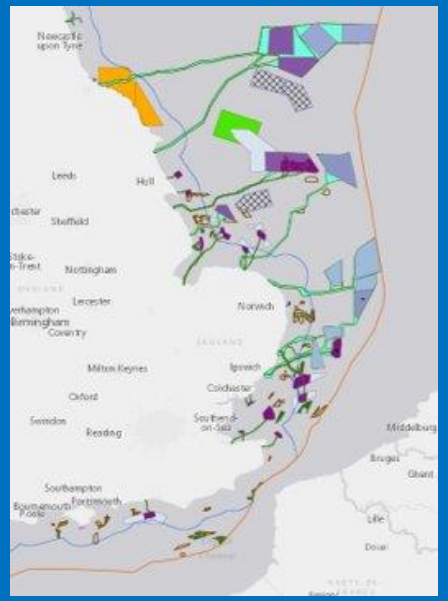
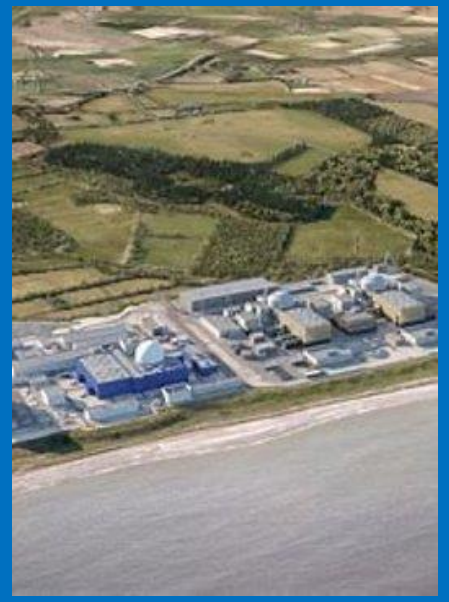
NSIP Centre of Excellence







