role in inspiring young people but the challenge will be the large number of jobs that will be required to achieve these goals.
- Nature based solutions can be quite emotive. We need new people in agriculture - established landowners who are pioneering need to engage with training organisations. Solution could be creating internships focusing on land use and sequestration.
- Oil companies keen to be part of private finance solution but stigma of oil and gas means some there are organisations that don't want to work with them. Ultimately it is the planet that will suffer. We need to get out of our silos and review our prejudices. Oil Companies need to demonstrate their commitment to moving to Net Zero.
- We need to offset construction using Scottish timber products. 89% of wood we grow in Scotland is turned into pellets and burned; why do we ship wood in when we could use home grown wood and keep the carbon in the buildings. There's a skills gap in forestry and modular home construction.
- Finally, ecotourism is a growth market.

What is the role of schools, colleges and education bodies?

- Kids don't understand the level of opportunity that exists, and we all need to understand transferability of skills across sectors. What actually is a green job? Surely all jobs in future will have a green element. We need to start climate opportunities education at a young age but also across society as a whole.
- Young people need to be inspired in a solution-focused way. Young people know a lot about climate, but the action part is missing from education. When we talk about blame, we instill it through climate justice and the inaction from Government angers them. In S4, S5 it would be good to have projects similar to those in colleges to build interest in different jobs and open young people up to the diverse range of jobs that there will be in the future.
- The refreshed Scottish Government STEM strategy will drive this forward; but we need to prime the school system in advance of the skills demand through working with industry to make young people aware of the opportunities. It's hard for a company to make significant investment in skills and resources etc. before the demand arrives – maybe we need to work backwards.
- Could we practically support transition from one role to another with just a small skills top up? Car engineers, electrical engineers, plumbers and other workers who transition to green jobs need to gain the required extra skills and knowledge with short courses to supplement their existing skills.
- Young Enterprise Scotland's circular economy challenge frames green skills as being an enterprising solution.
- Young people are motivated by what problem they want to solve and what they see their role in world as being. Channel the outrage. There's an opportunity for a youtuber marketing campaign focusing on green opportunities.
- This is a huge opportunity for Scotland in terms of exporting expertise.
- We are in education reform at the moment – the issues in this room can feed in. We need to feed into the open consultations on the curriculum.
- We forget the mid-career and late career people – how do you move into a perhaps lower paid wind job from oil and gas, in later life? These are social not technical Issues that must be considered.
- Our colleges are an outstanding asset; we need to empower them to be able to respond to challenges of the next 25 years. We must give universities and colleges the freedom to respond to economic needs as they are emerging. In Scotland, we are not good

at investing in the system to allow the system to change. Need to invest in the skills system to enable it to respond over next 20 years.

- We also need more freedom in universities – which is what Edinburgh Napier University is doing with the HCI skills. Every college and university would like to talk more to industry, to listen to challenges for workforce and address them. A fundamental shift is needed in the college journey with experiential learning and multi-disciplinary learning available.

Investment models

- Energy Transition Zone plan to build an advanced manufacturing skills hub in Aberdeen and piloted VR welding training. Loads of businesses require that skill - and private funding can make things move a lot quicker. Young people will buy into things that they EXPERIENCE and when we can engage young people to say “I'd like to do that as a job”, industry is prepared to step in.
- Offshore wind will spend £1bn at a regional level. Regions need to step up – they could develop regional skills centres e.g. the Highlands for land-based roles; the North East for offshore wind etc.
- How do we encourage and enable schools to expand their offering of climate education? Schools have to play the game and get good higher grades, to allow them to have a bit of freedom to focus on climate change and sustainability. The expectation of 5 Highers can be seen as outdated and some believe that it may prevent some young people from following their dreams. Young people need to be able to move beyond 'traditional' pathways and take up vocational and apprenticeship opportunities that allow them to pursue their goals.
- Why are we doing (ed. study) subjects? We have an opportunity here to not do the same thing. The only reason we deliver many of the subjects is so that people can specialise in those subjects at university. For those who take subject disciplines further, or require the knowledge and skills as a basis for their courses (e.g. engineering, medicine etc.) this learning is valuable – but what about everyone else? Should we rethink the approach to curriculum?
- We need the technical resources in colleges to allow training, and staff in schools to take time out from teaching to build up a better curriculum for the future.

Summary:

We need to make sure that schools, colleges and universities understand fully what the opportunities are and to think about learning in a lifelong way. We also need a system-level approach. Two things have come from this discussion: the economic issues of planning for a future which isn't here yet, and the public engagement issue – engaging young people and parents to create a societal shift toward green jobs. This encompasses the social dimension of what they are taught in schools.

Possible Action points

- Clarify what problems we are trying to solve and increase the visibility of opportunities and careers in the Net Zero future to young people and society as a whole.
- Ensure we have a sustainable approach to life-long learning that enables individuals to be successful
- Investment behind economic skills – and a national conversation about rebalancing our £2bn annual investment across colleges, schools, universities, re-skilling and up-skilling. Support for educational institutions to make changes
- Branching out how we deliver change: not just through institutions but through private means too
- More industry placements to bring future jobs to life. Businesses need to commit time and to make space for young people to gain varying experiences. Ideally it would be compulsory to ensure industry engagement with young people – and promote engagement to young people through influencers.
- Hearts and minds – a society-wide approach to engaging with young people and their families about the skills transition and what constitutes a good job (clue: it's not just doctors and lawyers!)

