

Progressing climate change adaptation: a tool in development

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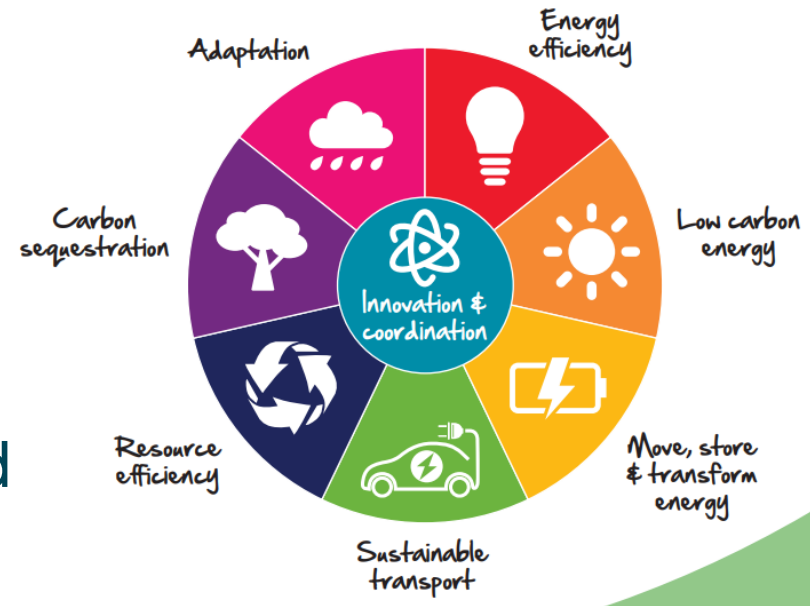
The Scottish APSE Energy Summit 2022
Thursday 5th October 2022

What we'll do this session

1. Context in Fife
2. Overview of some climate resilience work
3. The Vacant and Derelict Land tool
4. Links to Climate Place project
5. Discussion

Climate Fife

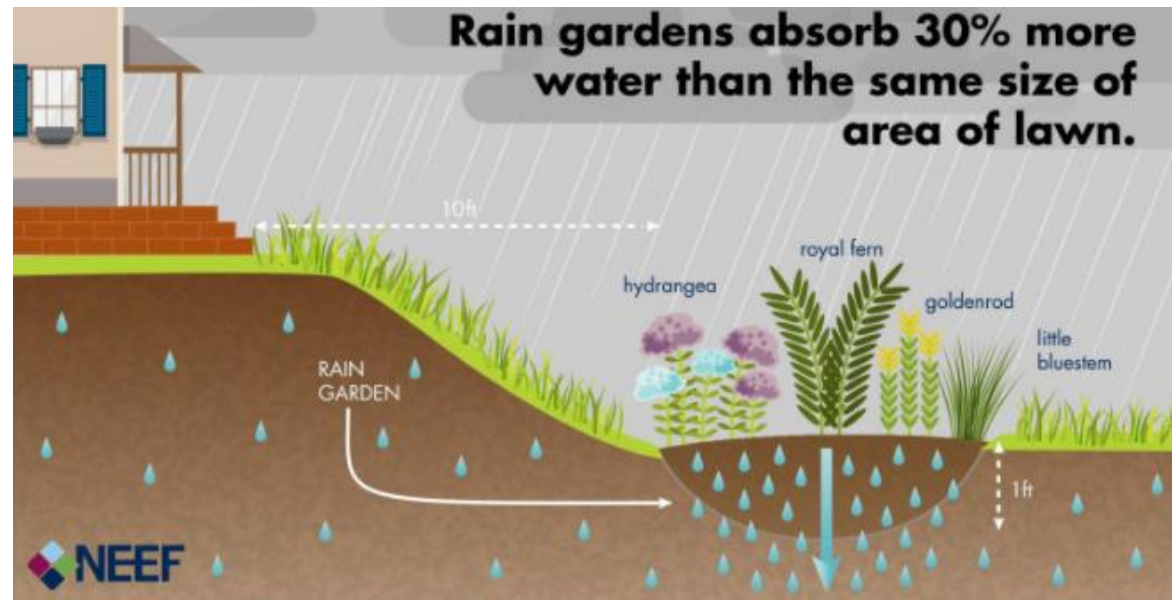
- **Climate friendly**, transforming how we live to become carbon neutral;
- **Climate ready**, helping Fife communities and the economy minimise any impacts from unavoidable climate change; and
- **Climate just**, making sure all Fifers and our environment benefit from this transition.