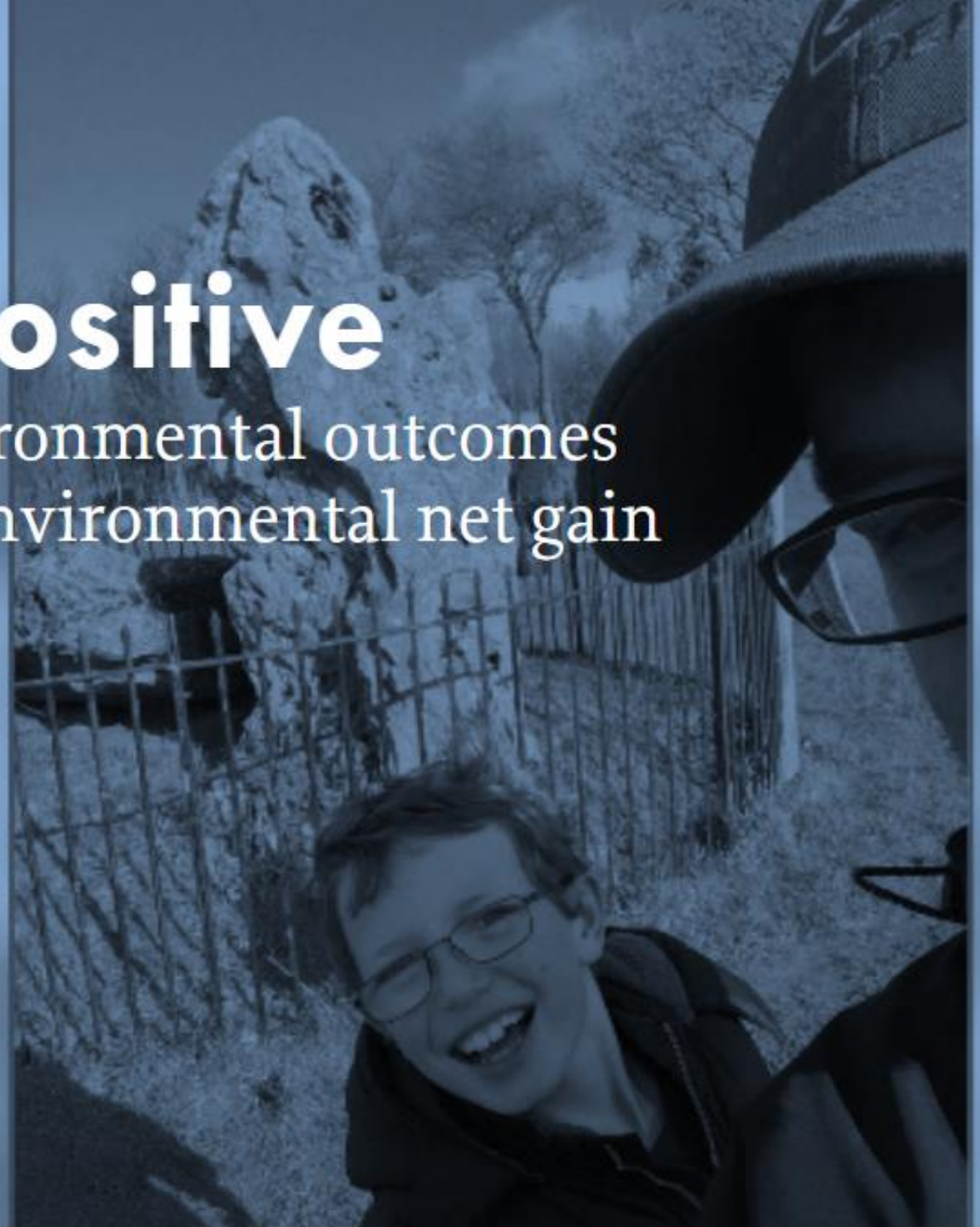

NSIPs and the Natural Environment

Wednesday February 22nd 2023

Suffolk County Council

Future Positive

The road to environmental outcomes and delivering environmental net gain



Ian Houlston
LDA Design

LDĀDESIGN

Sizewell A and Sizewell B

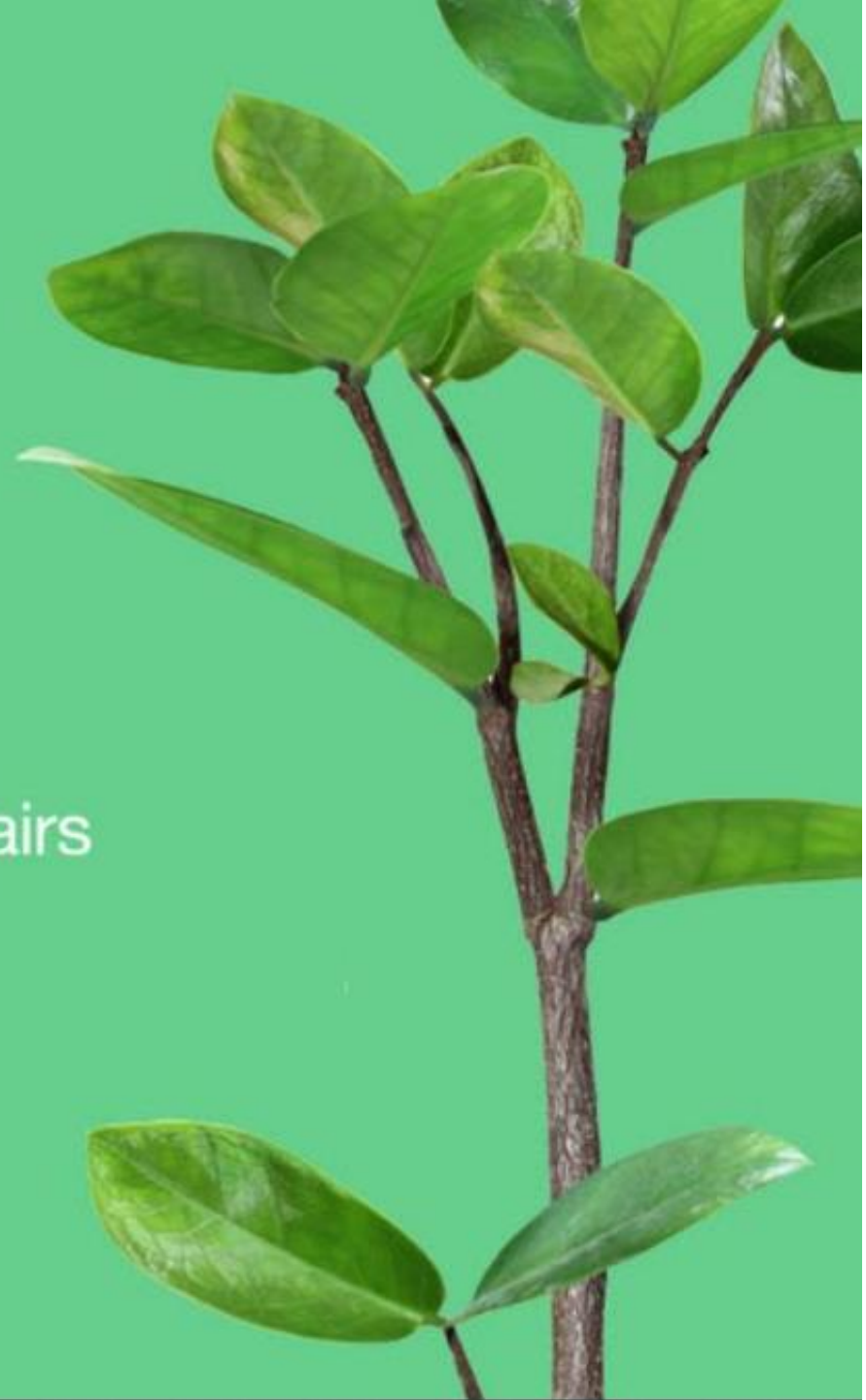
— Rollright Stones

Sizewell Beach


Every journey begins
with a first step …

25 YEAR PLAN

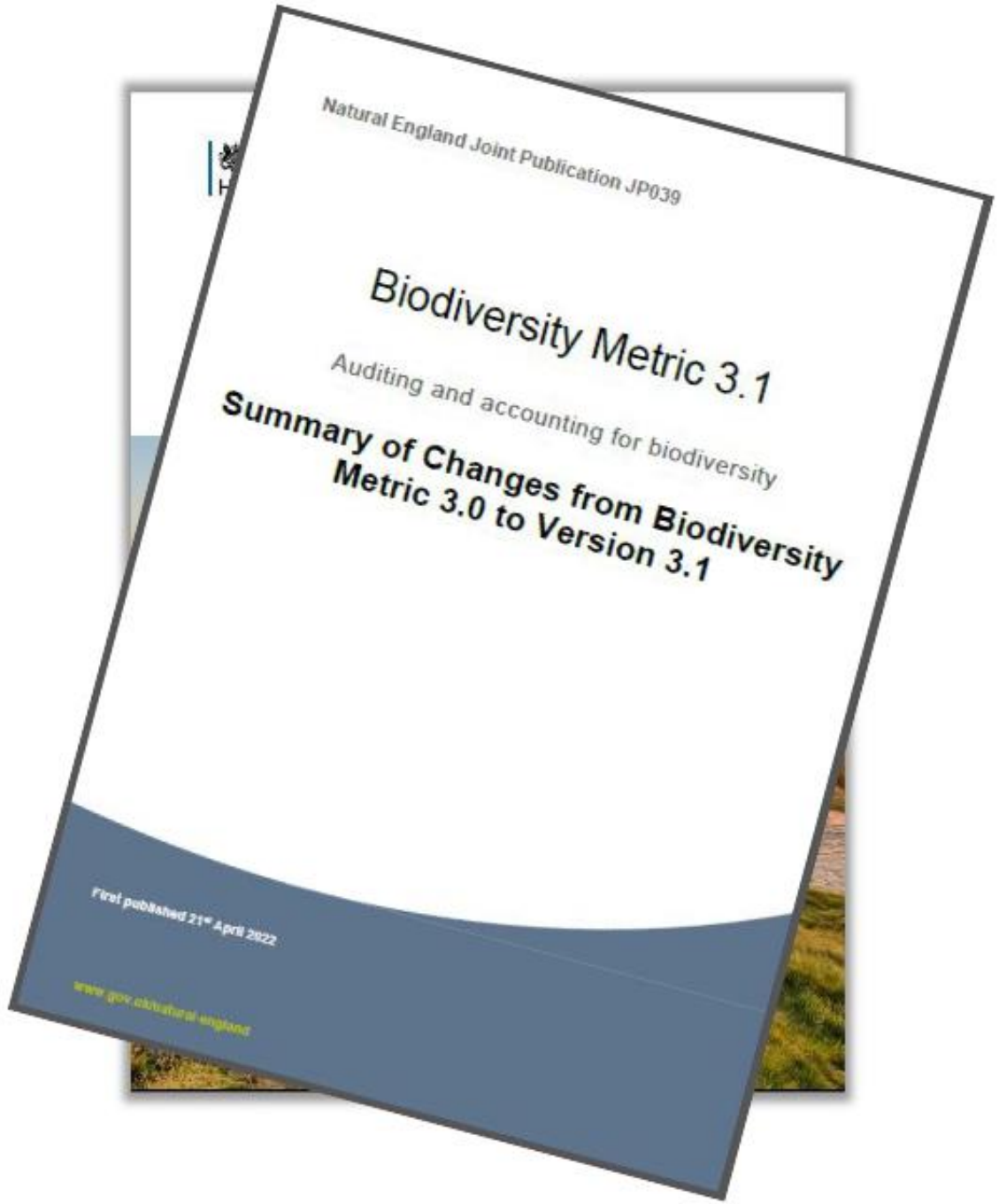
Department for Environment Food & Rural Affairs



"**In future**, we want to expand the net gain approaches used for biodiversity to include wider natural capital benefits, such as flood protection, recreation and improved water and air quality."

HM Government

A Green Future: Our 25 Year Plan to Improve the Environment


Natural England Joint Publication JP039
Biodiversity Metric 3.1
Auditing and accounting for biodiversity
Summary of Changes from Biodiversity Metric 3.0 to Version 3.1
First published 21st April 2022
www.gov.uk/natural-england


HM Government
Environmental Improvement Plan 2023
First revision of the 25 Year Environment Plan


LEVELLING
UP

The big shift …

– Environmental Outcomes Reports: a new change?

– Focus on a shift from ‘impact’ to ‘outcome’

– Good design for positive outcomes

Change in behaviours

– Securing positive environmental outcomes
– Developers contributing towards defined outcomes
– Purposefully designing for outcomes
– Environmental Targets

