

# The Role of the Profession in Delivering a Green Recovery

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With thanks to Francesca Osowska  
(SAGES, 26 Nov!)

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# What will we cover?

What is NatureScot?

Climate and Nature crises linked, with COVID-19 exposing our lack of resilience

Hence, need for a 'green recovery'

Crucial importance of Nature-based Solutions

In a word: **INTEGRATION**

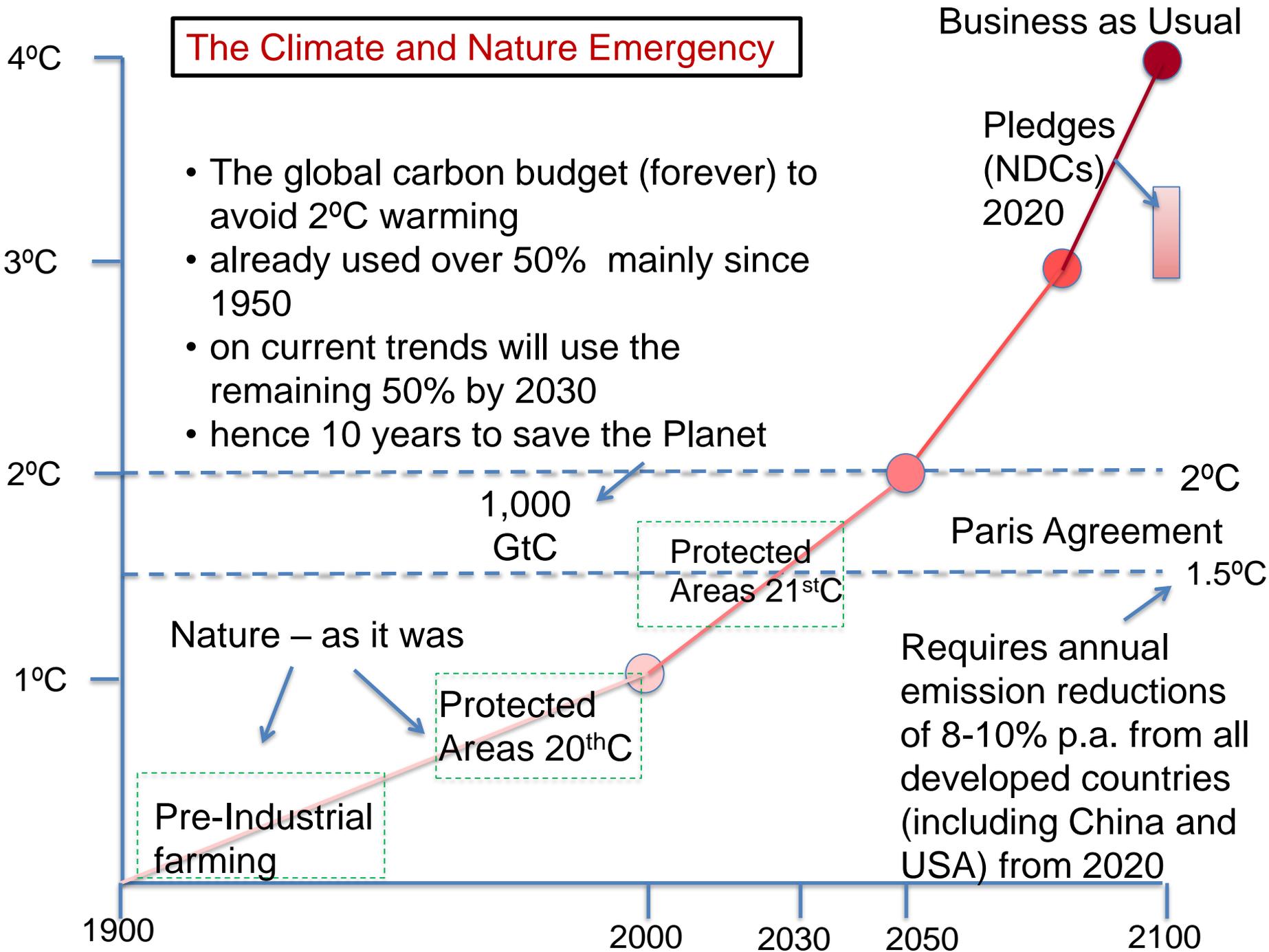


# NatureScot is Scotland's nature agency

Work in partnership with other government agencies, local authorities, land owners and land managers, community groups, universities, environmental bodies and the private sector