[ClimateActionPlan2020_summary.pdf \(fife.gov.uk\)](https://www.fife.gov.uk/ClimateActionPlan2020_summary.pdf)

Climate Resilient Communities

- Regional Climate Risk Assessment
- Risk & Vulnerability Assessment
- Vacant & Derelict Land climate tool
- Climate Place - resilience & opportunities
- Land Use Policy



Vacant & Derelict Land climate tool

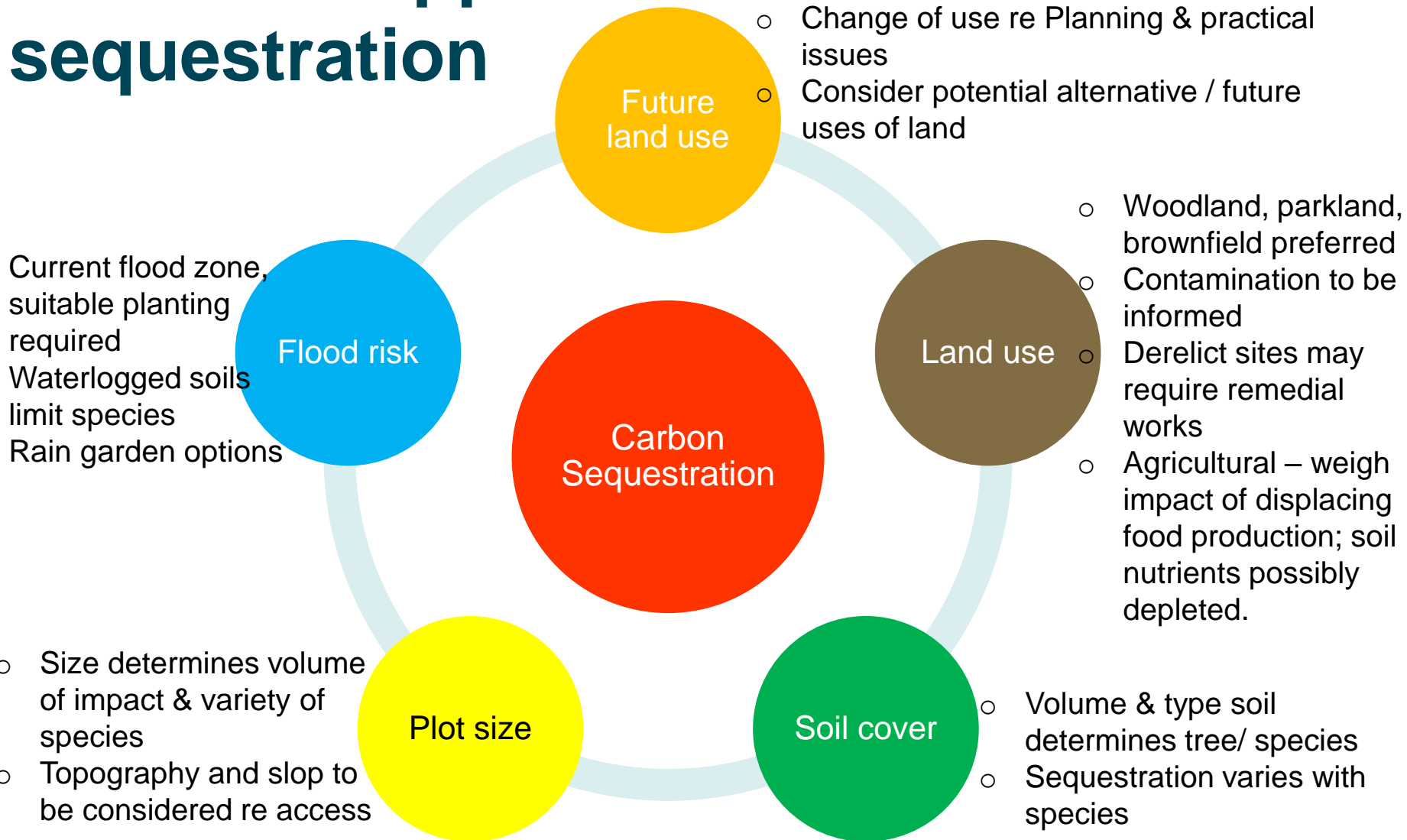
- Multi-criteria scoring spreadsheet that matches the site with the best 'fit' climate resilient land-use
- Site scoring system:
 - 0 = Not suitable
 - 1 = Has potential
 - 2 = Good fit
- Vacant and Derelict Land Fund