Environmental Improvement Plan 2023: Goals & Connections

Our apex goal

Goal 1:
Thriving plants and wildlife

Improving environmental quality

Goal 2:
Clean air

Goal 3:
Clean and plentiful water

Goal 4:
Managing exposure to chemicals and pesticides

Improving our use of resources

Goal 5:
Maximise our resources, minimise our waste

Goal 6:
Using resources from nature sustainably

Improving our mitigation of climate change

Goal 7:
Mitigating and adapting to climate change

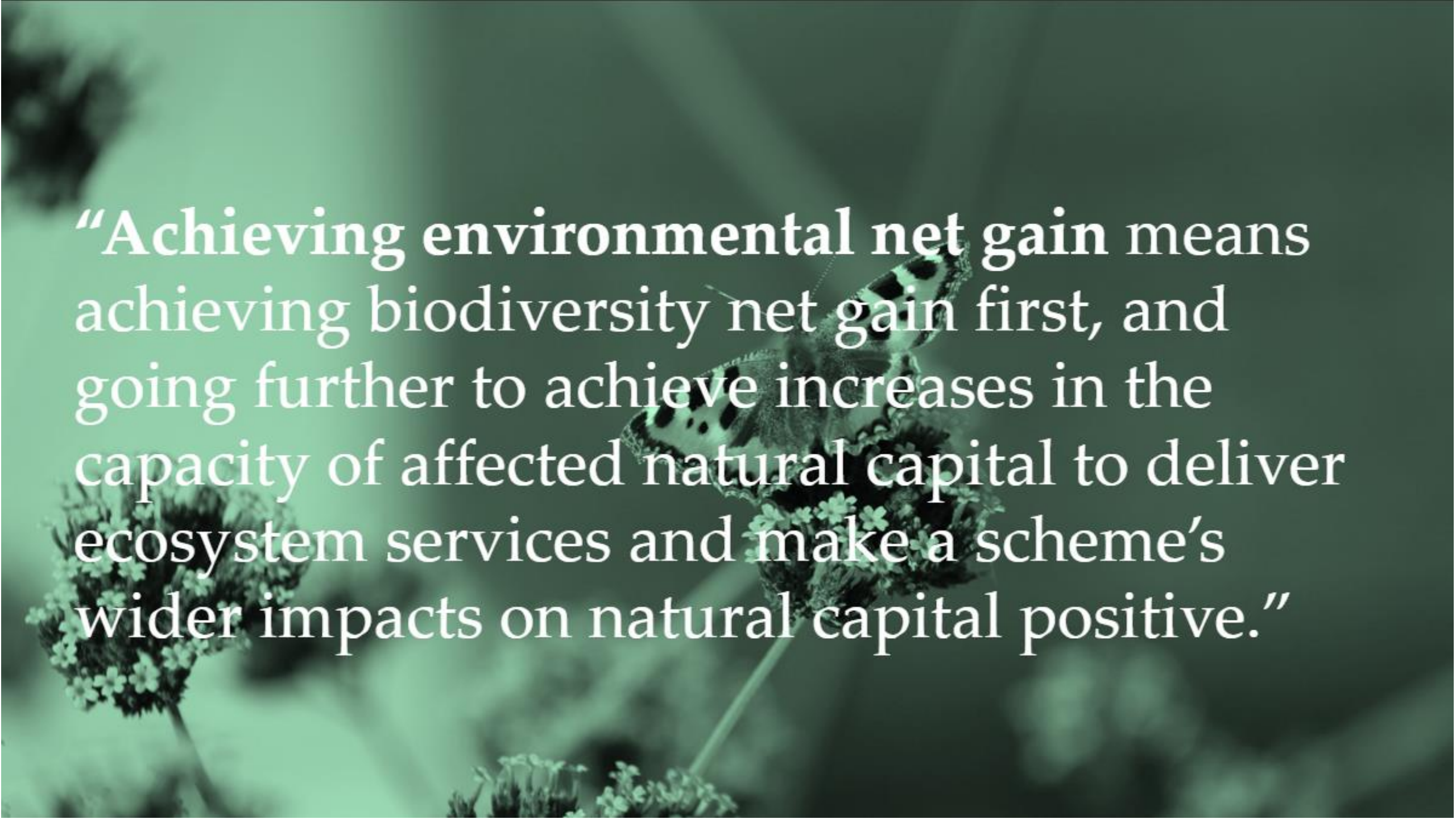
Goal 8:
Reduced risk of harm from environmental hazards

Improving our biosecurity

Goal 9:
Enhancing biosecurity

Goal 10:
Enhanced beauty, heritage, and engagement with the natural environment

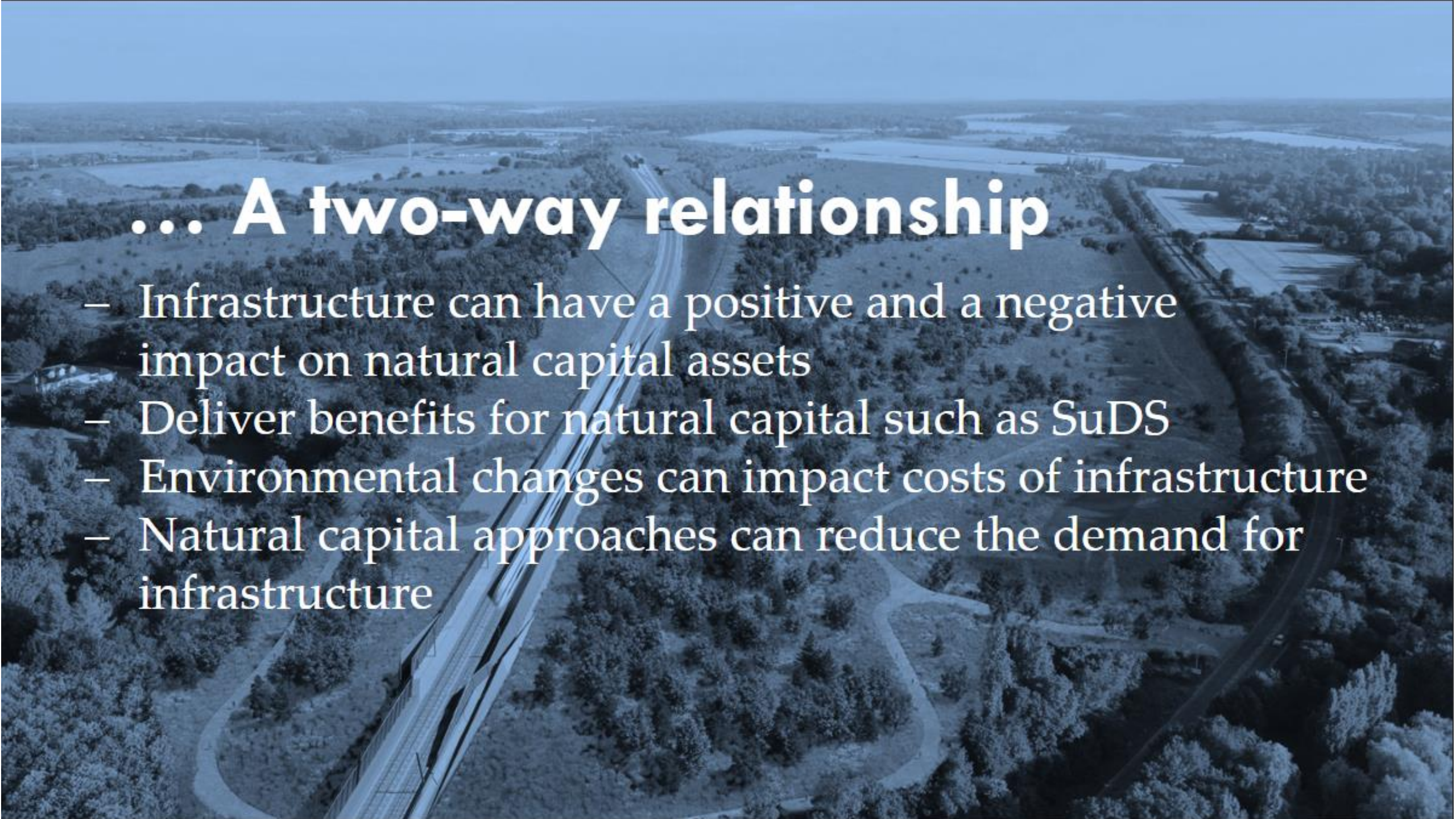
What does Environmental Net Gain mean?


“**Achieving environmental net gain** means achieving biodiversity net gain first, and going further to achieve increases in the capacity of affected natural capital to deliver ecosystem services and make a scheme’s wider impacts on natural capital positive.”


“**Environmental net gain** is an approach for improving the condition of, and ecosystems services that flow from, our natural assets in the context of development.”

