



Prifysgol Cymru
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Strategic Environmental Management in Wales

(ACBA7007)

Lecture Outline

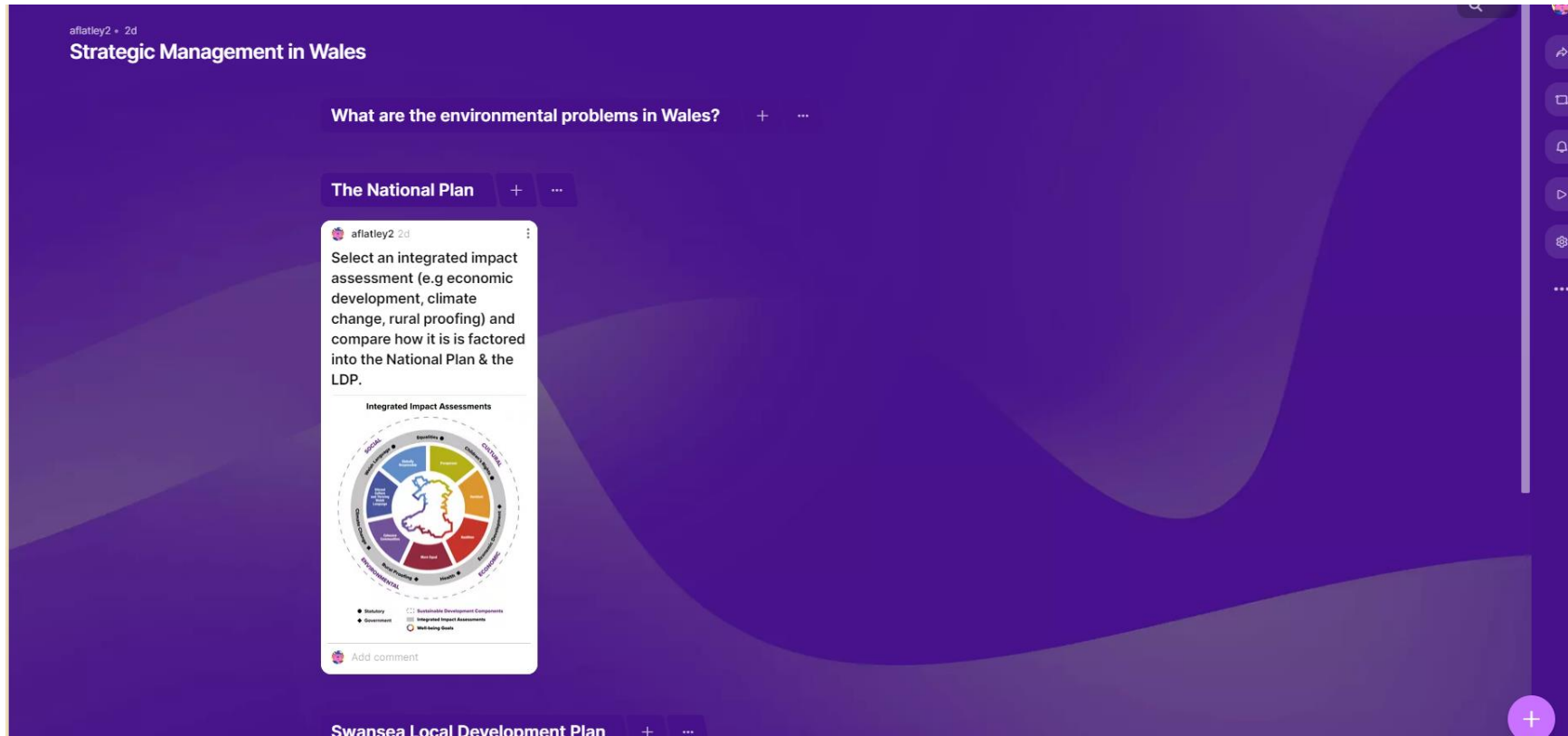
- Wales in Context
- What are the environmental problems in Wales (Top 5 Individual)
- The National Plan
- Swansea Local Development Plan (LDP)
- Horizon Scanning Activity (Together)

- Have I got news for you?
 - Padlet: [Strategic Management in Wales \(padlet.com\)](https://padlet.com/Strategic Management in Wales)

Wales in Context

- (2) The UK
in 100
Seconds -
YouTube





Today we will be using
PADLET

- Padlet: [Strategic Management in Wales \(padlet.com\)](https://padlet.com)



Activity:
**What are the environmental
problems in Wales?**

- Padlet: [Strategic Management in Wales \(padlet.com\)](https://padlet.com)
- Can you think of 5 key environmental problems in Wales? Discuss
- Put them into a hierarchy (Top 5).