Sample page from the VDL climate tool

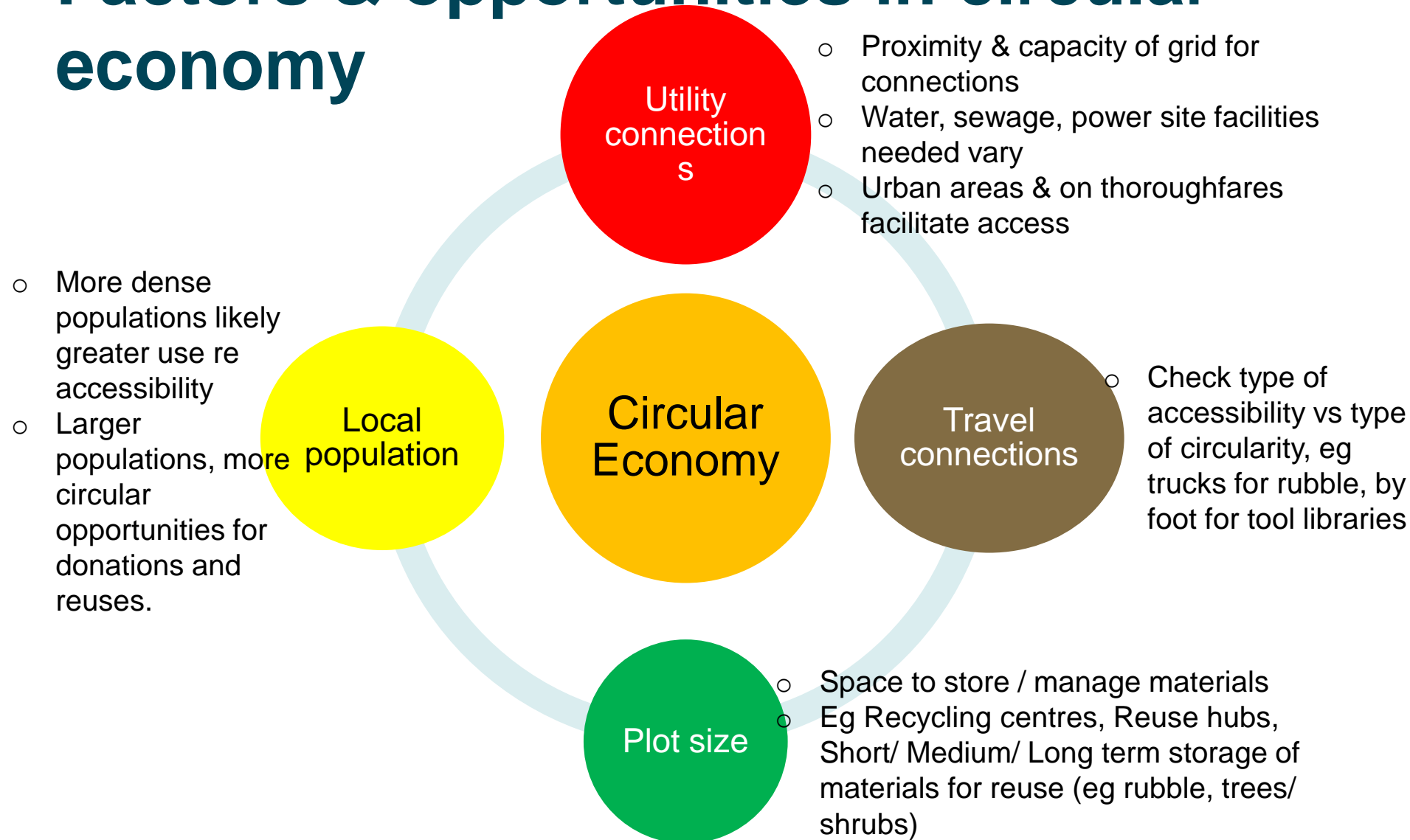
Carbon sequestration

			1. Former Shale Mining Site	
Criteria	Source for testing criteria (planning would already have ways to identify most of the below - tap into their methods)	Available answers & scoring (2=good, 1=ok, 0=poor)	Score	Explanation
How large is the site?	VDL gis layer & LDP map	<ul style="list-style-type: none"> •<0.5 hectares - 0 •0.5-5 hectares - 1 •>5 hectares - 2 	1	2.3ha
Does the site have soil cover?	https://map.environment.gov.scot/Soil_maps/?layer=10	<ul style="list-style-type: none"> •Soil - 2 •No soil - 0 [Make note of soil type]	0	No soil
What is the sites current/most recent land use?	Site information provided by X - Also asked for previous land use GIS layer from X	<ul style="list-style-type: none"> •Woodland - 2 •Arable or pasture (i.e. farmed/managed) - 1 •Semi-natural (i.e. not managed but has plants, not woodland) - 1 •Industrial (e.g. capped landfill site, factory) - 0 	0	Industrial
Is the site in a future (2100) flood risk area?	https://coastal.climatecentral.org/map/11/-3.345/56.136/?theme=sea_level_rise&map_type=coastal_dem_comparison&contiguous=true&evaluation_model=best_available&forecast_year=2100&pathway=cp85&percentile=p95&return_level=return_level_10&slr_model=kopp_2017	<ul style="list-style-type: none"> •Not in a current or future (2100) flood area - 2 •Site in a future (2100) flood risk area - 1 •Site in a current flood risk area - 0 	2	Not in future or current flood risk area
What is the likelihood of future change to the proposed land use?	http://fifecouncil.maps.arcgis.com/apps/InstantInteractive/legend/index.html?appid=516471ba994a431fa896060b5e95ce33	<ul style="list-style-type: none"> •Known change of use up to 25 years - 0 •Known change of 26-50 years - 1 •No known change within 50 years - 2 	2	No future plans in LDP or planning portal
4. Are there any known natural/physical impediment(s) that impact on development of the site? (e.g. slope of the land, any physical barriers, sub-surface impacts)	OS map, using LDP, VDL & SEPA	<ul style="list-style-type: none"> •Impediments with major impact - 0 •Impediments with minor impact - 1 •Some impediments not making any impact - 2 •No impediments - 2 	1	Water source nearby, on a slight slope, shale at surface
5. Are there any known human impediment(s) that impact on development of the site? (e.g. gas or water pipes crossing the site, crossing of major roads, rivers, rail lines or waterways)	OS map, using LDP & VDL	<ul style="list-style-type: none"> •Impediments with major impact - 0 •Impediments with minor impact - 1 •Some impediments not making any impact - 2 •No impediments - 2 	0	Gas pipe nearby, major road running along perimeter