Infrastructure and Natural Capital …

Image credit: HS2/Grimshaw/Align



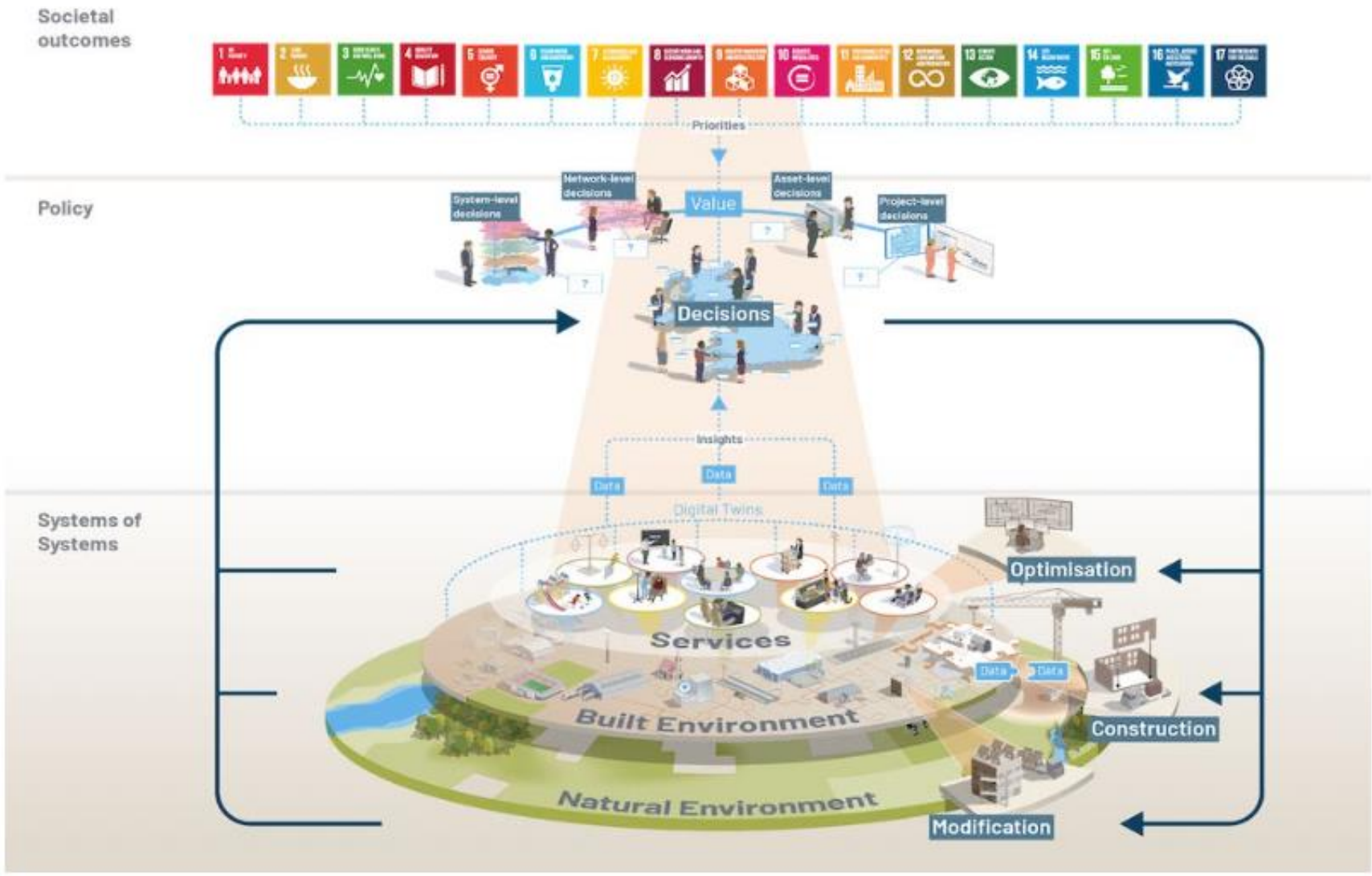
… A two-way relationship

- Infrastructure can have a positive and a negative impact on natural capital assets
- Deliver benefits for natural capital such as SuDS
- Environmental changes can impact costs of infrastructure
- Natural capital approaches can reduce the demand for infrastructure

The Commission will …

- Promote ENG for all infrastructure projects
- Develop thinking on natural capital and the application of ENG to infrastructure
- Consider natural capital where appropriate
- Develop a set of natural capital principles for infrastructure

IPA Roadmap to 2030



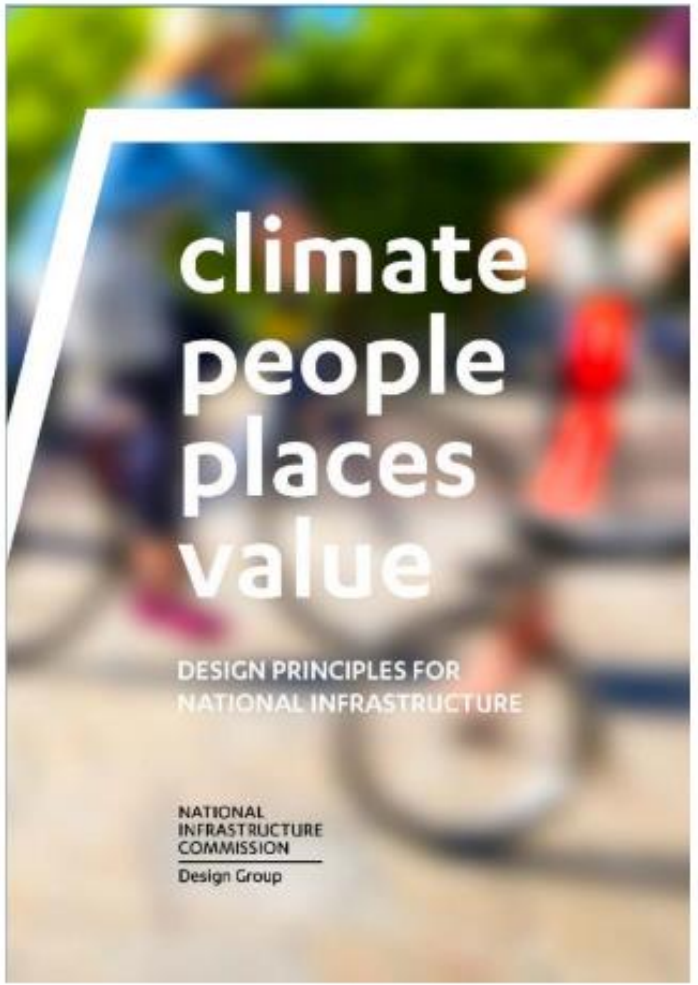

“**Infrastructure** connects us to each other and the natural environment, and is the foundation for the services that we depend on.”

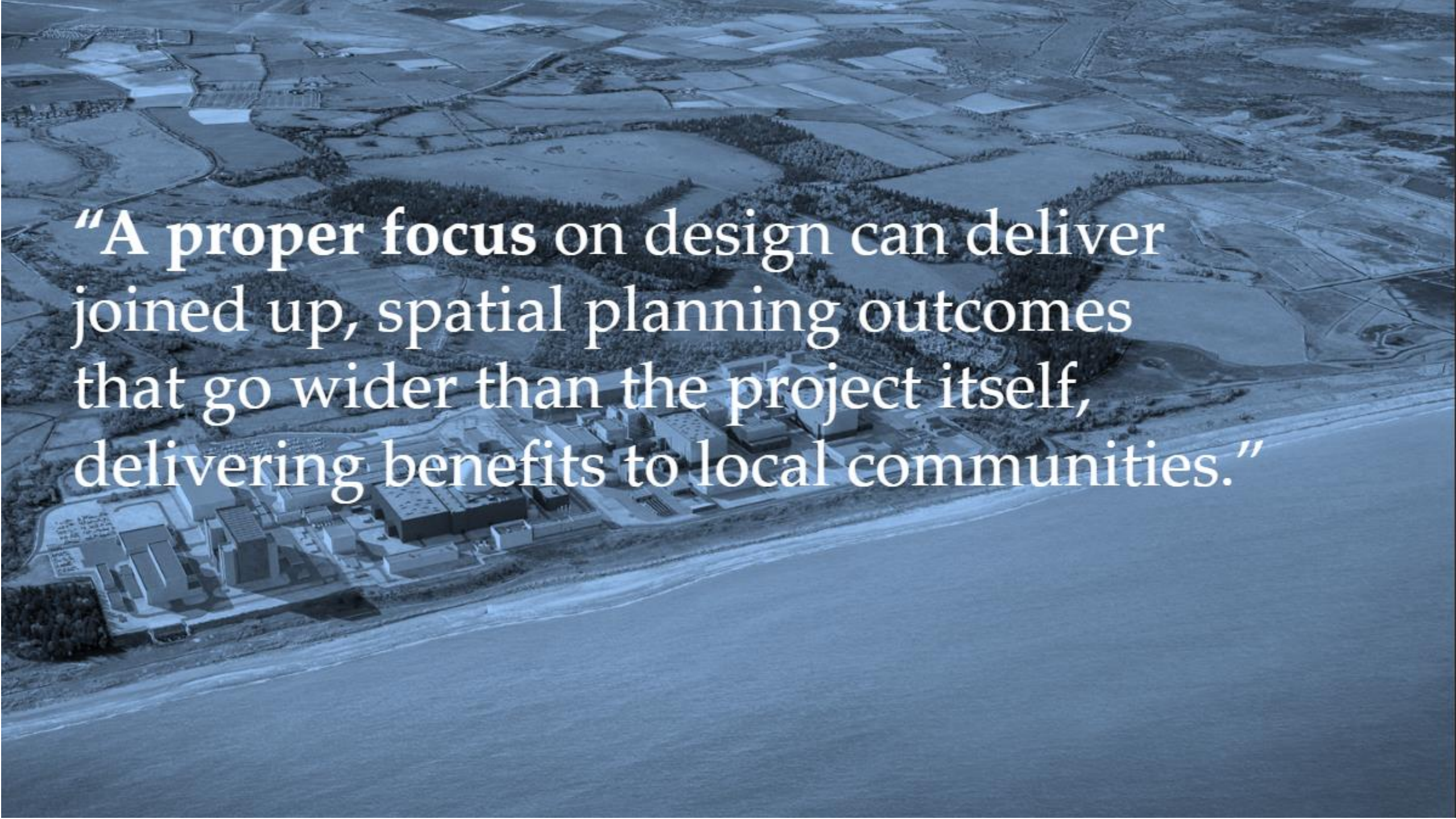
UN Sustainable Development Goals

Environmental Net Gain & Good Design

Principles underpinning outcomes

- **Climate:** Mitigate greenhouse gas emissions and adapt to climate change
- **People:** Reflect what society wants and share benefits widely
- **Place:** Provide a sense of identity and improve our environment
- **Value:** Achieve multiple benefits and solve problems well





"**A proper focus** on design can deliver joined up, spatial planning outcomes that go wider than the project itself, delivering benefits to local communities."