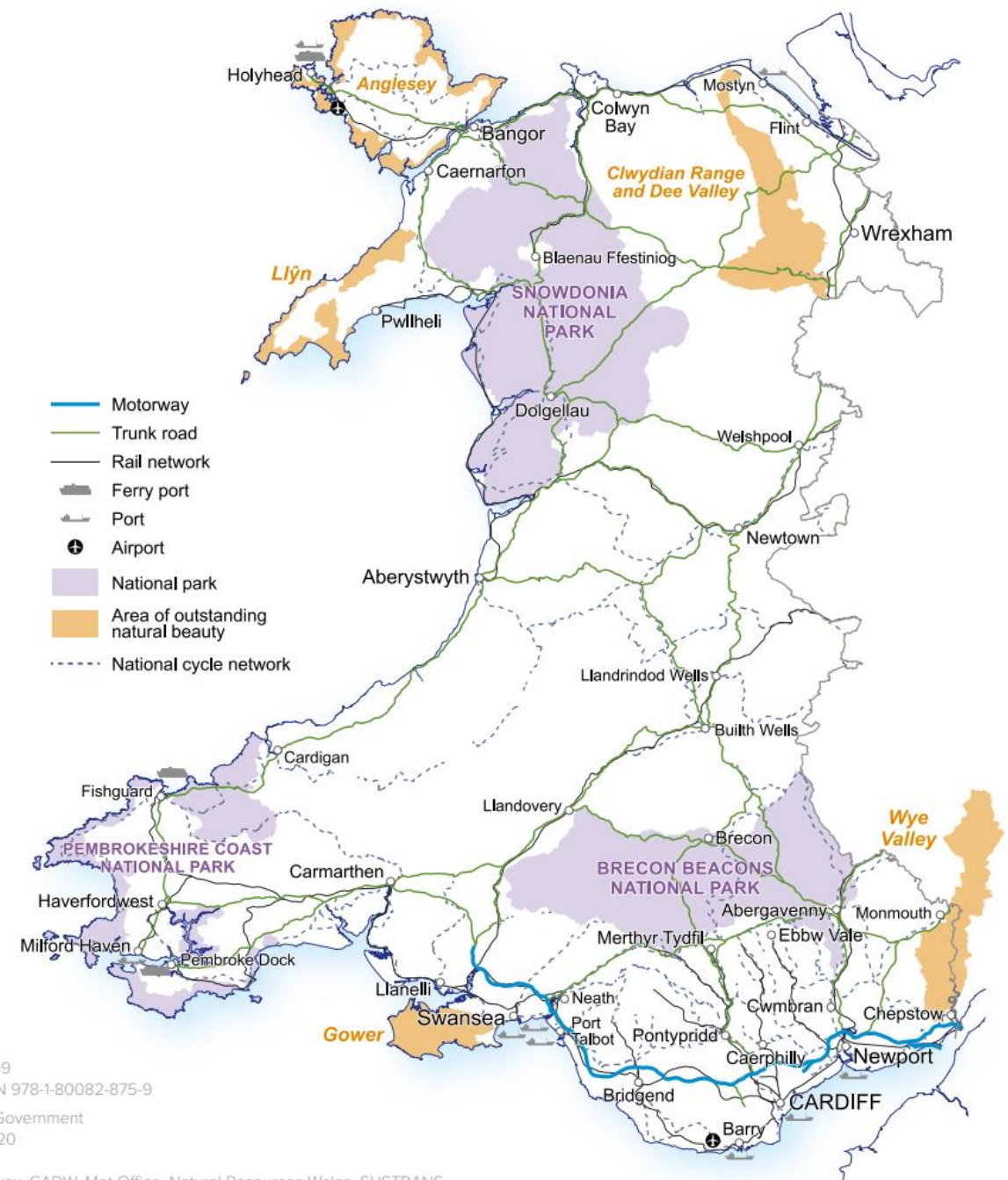


What are the environmental problems in Wales?

- Environment and climate change | Topic | GOV.WALES
- Swansea Local Development Plan 2010-2025 (LDP) – Swansea
- Update to Future Wales - The National Plan 2040 (gov.wales)

Wales

- Planning
- Legislation
- Identifying key issues
- Reporting
- Management



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Maps produced by Cartographics, Welsh Government

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Data sources: Arup, British Geological Survey, CADW, Met Office, Natural Resources Wales, Sustrans

Published 24 February 2021 – Expires 31 December 2040

Mae'r ddoafen yma hefyd ar gael yn Gymraeg. / This document is also available in Welsh.

Environment Act (Wales) 2016

- The Act 3min overview

Sections

- Part 1 *sustainable management of natural resources*
- Part 2 *climate change*
- Part 3 *charges for carrier bags*
- Part 4 *collection and disposal of waste*
- Part 5 *fisheries for shellfish*
- Part 6 *marine licensing*
- <https://www.legislation.gov.uk/anaw/2016/3/contents/enacted>
(Document) Overview

Environment Act (Wales) 2016

- [The Act 3min overview](#)
- The [Environment \(Wales\) Act 2016](#) sets out the requirement for the 'sustainable management of natural resources' together with new ways of working to achieve this. Part 1 of the Environment Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act. There are 3 main constituents to Part 1 of the Environment Act:
 - 1. The State of Natural Resources Report (SoNaRR)- A report produced by Natural Resources Wales that gives an assessment of natural resources and how well Wales is doing to manage them in a sustainable way
 - 2. Natural Resources Policy - A policy produced by Welsh Government that sets out the priorities, risks and opportunities for managing natural resources sustainably. The policy takes into account the findings of the State of Natural Resources report
 - 3. Area Statements –A local evidence base produced by Natural Resources Wales which helps to implement the priorities, risks and opportunities identified in the National Policy and how NRW intends to address these

How does the Act help to plan and manage Wales' natural resources better?

SoNaRR

Helps Wales' resources to be managed in a more proactive, sustainable and joined-up way and to establish the legislative framework necessary to tackle climate change through:

1. [The State of Natural Resources Report](#) NRW leads on this report, which provides an assessment of the state of natural resources in Wales. It tracks the progress being made towards achieving the sustainable management of natural resources and also serves as essential evidence base to underpin the National Natural Resources Policy. 2016 and 2020.





How does the Act help to plan and manage Wales' natural resources better?

2. The National Natural Resources Policy

- The Welsh Ministers sets out key priorities, risks and opportunities for the joined-up management of our natural resources, to optimise social, economic and environmental benefits at the national level. The Welsh Ministers is **required** to have regard to the State of Natural Resources Report in the preparation and review of the National Policy

SoNaRR2020 Executive Summary (naturalresources.wales)

Assessments against the four Aims of SMNR. Published as a series of PDF documents in December 2020:

SoNaRR2020 Aim 1. Stocks of Natural Resources are Safeguarded and Enhanced

SoNaRR2020 Aim 2. Ecosystems are Resilient to Expected and Unforeseen Change

SoNaRR2020 Aim 3. Wales has Healthy Places for People, Protected from Environmental Risks

SoNaRR2020 Aim 4. Contributing to a Regenerative Economy, Achieving Sustainable Levels of Production and Consumption

The SoNaRR2020 Assessment of Biodiversity. Published in March 2021

Assessments by Broad Ecosystem.. Published as a series of PDF documents in March 2021:

Assessment of the Achievement of SMNR: Coastal Margins

Assessment of the Achievement of SMNR: Enclosed Farmland

Assessment of the Achievement of SMNR: Freshwater

Assessment of the Achievement of SMNR: Marine

Assessment of the Achievement of SMNR: Mountains, Moorlands and Heaths

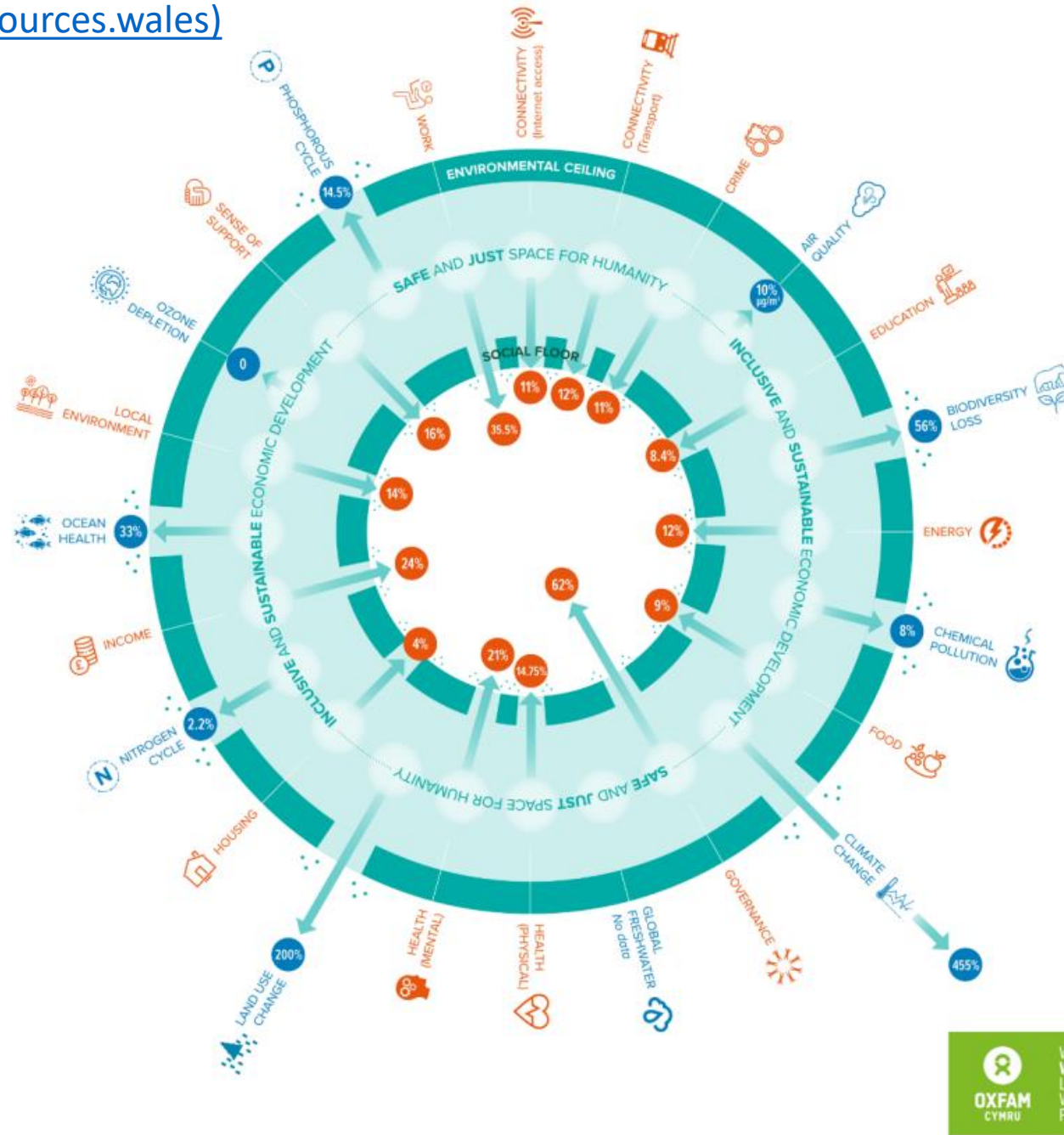
Assessment of the Achievement of SMNR: Woodlands

