

The Royal Society of Edinburgh

RSE/SCRR Peter Wilson Lecture

International Leadership for the Environment

Francesca Osowska OBE Chief Executive, Scottish Natural Heritage

Thursday 30 May 2019

Report by Matthew Shelley

Introduction

The lecture was delivered by Francesca Osowska OBE, Chief Executive of Scottish Natural Heritage (SNH), who was described by RSE Chief Executive, Dr Rebekah Widdowfield as “a leading force for nature”. An economist by training, and former Principal Private Secretary to the First Minister, she was honoured for her role in the success of the 2014 Commonwealth Games. A keen triathlete, Osowska was appointed by SNH in 2017 where, in her first year in post, she committed herself to visiting all 30 of the organisation’s offices around Scotland by bike. Francesca’s lecture was followed by a panel discussion and questions.

“This is a critical moment for nature and the environment” said Osowska, “and decisive action is needed”.

While Scotland is an international leader on environmental policy, it faces the risk of an “apocalypse” if action is not taken by 2030, with polluted waters, drained and eroded peatlands and coastal towns and villages abandoned to rising sea levels and coastal erosion. All this, and more, is already happening elsewhere in the world.

According to the International Panel on Climate Change (IPCC) we have just 11 years to get onto a low-carbon pathway to avoid dangerous climate change. According to Osowska, the severity of our environmental and climate-change situations is further underlined by the UK Climate Change Committee’s Net Zero Report and the United Nations IPBES Global Biodiversity – both published in early May 2019.

One in ten species, a million, may become extinct in our lifetimes. While there have been many examples of extinctions and of climate change in the past, the scale and speed of what is happening now is unprecedented. “In the space of geological seconds, perhaps even milliseconds, we have crashed this planet,” said Osowska.

Osowska said that while the science is irrefutable “there is hope; it is not too late to turn this around” and the Scottish Government deserves praise for its efforts to combat climate change and for its stewardship of the environment.

There are five main drivers for the loss of biodiversity:

- changing use of land and sea;
- direct exploitation of organisms (for example by harvesting, hunting, fishing);
- climate change;
- pollution;
- invasive non-native species.

Climate change exacerbates all the other drivers and is becoming increasingly important – and it's for this reason that Scotland has declared a climate emergency. According to Osowska, all five drivers must be addressed, but it is essential to do this within the context of a low-carbon economy. This is the only way to sustain nature and our quality of life. We need to ensure that science, engineering and technology can respond to the challenge. However, she said, the advances in these areas cannot be an excuse for complacency, and individuals and societies need to be doing all they can to reduce emissions.

After looking at some of the emerging technologies, including geo-engineering, she warned that some potential solutions could have harmful unintended consequences. Movement is taking place. In Norway and other countries around half of vehicles are electric. But there needs to be far wider development and adoption of renewables.

At the same time, we need fundamental changes in the way that the land and sea are managed, with a transformation of food production systems. This is not least because a quarter of emissions are from land use.

The CCC's report indicated that there needs to be an estimated 20% reduction in agricultural land – turning it over to woodland, peat and biomass production. For Scotland, Osowska acknowledged, change of this kind could be challenging for rural communities with fragile economies. The country is already a world leader in peatland restoration, but she suggested that we can do more to scale up our efforts. Changes in farming and agriculture are needed to cut emissions, protect and enhance nature and build resilience against the impact of climate change, and our farmers are rising to the challenges ahead.

Osowska said her personal mantra is to connect people to nature. Healthy nature encourages us to be healthy, and people need to be encouraged and enabled to get outside. However, much of our natural world is degraded, for example, the woodlands lacking in diversity, and overgrazed hillsides. This demands “a careful rethink of how we work with the land and the sea”. New approaches demand a change in governance. All too often the decisions have been made by narrow bands of people and done in their own image. Young people have to be empowered and involved. They are the world's future guardians and all that we get wrong means that they suffer.

SNH is deeply involved with trying to tackle invasive species. The rapid expansion of trade and travel has helped make these a major threat in protected areas. Examples include toxic giant hogweed and Japanese knotweed.

According to Osowska there are key areas in which we need to act. These range from developing pathways to sustainable food systems, through to collective action on using sustainable transport while reducing food waste, and reliance on single use plastics. Equally, tackling poverty and inequality are vital to improving sustainability. Nature has to be valued for its own sake as well as for its public benefits. What nature needs is also what Scotland needs.

In conclusion she said a new mind set is required which she summed up as “ask not what nature can do for you, but what you can do for nature”.

Panel Discussion

A panel of speakers was then introduced to give initial responses to the lecture.

Louise Macdonald OBE, Chief Executive, Young Scot

Young people, said Macdonald, have been shouting about these issues for a long time but have often gone unheeded. The issue is about power, “who has it, who holds onto it, and why”.

She praised SNH for being one of the first organisations of its kind to involve young people in decision making at the highest level, something it has been doing since 2015 through the ReRoute biodiversity panel. Their work has included everything from scrutinising the progress of Scotland’s biodiversity strategy to giving out thousands of trees and seeds to community groups and set up their own funding body. Macdonald said the ReRoute example has inspired other organisations to be braver in involving young people and shown them how to avoid tokenism.