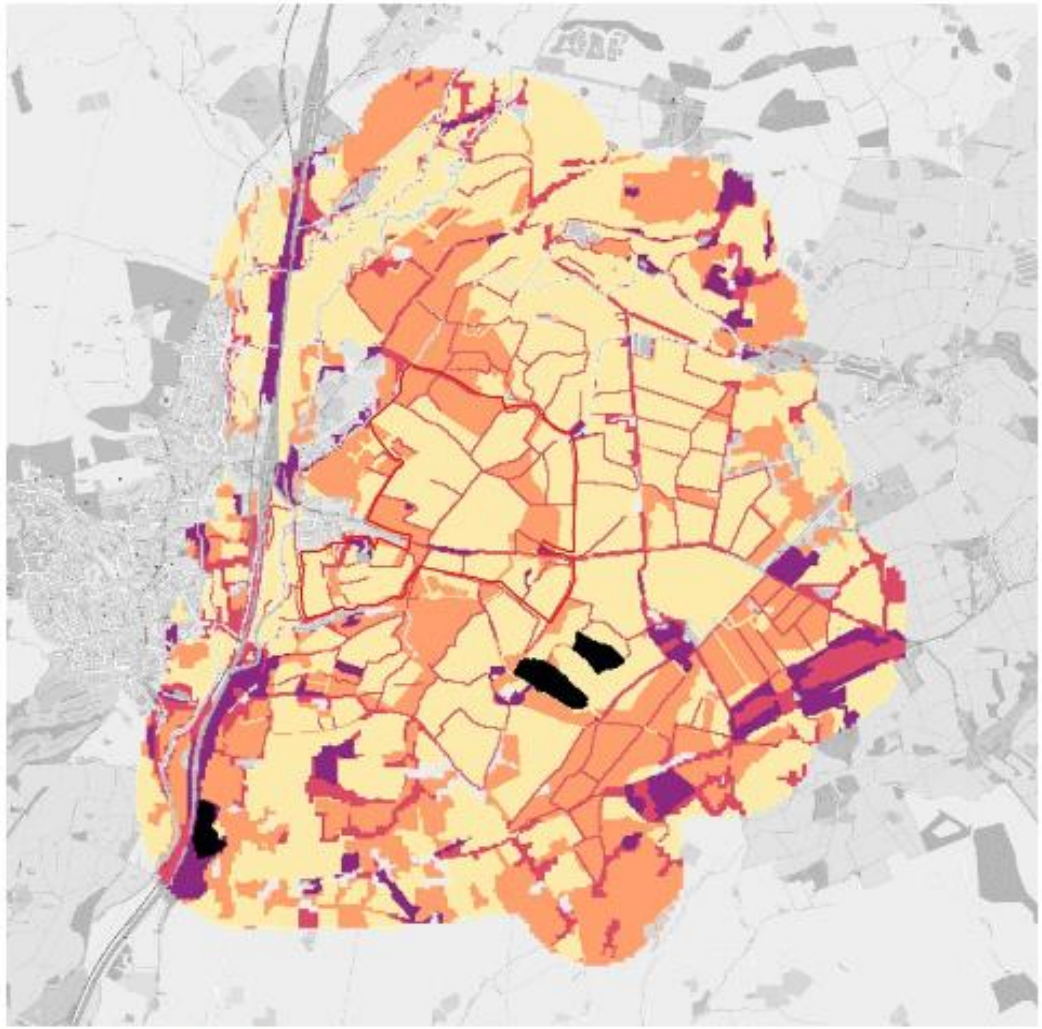
“Good design supports local ecology, which is essential to protect and enhance biodiversity. Projects should make active interventions to enrich our ecosystems.”

“Talk to and learn from local people and organisations, … to create places that people can be proud of and enjoy.”

Design is about making decisions

East Cullompton:

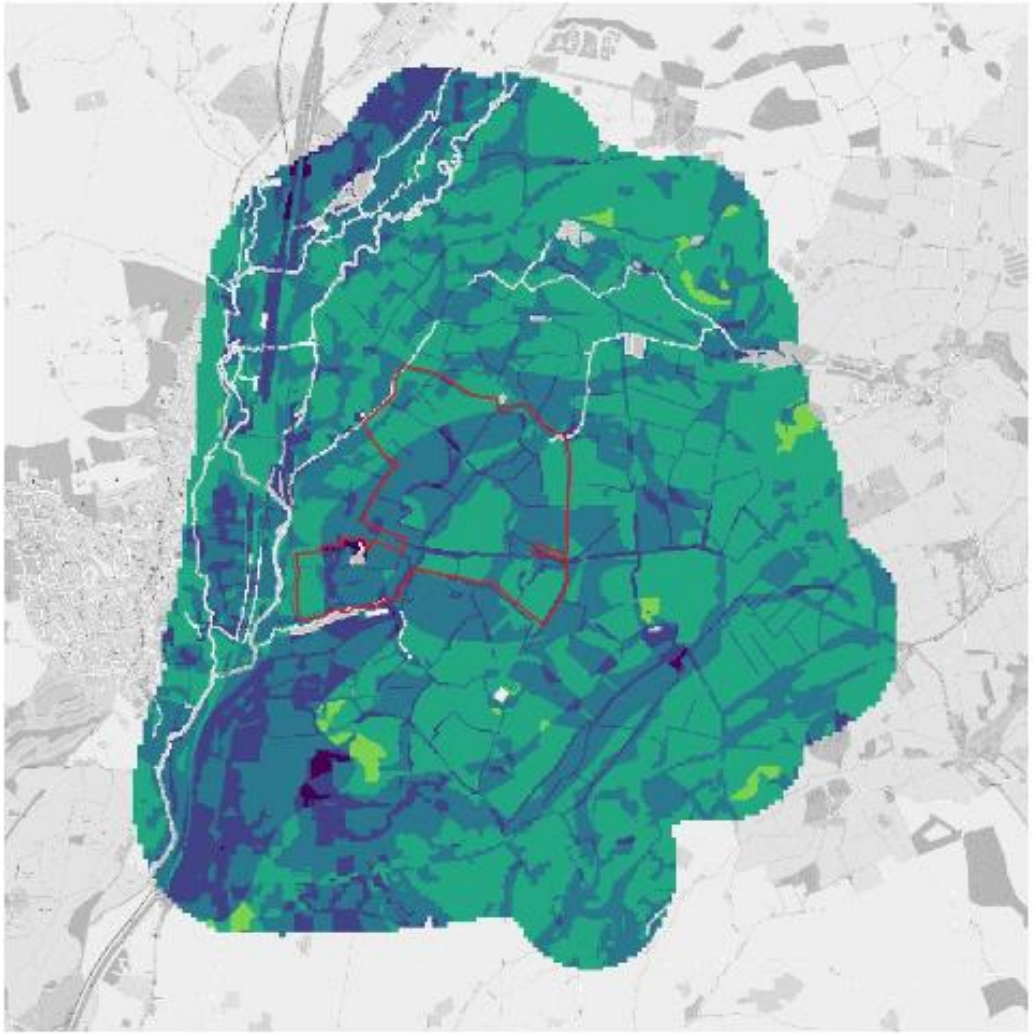
An Ecosystems Approach to Masterplanning