Assessment of the Achievement of SMNR: Urban

Assessment of the Achievement of SMNR: Semi-Natural Grassland

Oxfam have added data from the Welsh Government Well-being of Wales reports to update their Welsh Doughnut report (Oxfam, 2020). The Doughnut shows a failure to stay within the limits of what is sustainable, shown by the green doughnut

Wales is not keeping within our global share of the environment, on the outside of the doughnut, nor meeting its socio-economic goals, on the inside edge.



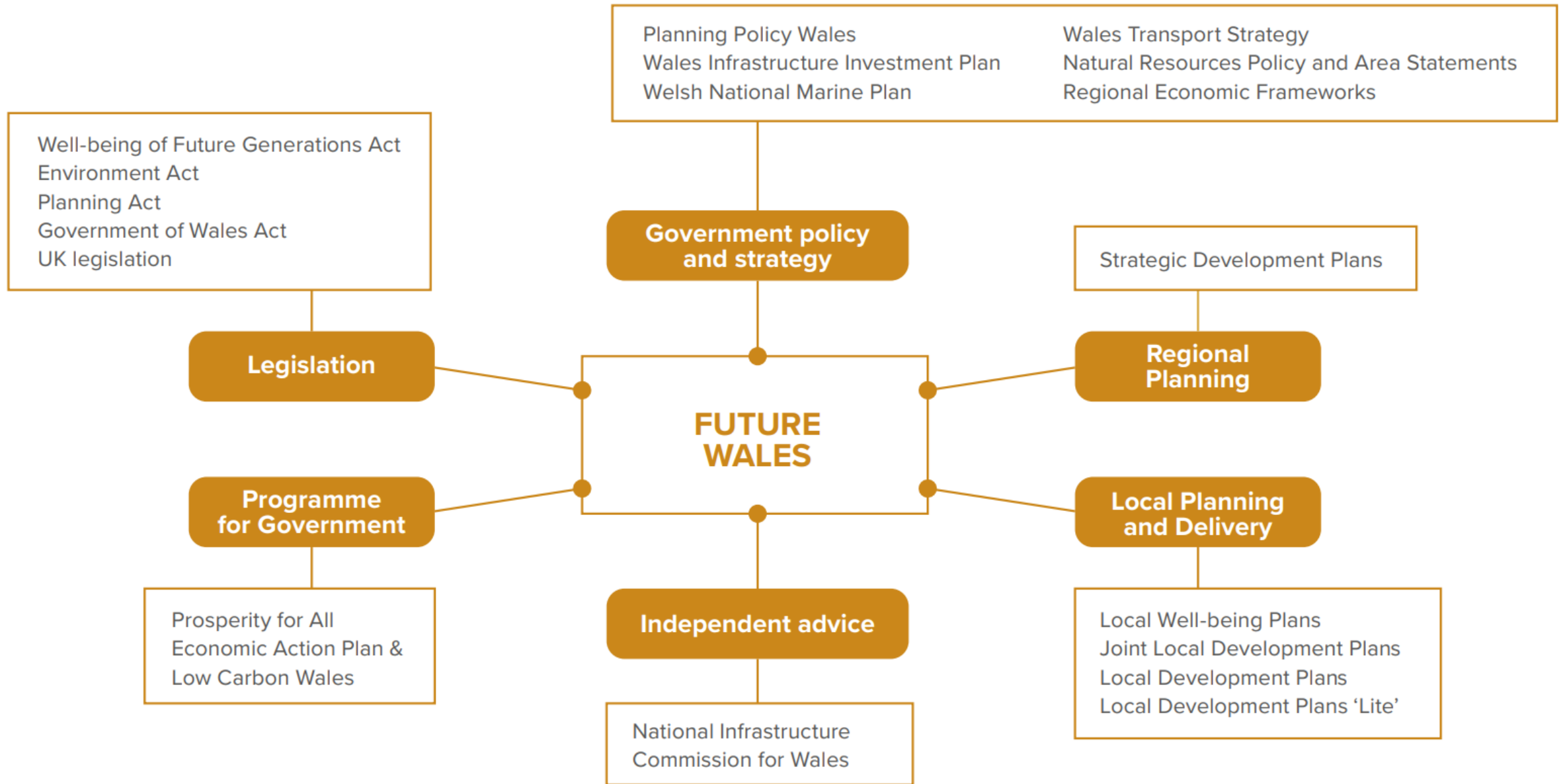


Role of Planning

Future Wales – The National Plan

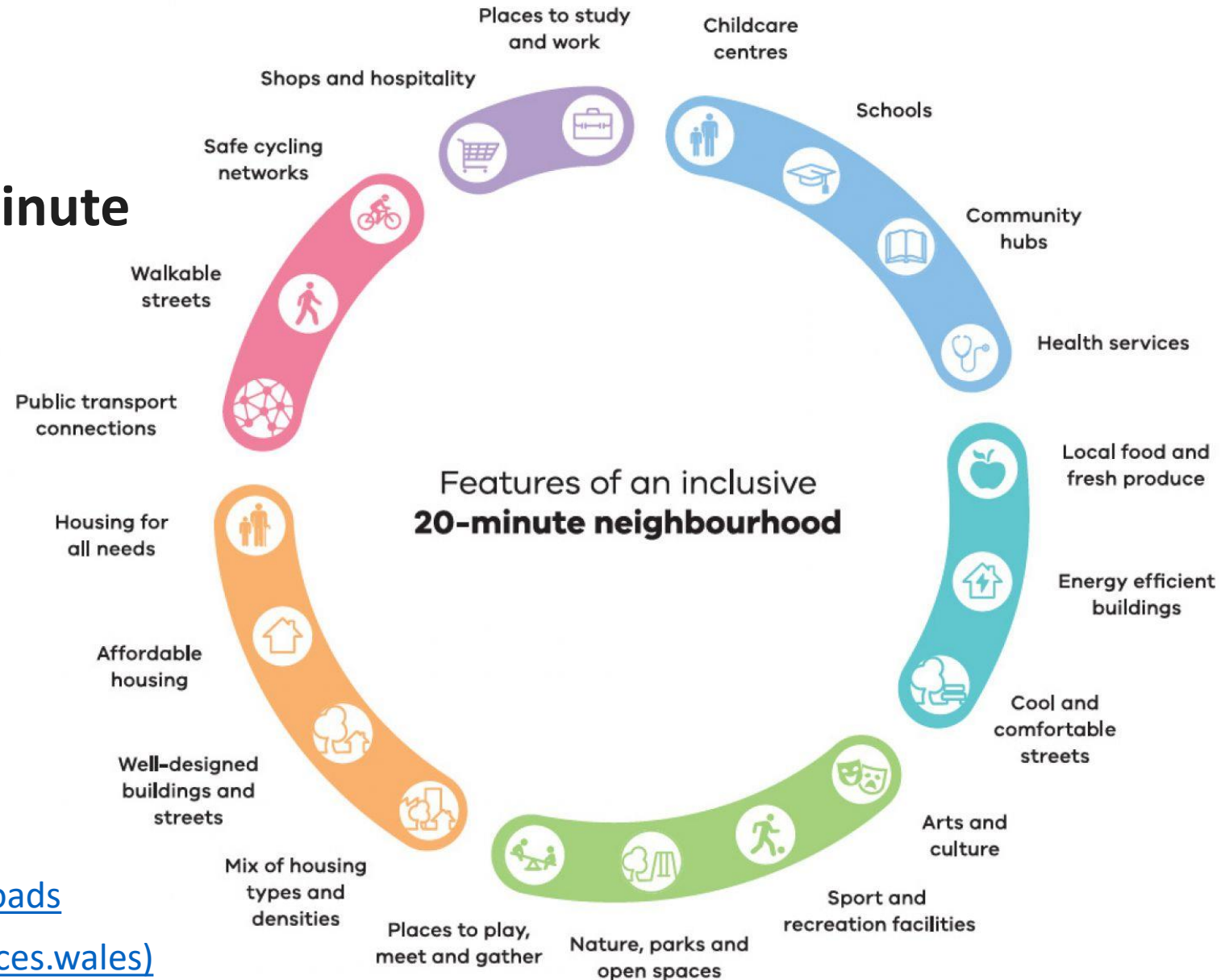
- Future Wales – the National Plan 2040 is our national development framework, setting the direction for development in Wales to 2040.