Delegate List

Chris	Brodie	Director of Regional Skills Planning	SDS
Jim	Brown	Director	ESP
Janet	Brown		Meeting Chair
Billy	Burke	Head Teacher	Renfrew High School
Mary	Christie	Natural Capital Manager	NatureScot
Kirsty	Connell-Skinner	Project Manager Housing, Construction & Infrastructure (HCI) Skills Gateway	Edinburgh Napier University
Seonaid	Forrester	Teacher	Renfrew High School
Simon	Gage	CEO	Edinburgh Science
Diane	Gilpin	Founder & CEO	Smart Green Shipping
Alan	Hendry	Director of Sustainability	Mott Macdonald
Lisa	Johansson	Green Economy Investment & Finance Liaison	Green Cape
Valentina	Kretzschmar	Energy Transition Director	Cairn Energy
Paula	Leca	Communities & Social Impact Manager	Morrison Construction
Leslie	Mabon	Lecturer, Environmental Systems	Open University
Crawford	Mackay	Senior Associate	Galbraith
Stephanie	Maia	Marketing and Communications Officer	Edinburgh Science
John	McDonald	CEO	Opito
Mary	Michel	Co Founder	Ostrero
Iain	Morrison	Head of Humanities, Care & Services	SQA
Andy	Rodden	Energy Transition Programme Director	ETZ
Hannah	Schlesinger	Director of Development and Marketing	Edinburgh Science
Emily	Stone	Climate & Sustainability Business Development Manager	Edinburgh Science
Lucy	Tomlinson	Small Grants Programme Manager	US Embassy Small Grants programme

Appendices

Appendix (I)

Consultation links

Prof Ken Muir – Consultation on Education Reform

[Education reform consultation on behalf of Professor Ken Muir, University of the West of Scotland and Independent Advisor to the Scottish Government - Scottish Government - Citizen Space](#)

[Education reform consultation on behalf of Professor Ken Muir, University of the West of Scotland and Independent Advisor to the Scottish Government - About you - Scottish Government - Citizen Space](#)

This concludes at the end of the month for reporting in January.

Prof Louise Hayward – Consultation on Qualifications and Assessment

[Reforming qualifications and assessment - gov.scot \(www.gov.scot\)](#)

This does not start until the new year.

Appendix (ii)

The Climate Change in Scottish Education Briefing from 2019 outlines where we are with embedding climate change into the Scottish Curriculum across various subjects.

<https://education.gov.scot/media/oejfidae/climatechangeinscottisheducationbriefing140819new.pdf>

Appendix (iii)

About Edinburgh Science

Edinburgh Science Foundation is an educational charity, founded in 1989, which operates Edinburgh Science's Education and Festival programmes. We are best known for organising Edinburgh's annual Science Festival – the world's first public celebration of science and technology and still one of Europe's largest – our science education outreach programmes, Generation Science and Careers Hive and our community engagement work.

Our mission is to inspire, encourage and challenge people of all ages and backgrounds to explore and understand the world around them. As leaders in our field of Science Communication, we work year-round to create and deliver dynamic hands-on workshops and exhibitions and inspirational shows, discussions, debates and performances that continually push the boundaries of public engagement with science. Communication and engagement are at the core of all our work and we strive to ensure that this is embedded in all aspects of our organisation.

Edinburgh Science also operates a large-scale commercial international programme of work under our Worldwide arm with any profit directed into our Foundation to enable charitable work. Edinburgh Science regularly presents events overseas and has been the Major Programming Partner of the annual Abu Dhabi Science Festival since 2011, helping to curate, produce and deliver the event. For international partners, the team at Edinburgh Science provide engaging content, curatorial advice on programming and business planning support, along with expert staff and training for local science communicators.

Edinburgh Science's UK and international projects reach a combined audience of over half a million people each year, in a normal year.

The Climate Opportunity Ideas Factory

Edinburgh Science coordinates and runs the Climate Opportunity Ideas Factory - a series of round table meetings for senior Scottish leaders to discuss ideas for action to enable Scottish enterprises to respond to the climate emergency. It was initiated in April 2019 when Edinburgh Science Festival awarded the Edinburgh Medal to Christiana Figueres, the Costa Rican Diplomat who was instrumental in bringing about the Paris Climate Agreement. We organised a round table on that day, with leaders of business, public sector, third sector and higher education present. They were challenged by Christiana to collaborate, to act, to not wait for anyone to give them permission, and to use the Climate Opportunity that presented itself for positive change.

Christiana was coming back to Edinburgh in two months and asked to meet again for an update on what this group had decided to do. Two months later, Baillie Gifford hosted a larger group of senior leaders who presented a number of ideas for discussion in this forum, with Christina Figueres and Roseanna Cunningham, the then Cabinet Secretary for Environment, Climate Change and Land Reform. Many of the ideas have been picked up by attending businesses and organisations to make an impact, and the attendees have told us that this group is of immense value to them, due to the diverse invite list and the facilitated discussions.

The purpose of the meetings is to generate new ideas that are then acted upon by those present to achieve steps towards reduced carbon emissions and greater environmental sustainability.

Edinburgh Science is in an exceptional position to bring together cross-sectoral leaders to gather views to identify new ways to work collaboratively to unlock ideas and create opportunities. The Climate Opportunity Ideas Factory provides a unique safe space for collaboration, resulting in major ideas, for example a national carbon reserve for offsetting which we know excited many organisations. With connections across industries and many sectors, and no agenda other than to share the science and to see a solution to the climate emergency, Edinburgh Science strongly believes that the time is right to harness the collective power of organisations and minds and to put Scotland at the forefront of this Climate Opportunity.