			6	
			43%	

Factors & opportunities in carbon sequestration



Factors & opportunities in circular economy



The Larick Centre, Tayport

- Community-focused facility with social spaces, café and community fridge
- Previously a steel works, vacant from 2001 until 2020
- Received £170k from the Fife Council VDL Fund



[About The Larick Centre - The Larick Centre \(tayportct.org.uk\)](http://tayportct.org.uk)

Developing the VDL climate tool to inform Climate Place tool

- Specifically address the 7 adaptation hazards to increase resilience of buildings & land assets
- Sourcing data to inform future hazard incidents.



Floods



Storms



Temperatures



Geo-hazards



Sea level rise



Drought



Wildfires



Precipitation



Biological hazards

Climate Place project

- Public sector asset register map for Kirkcaldy
- Testing climate events and helping predict assets at risk due to climate change



Factors, risks & opportunities in flooding



- Restrict or inform developments planned on the land.
- Inform planting to be resilient to flooding
- Surrounding & onsite development to manage water movement safely.

- Divert flooding from assets: eg homes, businesses, EV chargers etc
- Casual leisure uses, eg paths / infrastructure that are resilient to flood

- Health & well-being
- Flora & fauna
- Buildings
- Economy
- Movement around an area

Service impacts

- Post- flood clean ups?
- Rebuilding or strengthening damaged assets?
- Liability?
- Also positive resources?

Future resources

- Movement of staff limited
- Service disruptions eg access/ movement for health & social care
- Dangers to staff & service users

Floods

Future land use

Land use

Asset impacts

Thoughts for the future

- Expansion of the Climate Place project throughout Fife & available to all
- Greater awareness of climate impacts leading to increased resilience
 - Climate literacy training
 - Sharing V&DL examples
 - Engaging through community planning work
 - Climate Action Fife – Council is a partner
- More vacant and derelict land sites repurposed with a climate focus.



Recap

- Important to understand and develop resilience to climate impacts
- Role of vacant and derelict land & informing wider developments
- Learning from our experience, from Communities colleagues, from public sector colleagues & more
- Resilience – keep going!



Discussion

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Factors & opportunities in low carbon energy