- It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.





20- minute neighbourhoods

- **Liveability, health and 20-minute neighbourhoods**
- [20-minute neighbourhoods \(planning.vic.gov.au\)](https://planning.vic.gov.au)



[Natural Resources Wales / SoNaRR2020: Downloads](#)

[SoNaRR2020 Executive Summary \(naturalresources.wales\)](#)

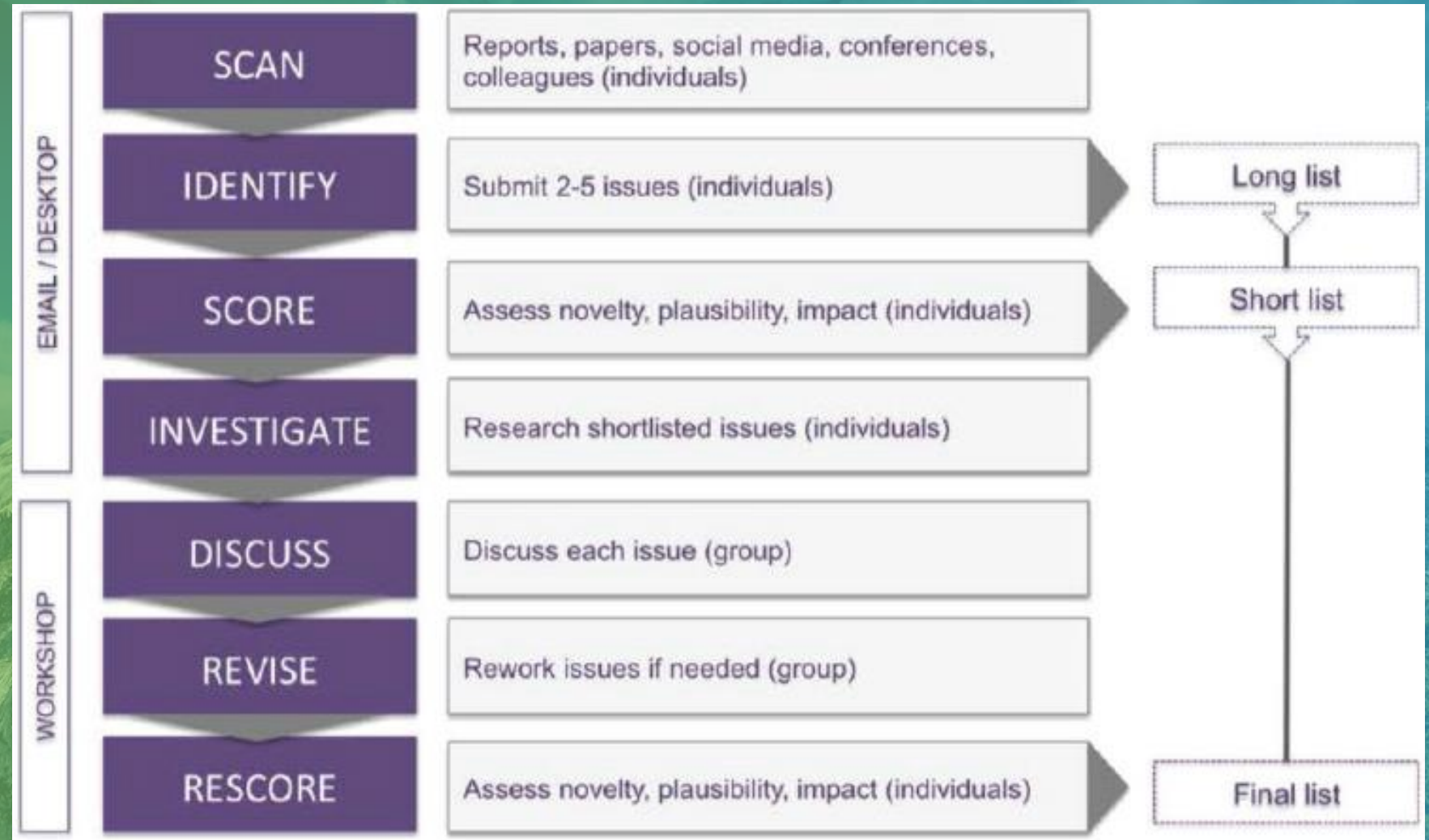
Scanning the horizon



Horizon scanning is about exploring what the future might look like to understand uncertainties better (UK Gov)

Horizon Scanning Process

HORIZON SCANNING



[An example of a horizon-scanning process - Safeguarding the Bioeconomy - NCBI Bookshelf \(nih.gov\)](#)