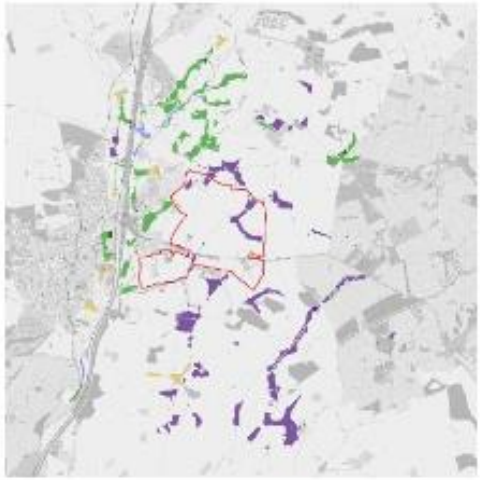
Carbon Stock

Carbon Opportunities

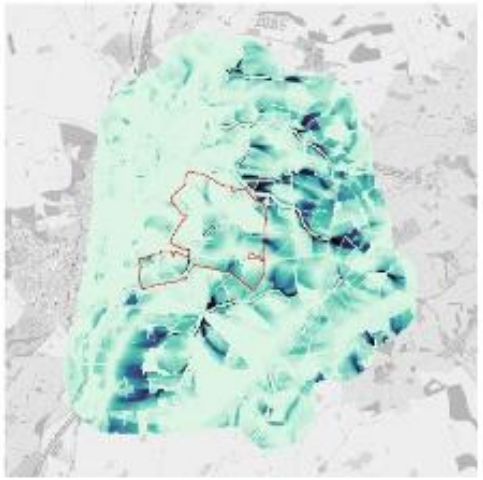
Environment SYSTEMS
evidence and insight



Natural Flood Management Stock

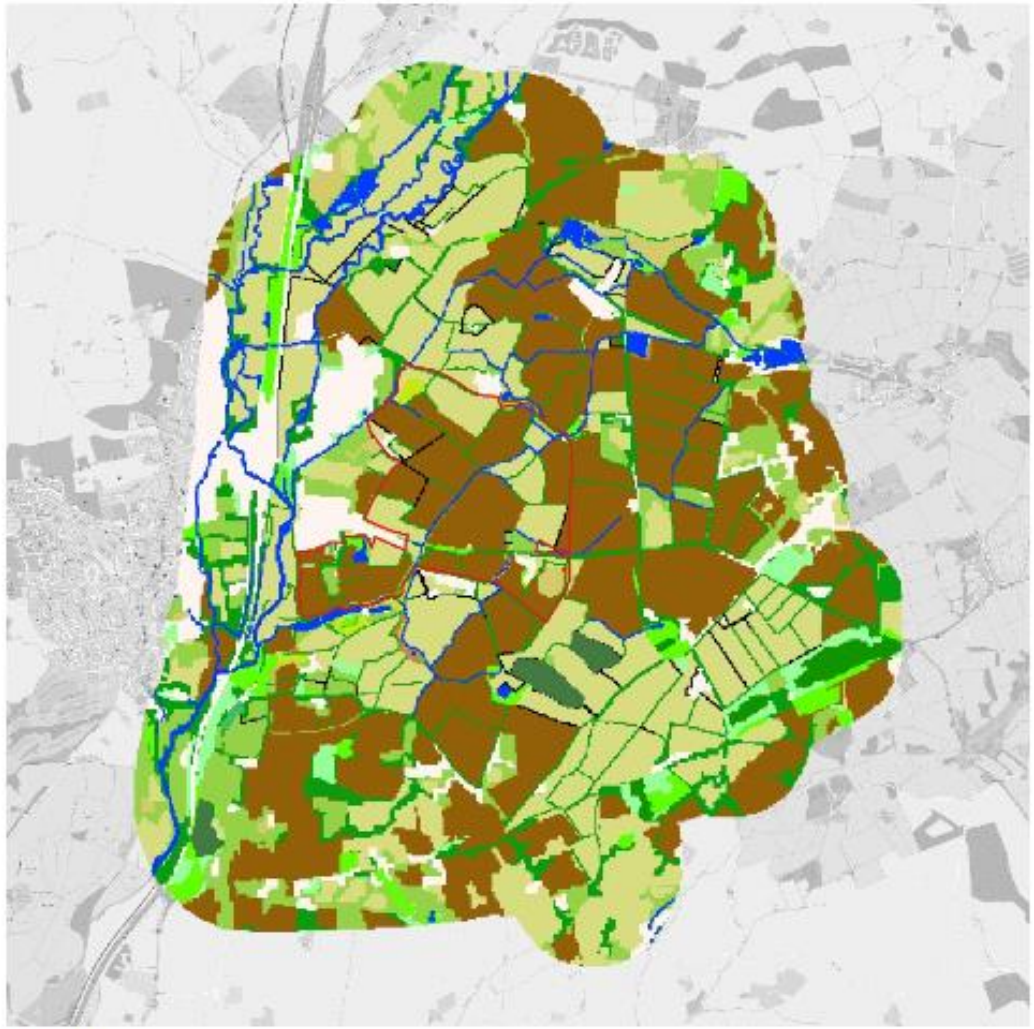


Natural Flood Management Opportunities

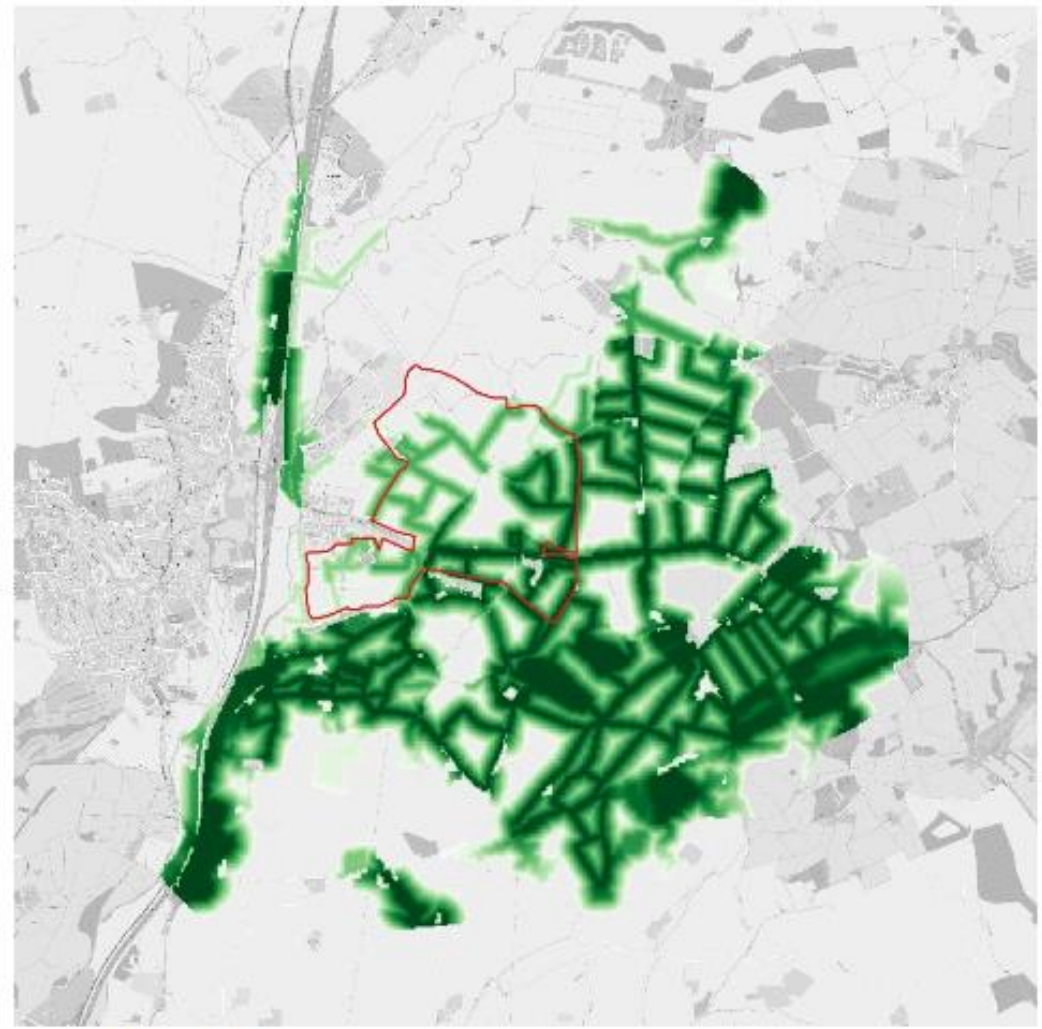


Erosion Risk

Environment SYSTEMS
evidence and insight



Habitat



Woodland Network

Environment SYSTEMS
evidence and insight


COMMUNITY
VEG GARDEN

The questions we have been asking

- How will environmental net gain and or BNG be accounted for in decision making, and how is it distinguished from mitigation/ does it need to be?