# The Climate and Nature Emergency



- The global carbon budget (forever) to avoid 2°C warming
- already used over 50% mainly since 1950
- on current trends will use the remaining 50% by 2030
- hence 10 years to save the Planet

Business as Usual

Pledges (NDCs) 2020

1,000 GtC

Protected Areas 21<sup>st</sup>C

Paris Agreement

Nature – as it was

Protected Areas 20<sup>th</sup>C

Requires annual emission reductions of 8-10% p.a. from all developed countries (including China and USA) from 2020

Pre-Industrial farming

1900 2000 2030 2050 2100

# So...

- **Change is inevitable** - what does dynamic conservation look like?
- **We need to transition to net zero** – this affects ALL sectors of the economy AND the way we do conservation

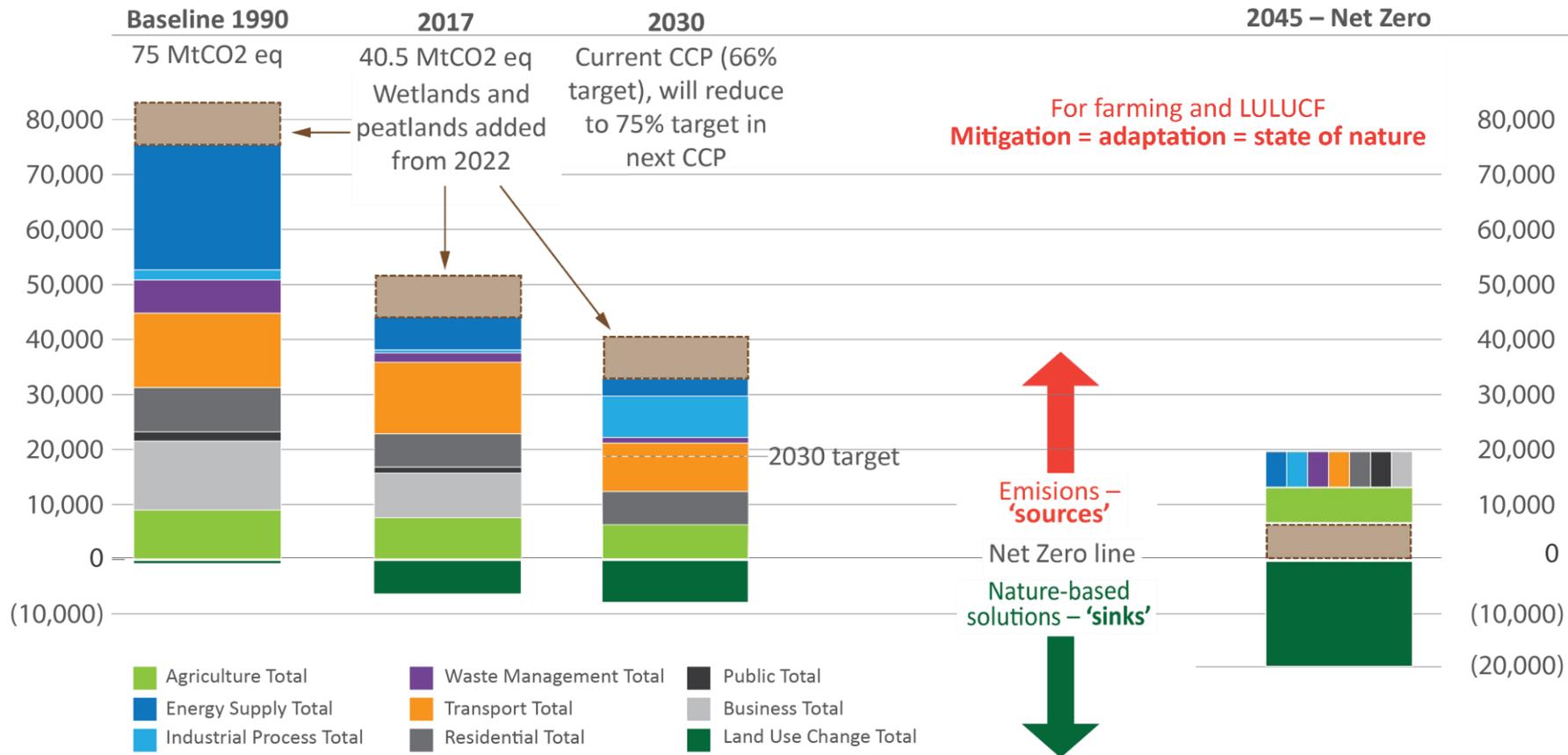


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# Net Zero and Land Use

----- Nature-based solutions 'valuable'(1990-2022) ----- Nature-based solutions 'essential'(2022 - forever) ----- ▶



# Climate and Nature

So, we have a **triple challenge** (or opportunity through **green recovery...**)

- Transition to a **net zero economy**, which will require major changes in the use of the land and sea with consequences for the state of nature;
- **Adapt to climate change** that is already locked into the system, which will also require major changes in the use of the land and sea; and