HORIZON SCANNING

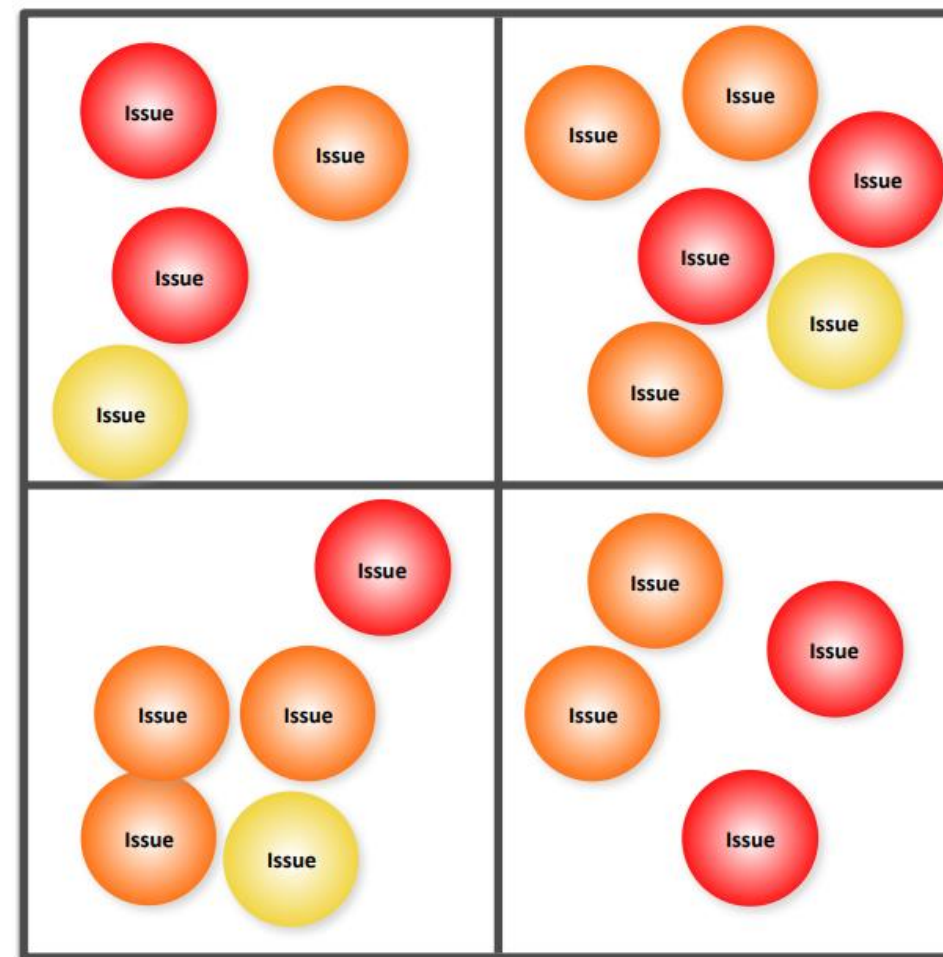
- Fobert et al (2021)

[The Futures Toolkit: Tools for
Futures Thinking and Foresight
across UK Government
\(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

High

Importance for future prosperity

Low



Level of agreement

High

Ecosystem impacts



(1) Wildfire impacts on coastal and marine ecosystems



(2) Coastal darkening

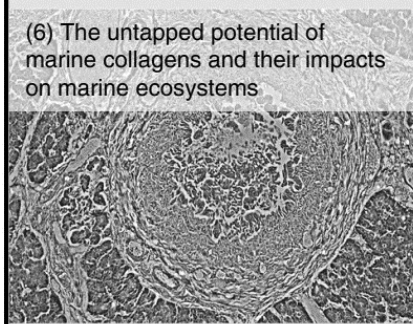
(3) Increased toxicity of metal pollution due to ocean acidification

(4) Equatorial marine communities are becoming depauperate due to climate migration



(5) Effects of altered nutritional content of fish due to climate change

Resource exploitation

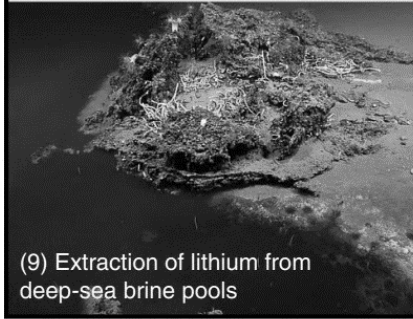


(6) The untapped potential of marine collagens and their impacts on marine ecosystems

(7) Impacts of expanding trade for fish swim bladders on target and non-target species



(8) Impacts of fishing for mesopelagic species on the biological ocean pump



(9) Extraction of lithium from deep-sea brine pools

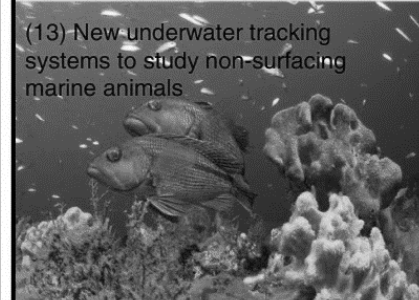
New technologies



(10) Colocation of marine activities

(11) Floating marine cities

(12) Trace-element contamination compounded by the global transition to green technologies