- Recording an environmental net gain could imply gains across several indicators. If this is not possible, how can a net gain be achieved? (would it be based on priorities/ government targets?)

- Where there are the trade-offs, how should a decision be reached – is it a planning balance decision?

- What metrics and methods are to be used? Is the Environmental Benefits from Nature Tool the best starting point? Are there metrics for all indicators? If not how are these dealt with?

- Within the consenting process, how will the environmental benefits be secured and delivered within the DCO regime (e.g. offsite provision)?

- How scenarios for assessment may change over a project's lifetime and how that can be assessed, and how mitigation might change as a project establishes, develops and matures?

- Over what timescales should ENG be accounted for? (e.g. beneficial outcomes from woodland will take time to be realised)

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NSIPS AND THE NATURAL ENVIRONMENT EAST OF ENGLAND NSIP CENTRE OF EXCELLENCE

OXFORD BROOKES UNIVERSITY

ADEQUACY OF ENVIRONMENTAL IMPACT ASSESSMENTS IN NSIPS

AN EXAMINING INSPECTORS PERSPECTIVE

22ND FEBRUARY 2023

PROFESSOR MARTIN BRODERICK FIEMA

- Visiting Professor in EIA at Oxford Brookes University, Impact Assessment Unit
- Broad experience in Environmental Impact Assessment (EIA) and Environment Management Planning (EMP) in many regions of the world
- Considerable EIA experience in large infrastructure developments particularly in the mining transport and energy sectors.
- INTERNATIONAL EXPERIENCE:
  Abu Dhabi, Algeria, Armenia, Azerbajian, Bangladesh, Brasil, Bulgaria, Dubai, Egypt, Hungary, India, Iran, Ireland, Kazakhstan, Kosovo, Lebanon, Oman, Panama, Qatar, Romania, Russia, Turkey, Turkmenistan, Ukraine, UK, USA
- Institute Environmental Management Assessment (IEMA) Fellow
- Examining Inspector@ Planning Inspectorate (PINS) **speaking here today in a personal capacity.**
- >30 YEARS OF EXPERIENCE

6 DCOS EXAMINED AT PINS

- Manston Airport DCO Application: July 2018 – October 2019 https://infrastructure.planninginspectorate.gov.uk/projects/south-east/manston-airport/
- Abergelli Power Station – 299 MWe OCGT: June 2018 – March 2019 https://infrastructure.planninginspectorate.gov.uk/projects/wales/abergelli-power
- Brechfa Forest Connection – 28km Overhead electric line: June 2015 – November 2016 https://infrastructure.planninginspectorate.gov.uk/projects/wales/brechfa-forest-connection/
- Palm Paper Ltd – 160 MW CCGT/CHP: October 2014 – March 2016 http://infrastructure.planningportal.gov.uk/projects/Eastern/Palm-Paper-3-CCGT-Power-station-Kings-Lynn/
- Hirwaun Power Ltd – 299MWe OCGT: April 2014 – September 2015 http://infrastructure.planningportal.gov.uk/projects/wales/hirwaun-power-station/
- North Killinghome Power Project - 470MWe CCGT/IGCC Power Station: April 2013 – July 2014 http://infrastructure.planningportal.gov.uk/projects/yorkshire-and-the-humber/north-killingholme-power-project

I ALSO LED THE FOLLOWING DCO RELATED WORK AT PINS

- Internal Power Generation Enhancement for Port Talbot Steelworks: PINS reader of Recommendation Report: December 2015 https://infrastructure.planninginspectorate.gov.uk/projects/wales/internal-power-generation-enhancement-for-port-talbot-steelworks/
- Ferrybridge Multifuel 2- 99MW Renewables Plant Acceptance of Application: July 2015
- Palm Paper Ltd – 160 MWe CCGT/CHP Acceptance of Application; September 2014
- Progress Power Ltd – 299MWe OCGT Acceptance of Application: March 2014

INVOLVED AS A CONSULTANT

- Lower Thames Crossing
- Silvertown Tunnel – advising TfL
- Paramount – via Savills
- Tilbury2 Port – via Robbie Owen at Pinsent Masons
- Thames Tideway Tunnel – advising TfL
- Hinkley Point C – Post DCO Monitoring and Auditing for New Nuclear Local Authority Group (NNLAG)

STRUCTURE OF PRESENTATION

- EIA and PA08
- Role of Local Authorities
- Nationally Significant Infrastructure Projects (NSIP)
- NSIP case study
- Summary

Planning Act 2008

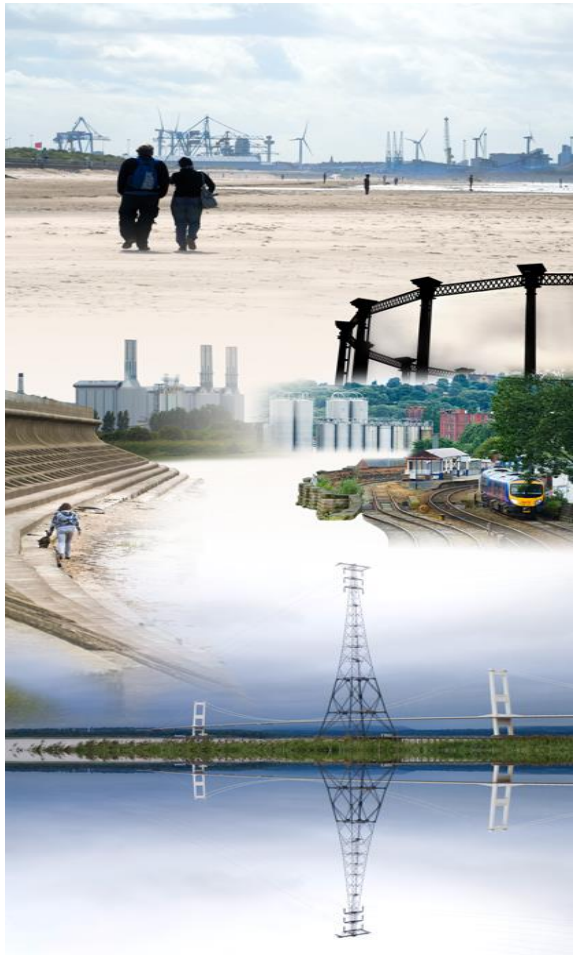
- In October 2009, the Planning Act 2008 (the Act) established a new independent body,
  - Infrastructure Planning Commission (IPC),
  - responsible for considering and making decisions on significant infrastructure planning applications from March 2010.
  - Replaced by PINS in March 2012.

- PINS operates within the statutory framework prescribed in the Act and relevant secondary legislation including
  - Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (the EIA Regulations as ammended). The Environmental Impact Assessments (EIA)

  - Regulations implement the EIA Directive and apply to all nationally significant infrastructure projects (NSIPs) which require development consent under the Act.

NSIPS – NATIONALLY SIGNIFICANT INFRASTRUCTURE PROJECTS

- Power Stations
- Power lines
- Pipelines
- Gas storage
- Road and rail
- Air and sea ports
- Reservoirs
- Waste



A BETTER PLANNING PROCESS FOR NATIONAL INFRASTRUCTURE PROJECTS

OXFORD BROOKES UNIVERSITY

- A simpler process
- Faster decisions
- A fairer approach
- Including people and communities
- Independent professional judgement
- Cutting costs
- Democratic and accountable

NATIONAL POLICY STATEMENTS

DEPARTMENT OF ENERGY & CLIMATE CHANGE

- Overall energy policy
- Renewables
- Fossil
- Electricity networks
- Oil and gas
- Nuclear