- Improve the **state of nature** by tackling the main drivers of biodiversity loss, which include climate change.



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**All three - over the same period of time (2020-2045) - and on the same areas of land and sea - integration**

# So, cutting people-made emissions is necessary, but not enough ...

## We need to...

- Ensure stored carbon remains safely in natural repositories (e.g. peat)
- Remove greenhouse gases from the atmosphere through habitat restoration (e.g. woodland, grassland, hedges, blue C)
- Other land uses – farming, forestry, development – to be C sinks
- CCS but not geoengineering (doesn't end well)
- Diversity – for resilience
- Devise circular – restorative - economies



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... Which takes us to Nature-based Solutions

# Why do we need a green recovery?

- **Climate Emergency**
- **Nature Crisis**
- **COVID-19 has exposed lack of resilience**



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Fragmented landscapes and loss of ecological diversity...

High risks of viruses mutating and jumping from nature to people...

Every aspect of our lives affected...

Inequalities exposed...

Investing in nature must be at the heart of real recovery...

Need nature-richness for resilience!

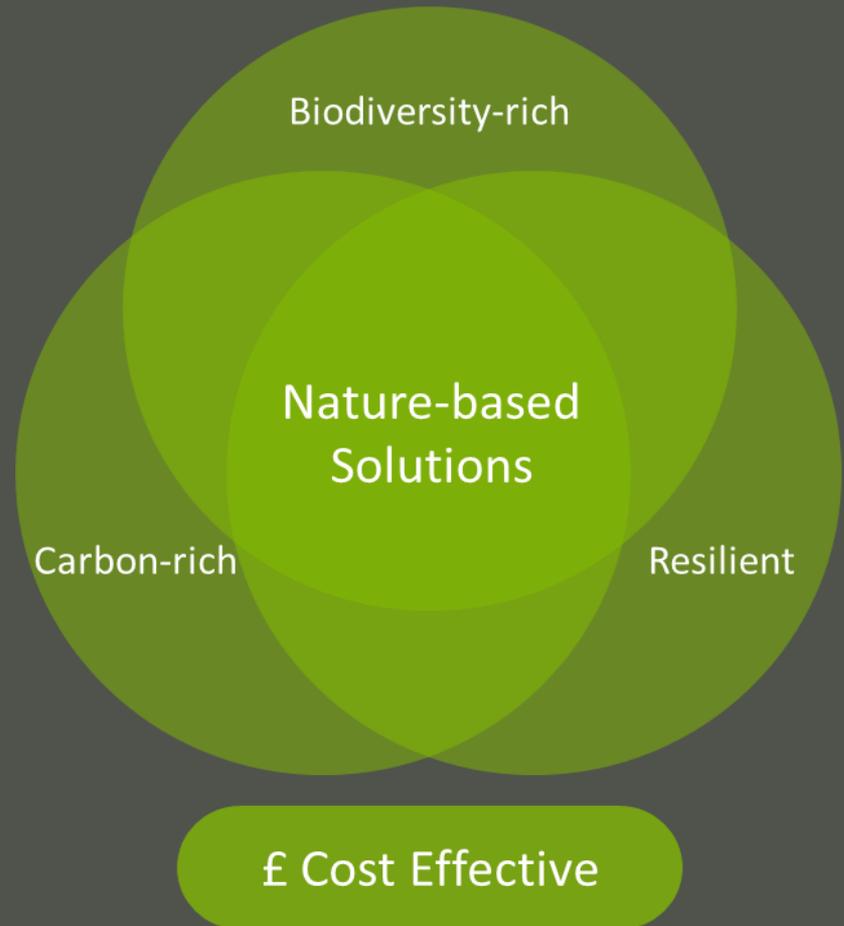
# Benefits of nature-based solutions

## Nature-based Solutions:

Healthy natural/ modified ecosystems, that provide:

- Human well-being
- Climate change mitigation and/or adaptation
- Biodiversity benefits
- Resilience

## Co-benefits



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# Scotland's carbon-rich habitats ...



Marine sediments  
(top 10cm)



Peatlands



Arable and  
improved  
grassland soils



Broadleaved  
woodlands

...and that is just the ones we know about.



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# Key outcomes sought on land - INTEGRATION

- Mitigation – adaptation – state of nature
- **Nature-based solutions** - buoyant rural **economy** - thriving rural **communities**
- **Land management** for a net zero economy with social wellbeing, focusing on nature-based solutions such as:
  - **Large-scale landscape restoration** with mosaics of habitats
  - Upland and **peatland restoration**
  - Restoration and expansion of **native woodlands**
  - **Natural flood management**
- Agricultural systems – **healthy food for people and planet** - low **C** - soil health - boosting biodiversity e.g. agroforestry



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# Let's look at some of the nature-based solutions and the outcomes

On land



At sea



In urban areas



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# Peatland Restoration

Since 2012 Scottish Government has invested £33million... will invest £250 million over next ten years

Significant increase in rate of restoration and funding are required to deliver the Climate Change Plan targets



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# Woodland Integration – multiple benefits

## Riparian Woodland

Healthy resilient river ecosystem  
More biodiverse more food for fish



Cooling for fish  
Slowing the flow

Shelter for livestock  
Retaining soil  
Retaining and slowing flood water



Improving water quality



Beneficial insects  
Reducing pests  
Improving soil structure

Bank stability  
Recreation & active travel  
Managing flooding



Storing carbon  
Removing CO<sub>2</sub> from air



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# Key outcomes sought for coast and seas - INTEGRATION

- Safeguard our **carbon-rich marine and coastal habitats**
- **Reduce pressures** on marine habitats and species
- Support **sustainable fisheries**
- Increase the **adaptive capacity** and flood protection offered by coastal habitats
- Targeted active intervention and restoration projects
- Work with a full diversity of **people**



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# Key urban outcomes - INTEGRATION

- Primarily **places for people** and nature
- Create **multiple benefits** – health, good housing, outdoor learning
- Collaboration and sharing learning
- **Early integration** maximises benefits
- **Place Principle - alignment**
  - Community needs
  - Active travel
  - Improved and innovative water management
- **Resilient communities** benefiting from nature



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# We need to be more resilient

Beyond COVID-19 – the essential need for greater  
RESILIENCE founded on a ‘green recovery’



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# Inspiring and supporting the next generation

Youth Employment and Skills  
and  
Innovative science and  
technology  
and  
Nature-based Solutions



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# Emerging Opportunities in 2021



*'Edinburgh Declaration'* -  
Sub-national and local  
governments' action plan



The Green Recovery  
Nature-based Solutions



# Take away messages...

- Pests and diseases – including **COVID-19** – are **acute** problems, but they are expressions of the **chronic** climate-nature emergency
- Nature is essential **BOTH** in the transition to net zero **AND** to maintain it
- This means **ALL** uses of the land and sea need to change
- **AND** it means **simultaneously** reducing emissions, adapting to a changing climate and enhancing the state of nature
- The key to **resilience** to both a changing climate **AND** **pandemics** is the diversity of nature
- **A nature-rich future** across all land and sea is essential



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# A vision for Scotland?

**“It's 2030: nature richness and restoration are at the heart of a regenerative economy, fostering social and environmental resilience. Transformational and ingenious nature-based solutions are widely used to tackle the climate-nature crisis.**

**A globally respected leader, Scotland has the involvement of everyone individually and across communities working for, benefiting from, and inspired by nature.”**

**Francesca Osowska, SAGES, 26<sup>th</sup> November 2020**



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**Thank you**