(13) New underwater tracking systems to study non-surfacing marine animals

(14) Soft robotics for marine research

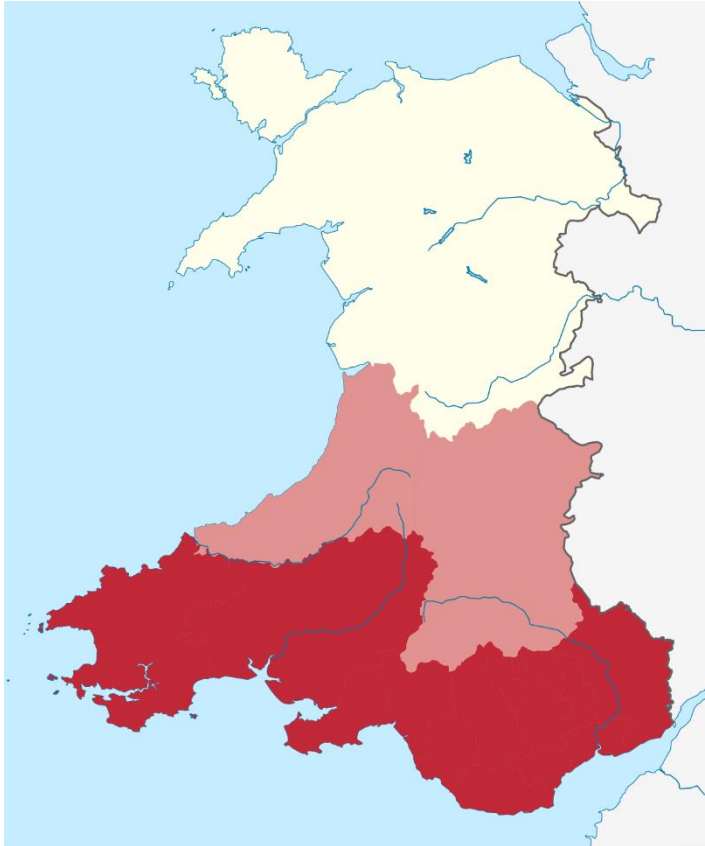


(15) The effects of new biodegradable materials in the marine environment

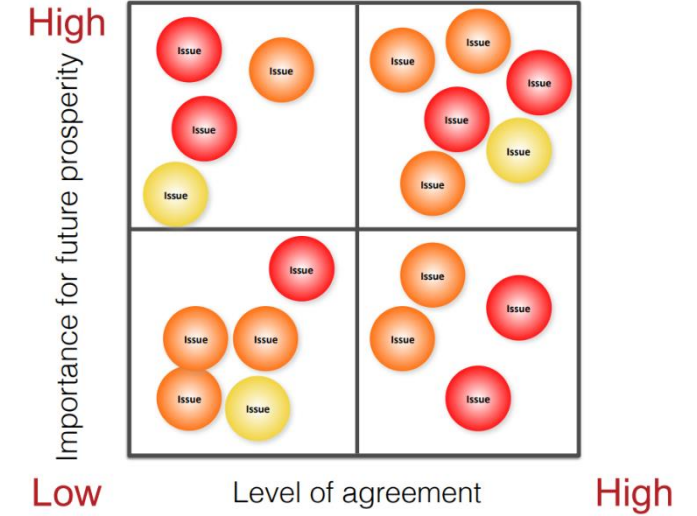
Horizon Scanning

[A global horizon scan of issues impacting marine and coastal biodiversity conservation | Nature Ecology & Evolution](#)

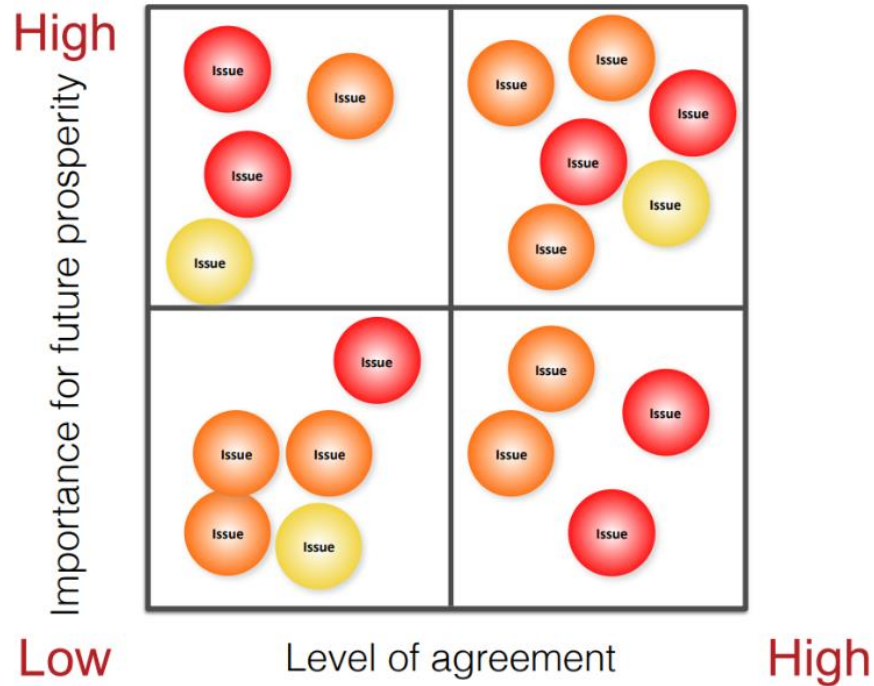
ACTIVITY



Sand blowing across Oystermouth Road in Swansea (Image: South Wales Evening Post)



As a class we will be conducting a (quick) horizon scanning activity to discuss key issues impacting Wales.



The Quick Guide to Horizon Scanning

Horizon scanning is a systematic method for:

- spotting potential causes of uncertainty
- ensuring adequate preparation
- exploiting opportunities and
- surviving threats

It is NOT about predicting the future.

Horizon scanning supports the process of building organisational resilience as part of a suite of tools which can help practitioners understand and prepare for risks. Other tools include:

- Forecasting** using qualitative and quantitative techniques, including historical data and statistics; individual and collective judgement; and environmental monitoring
- Driver mapping** using an analytical tool such as STEEPLE (societal, technological, economic, environmental, political, legal, ethical) or PESTLE (political, economic, societal, technological and legal) to consider a wide range of potential source future risk
- Trend analysis** using mathematical techniques on historical data to plot potential trends
- Scenario planning** looking at possible future states on the basis of different starting states
- Stress testing** testing how the organisation copes in the face of a rare, high-impact event

Making It Happen: A step by step process

The model below shows the key steps you might consider when conducting a horizon-scanning process:

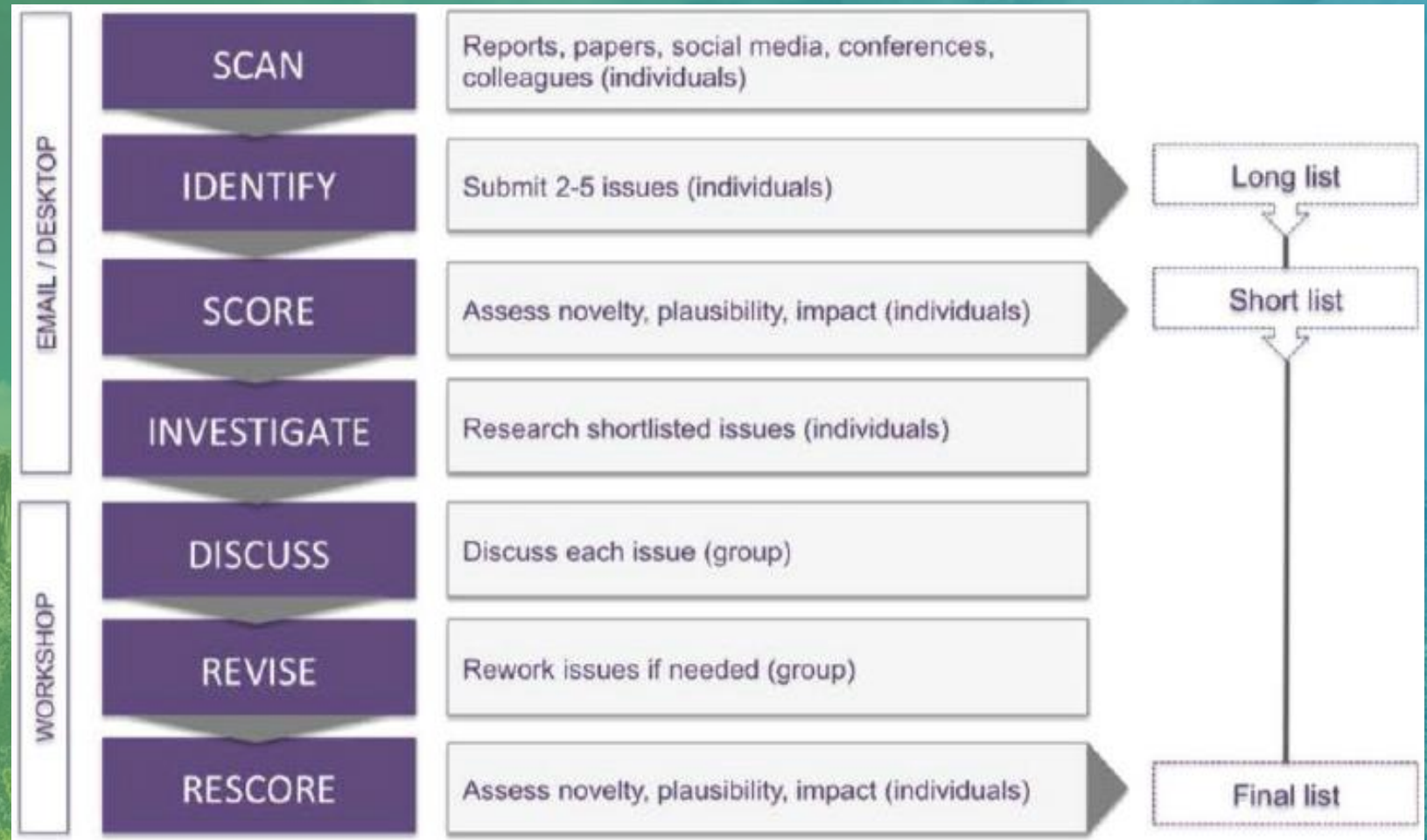
Step	Process
Identify key stakeholders	Gather relevant people to work with, keeping in mind need for diversity and open minds.
Kick Off	Explain what horizon scanning means, how it is to be conducted, and how the results will be utilised.
Research	Working to a timeframe, assign single issues to stakeholders to research (professional journals, online content, etc.) to identify potential risks – see Section 3 of this paper.
Output	Stakeholders to document their research (submit one short report each week).
Collaborate / Combine	Collate the reports and present them back to the group for discussion. Visualise the risks where possible.
Monitor and review	Decide which key risks you wish to look into further, conduct in-depth analysis using “Futures” tools as described in the UK Government paper (see Appendix).