Young people, said Macdonald, are angry about the world’s failures over climate change – it’s something they have learned about since primary school and little seems to have been done. She pointed to Greta Thunberg as one “shining example” of how young people are calling adults to account.

Despite the failures of the adult world, she has a sense of tectonic plates moving, thanks to the energy and hope being generated by the young. She called on everyone in the room to recognise that young people “are not citizens of the future” but they are “citizens of now”. She concluded by saying that this is not about harnessing the power of young people but unleashing it.

Mike Robinson HFRCGS, Chief Executive, Royal Scottish Geographical Society

“The time for rhetoric is over and now is the time for action”, according to Robinson. All too often we regard nature as something “other” rather than central to everything. The science of climate change has been known for 40 years, yet we have failed to produce the joined-up and interdisciplinary action needed for solutions.

He said: “by any measure we have been losing the war”. It is essential to use the latest wave of concern to make gains.” Optimism is essential; so too is the willingness to take responsibility.

Robinson said that the environment is under constant pressure to prove its economic value when we should be looking to every sector of society to prove its environmental good rather than just demonstrate its economic impact. That means reappraising what we measure and value as “GDP is only a bit of money, money is only a bit of the economy, the economy is only a bit of society, and society is only a bit of the environment ... We count GDP, but we don’t count the damage that it’s done.”

Just 1–2% of current GDP is needed to kick start the necessary changes. Some changes are cost neutral and others bring cost benefits. Initiatives could even be taken, he suggested, such as creating a sovereign wealth fund from the profits of the new wave of renewables.

More rounded approaches are needed for leadership, and Scotland has a reputation for leadership and innovation in the field. Leadership, argued Robinson, is needed on every front as governments lack all the necessary levers. While young people can call us out

for our failures, he added, they lack the power to enact change – the responsibility for that lies “with you and me”.

Professor Colin Campbell FRSE, Chief Executive, James Hutton Institute

The climate change crisis and biodiversity crisis are the same issue. To tackle one demands addressing the other, said Campbell.

Recent demands by young people for greater action have been salutary. As someone working in the sector who has always felt he is making a difference but has now been forced to reflect on whether he has been doing enough. And while initiatives such as Scotland’s Land Use Strategy have positioned it as a leader in policy initiatives, it has not been fully implemented and relatively little has changed in land use and agriculture over the past two decades – emissions are not being reduced. He said: “We really do have to challenge ourselves over whether enough is being done.”

Work is being done on disease reduction as well as new fertilisers, livestock breeds and crop types and vertical indoor farming. But, he argued, these are incremental when what we need is transformational change. For this to happen we have to rethink how we grow our food and what land is used for. More may have to be used for carbon sequestration and to promote biodiversity.

We also need to think about different uses for what we are good at producing. Rather than simply using grass to feed livestock – which are responsible for major greenhouse gas emissions – it could be used to make methane and transformed into hydrogen fuels. It can also be fed to insects in order to produce food for fish and poultry.

We also need to consider future resilience, for example against drought. Returning Scotland’s agricultural soils to their maximum carbon content would allow them to retain the equivalent of three days of rain. Another major benefit of more carbon in the soil is to increase biodiversity, while it is currently going down on our farmland.

The need, he concluded, is to show leadership in ideas and in action, in order to bring about a transformation in land use.

Martin Valenti, Strategic Director, Scottish Land Commission

In Scotland, too many people are working in silos with the result that the responses to environmental issues is fragmentary.

In response to the Net Zero challenge he said: “We need to agree right here and now, today ... that as of tomorrow, there is no such thing as fragmentation. We have to be aligned, we have to be collaborative, we have to work together, or we have to accept that we are going to fail spectacularly. “And it will not just be Greta Thunberg we’ll be hiding from, it’s Mother Nature and your grandchildren.”

There needs to be a shift in societal and political behaviours and attitudes, beginning with our own. Valenti added that we cannot rely on technological solutions somewhere down the line, we have to act as if the house is on fire.

Turning to the question of how society can be aligned and motivated, he pointed to examples where the emphasis has been changed from what we have to lose due to climate change, to what we have to gain by dealing with it.

The only way forward is to shift from outrage to optimism and from can’t do to can do, how do we do it now and how do we treat Net Zero as an opportunity?

Questions

Naomi Arnold from the 2050 Climate Group acknowledged all that the speakers had said about young people and the need to empower them. She then asked them how young people could become part of their groups, committees and panels. Colin Campbell responded by leaving his place on the podium, so she could replace him as part of the panel.

Panel members were asked about whether they thought there is a need to encourage greater collaboration between relevant professions and also to reverse rather than just stop the loss of biodiversity. Osowska answered “yes and yes”, adding that there are a huge variety of professions that should taking part.

The panel was asked its views on the need to reduce the human population. Arnold acknowledged that some people argue that the lowest carbon action someone can take is to not have a child. However, she argued that it is levels of consumption and not numbers of people that are the problem.

Asked what we can do immediately to break down silos, Valenti responded that no one is going to knock on someone’s door and give them permission; it’s necessary for people to take the initiative and begin breaking down barriers themselves.

Vote of thanks

The evening closed with a Vote of Thanks offered by SCRR Science Director Professor Sarah Skerratt.

Opinions expressed here do not necessarily represent the views of the RSE, nor of its Fellows. The Royal Society of Edinburgh, Scotland’s National Academy, is Scottish Charity No. SC000470