Instructions

- Padlet: [Strategic Management in Wales \(padlet.com\)](https://padlet.com)
- Using the process of Horizon scanning, can you create a Horizon Scan for 10 key environmental problems in Wales?
- Plot these into a chart as shown:

ACTIVITY

HORIZON SCANNING

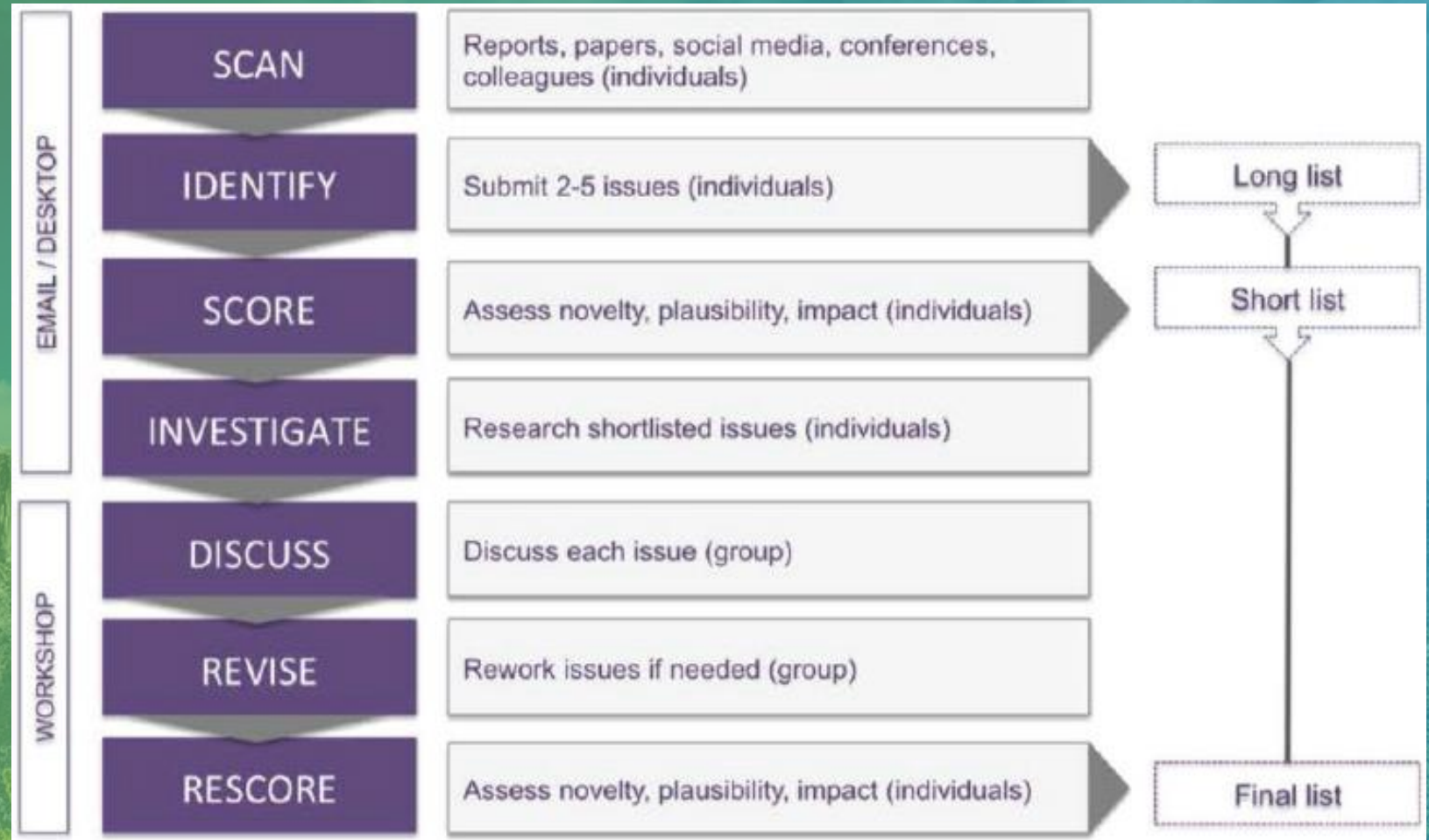


[An example of a horizon-scanning process - Safeguarding the Bioeconomy - NCBI Bookshelf \(nih.gov\)](#)

ACTIVITY

HORIZON SCANNING

10-15mins



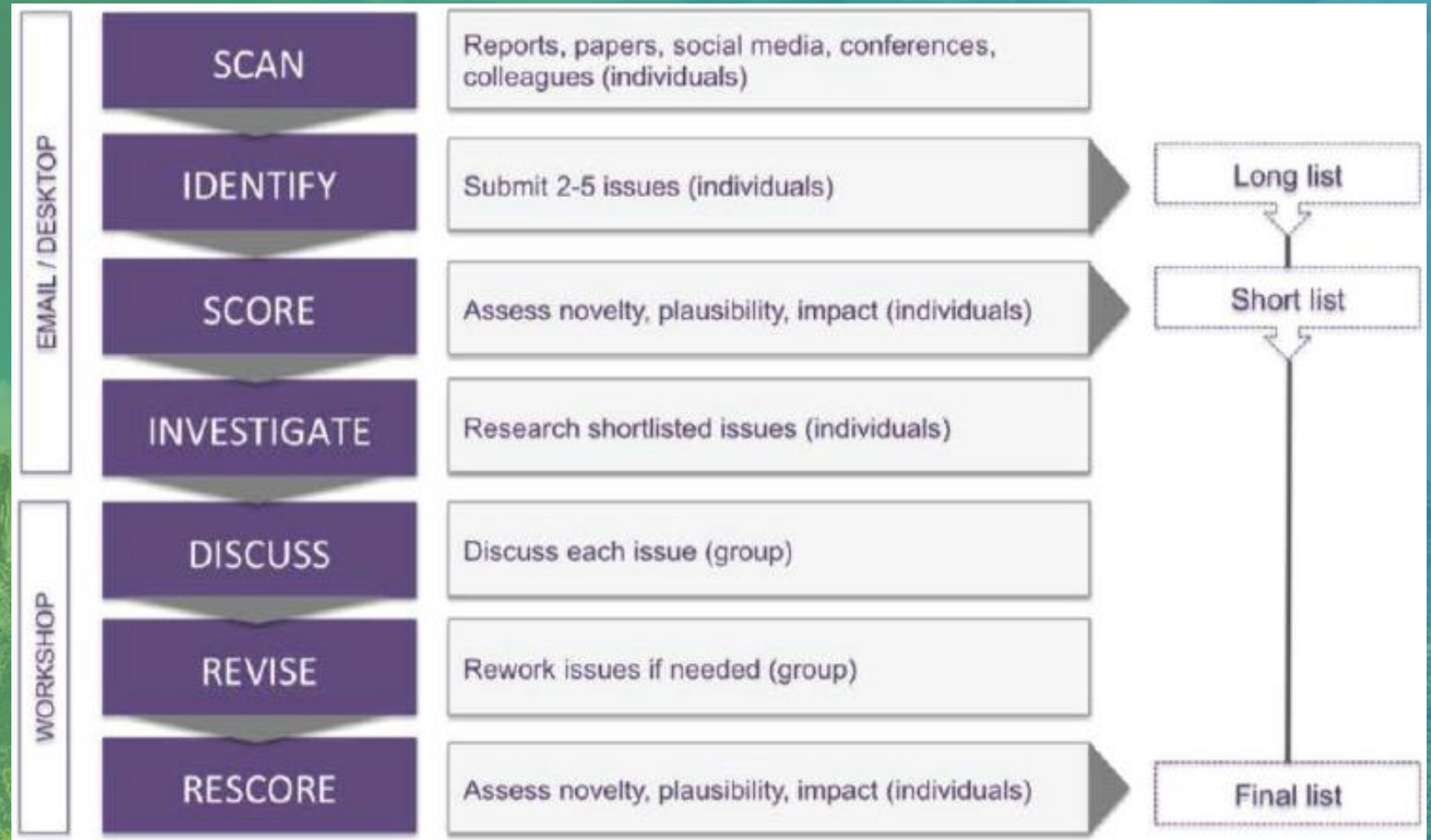
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ACTIVITY

HORIZON SCANNING

10-15mins

10-15mins

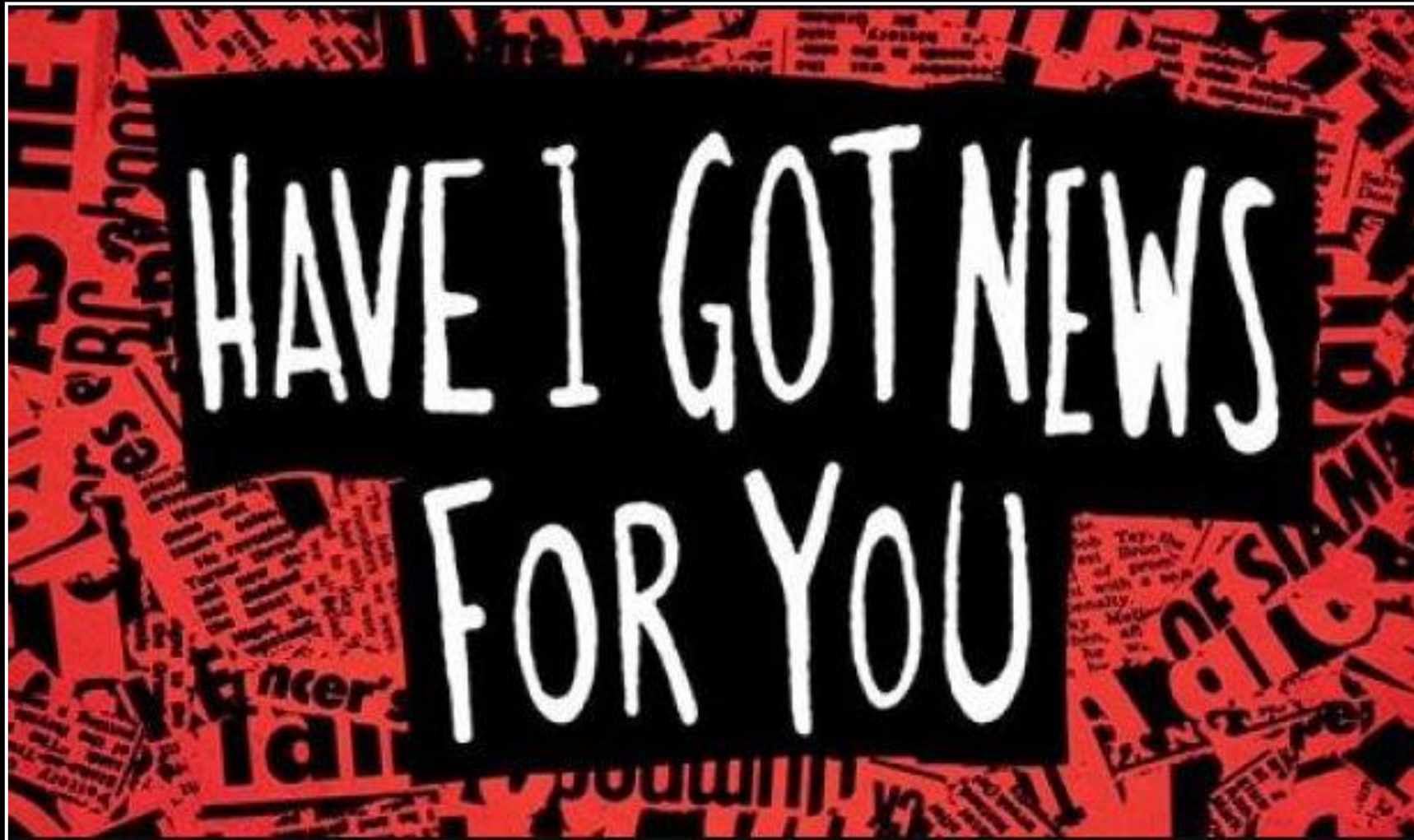


An example of a horizon-scanning process -
[Safeguarding the Bioeconomy - NCBI Bookshelf \(nih.gov\)](#)

Activity

Read the following:

- [Update to Future Wales - The National Plan 2040 \(gov.wales\)](#)
- Next, read the Swansea Local Development Plan:
- [Swansea Local Development Plan 2010-2025 \(LDP\) - Swansea](#)



Have I got news for you?



Grŵp Herio Cymru
Sero Net 2035

Wales **Net Zero 2035**
Challenge Group

For next week:

[The Challenges – Wales Net Zero 2035](https://netzero2035.wales/)

Outline: The Group welcomes the submission of relevant **views**, **case-studies** and **evidence**, which can be submitted via the Group's website: <https://netzero2035.wales/submit-evidence/evidence-submission-portal/> .

Using the outcome of your horizon scanning activity, prepare a small document (e.g. 1-2 pages) for submission to the 'Challenge Group'

The challenge group is looking for evidence of what can be done by 2035 and what would need to be in place for that to happen. **E.g. The first challenge 'How could Wales feed itself by 2035? will be open from April 26th – June 30th 2023.**