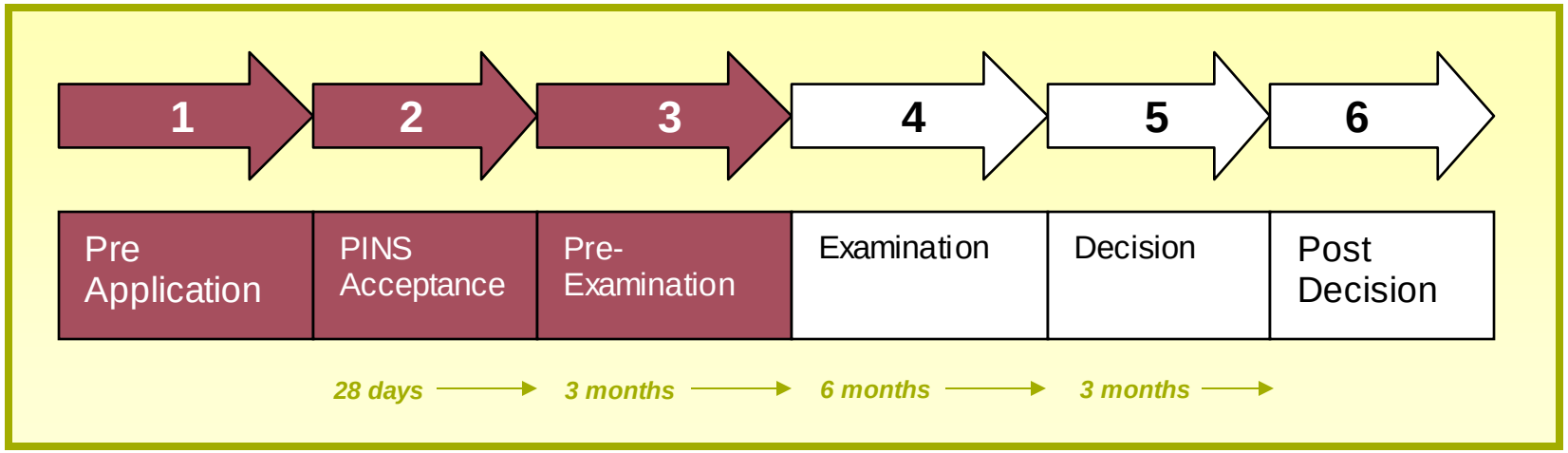
Department for Transport

- Ports
- National networks
- Airports

defra
Department for Environment Food and Rural Affairs

- Water supply
- Waste water
- Hazardous waste

THE PLANNING ACT 2008



THE ROLE OF PINS IN NSIPS

Pre-application:

- Inception meeting
- Advice to all parties
- Screening and scoping
- Effective consultation

Acceptance

Examination:

- Preliminary meeting
- Inquisitorial style
- Emphasis on written representations
- Hearings: Specific Issues, Open
- and Compulsory Purchase

Decision/Recommendation:

- Report of justification

ENVIRONMENTAL IMPACT ASSESSMENT

Role of PINS

- Pre-application screening and scoping
- Acceptance
- Examination

Role of the applicant

- Screening and scoping requests
- Prepare preliminary environmental information
- Engage consultees
- **Environmental statement**

Role of statutory and other consultees

- Support the process
- Awareness of deadlines

THE INFLUENTIAL POSITION OF LOCAL AUTHORITIES

- Statutory Consultee
- Planning Performance Agreements
- Statement of Community Consultation – supporting developer
- Statement of common ground
- Comment on adequacy of consultation
- Section 106 Agreements
- Local Impact Report
- Enforcement of Development Consent Order

ROLE OF AN EXAMINING INSPECTOR

- The role of an Examining Inspector is to:
  - deploy inquisitorial methods to discuss and resolve strategic issues relating to the NSIP application and,
  - to work through consensus using Statements of Common Ground (SoCGs) or,
  - where that is not possible, to agree on what needs to be addressed in the Development Consent Order (DCO), if granted.
- Inquisitorial not adversarial
- Mainly a written evidential process
- Hearings – PM,OFH,ISH and CAH

NSIP CASE STUDY

- Manston Airport, East Kent
- ES are key documents in the examination and noise and vibration evidence was examined in detail

MANSTON AIRPORT

- **Project:** a primarily cargo airport near Ramsgate in east Kent;
- **Promoter:** RiverOak Strategic Partners Ltd;
- **Application made:** 17 July 2018;
- Four inspectors, Kelvin MacDonald (his sixth), **Martin Broderick (his sixth),** Jon Hockley (his first), Jonathan Manning (his first);
- 2074 relevant representations, very high;
- 198 written representations, very high;
- 551 questions in the first round, 5 rounds in all >1000 high;
- two compulsory acquisition hearings, eight issue specific hearings including 2 days on noise and four open floor hearings – high;

MANSTON AIRPORT

- Four Local Impact Reports, from Kent County Council, Thanet, Dover and Canterbury;
- Examination exactly six months, recommendation nine days over three months, decision nearly nine months, ie nearly six months late;
- 723 days from application to decision, just under two years, the third longest to get consent; and
- 2,005 documents on the Planning Inspectorate web page on the date of the decision (not including the relevant representations), very high.
- First NSIP examination attended by Independent Commission on Civil Aviation Noise (ICCAN)

INITIAL NOISE PRINCIPAL ISSUES

- Noise can have significant effects on the environment and on quality of life. Exposure to noise can have effects on sleep and general annoyance and can lead to chronic health effects (eg heart disease and hypertension)

- In view of this the ExA concluded noise is important and relevant to its consideration of the Proposed Development.
  - The assessment of effects on humans and faunal species
  - The Noise Mitigation Plan including the choice of relevant noise contours and night flights
  - The use of aircraft quota count restrictions
  - Cumulative effects of aircraft and road traffic noise – no addressed
  - Location of noise monitors
  - Outdoor and indoor impacts of noise
  - Noise impacts of previous airport operations
  - Limitations and uncertainty of noise modelling
  - Human Rights; and
  - Health effects.

AVIATION NATIONAL POLICY STATEMENT

- The ANPS is not designated in relation to the application to reopen and develop Manston Airport
- Therefore the Examination of this Application has been conducted under s105 of the PA2008 which applies to decisions in cases where no National Policy Statement has effect.
- However, the ExA considered that the ANPS is an important and relevant consideration under s105(2) of the PA2008.

SIGNIFICANT OBSERVED ADVERSE EFFECT LEVEL (SOAEL) AND THE APPLICATION OF THE NOISE POLICY STATEMENT ENGLAND (NPSE)

OXFORD BROOKES UNIVERSITY

- The NPSE defines SOAEL - Significant observed adverse effect level - as: “The level above which significant adverse effects on health and quality of life occur.”
- The Applicant defined Likely Observed Adverse Effect Level (LOAEL) and SOAEL thresholds for noise and vibration in construction and operation and assessed the construction and operational activities against the baseline to identify exceedances of the threshold values and likely significant noise and vibration effects.

SIGNIFICANT OBSERVED ADVERSE EFFECT LEVEL (SOAEL) AND THE APPLICATION OF THE NPSE

OXFORD BROOKES UNIVERSITY

- The Applicant also considered a precautionary Unacceptable Adverse Effect Level (UAEL) of noise exposure at or greater than 69dB LAeq,16hr that triggers the need to offer households assistance with the costs of relocation.

- Noise insulation and ventilation was proposed to be offered **to some residential dwellings,** with the aim that noise from the airport could be mitigated to avoid significant adverse effects on health and quality of life that, could otherwise be expected when airborne noise exceeds the SOAEL set at 63db LAeq,16hr by the Applicant.

63DB LAEQ,16HR SOAEL THRESHOLD?

- The ExA acknowledged that the 63dB LAeq,16hr SOAEL threshold is consistent with **current** government policy
- But recognises that there is an increasing body of evidence to suggest that sensitivity to aviation noise has increased and that the **emerging policy** context seeks to address this issue.

63DB LAEQ,16HR SOAEL THRESHOLD?

- **Consequently, the ExA concluded that a revised daytime SOAEL threshold is appropriate in order to align the daytime noise threshold with emerging policy.**
- **The revised daytime SOAEL 60dB LAeq,16hr will be secured via R9b in the dDCO.**
- **The ExA concludes that R9b will mitigate noise impacts adequately.**
- ICCAN observed the proposed daytime SOAEL of 60dB LAeq,16hr: "…would be entirely in line with the Government's thinking on this issue."

UNCERTAINTY IN INTEGRATED NOISE MODEL (INM) MODELLING OUTPUTS

- INM had been replaced by FAA's Aviation Environmental Design Tool (AEDT) in May 2015
- ExA asked a number of questions on uncertainty in noise modelling
- The Applicant stated that there was a level of uncertainty associated with any model, as its accuracy is dependent on its parameters.
- Standard margin of error in calculating long-term average noise exposure is ±1 dB and the uncertainty in noise measurements recorded by high quality noise monitors sited appropriately is of a similar order.
- The ExA concludes that uncertainty in the assessment modelling has been adequately addressed because the Applicant has explicitly quantified it as +/- 2dB.

PROPOSED MITIGATION

- The ExA explored the effect of predicted changes in the noise environment on noise sensitive premises and noise sensitive areas during construction and operation and the mitigation which was proposed for:
  - Habitable dwellings - Including caravan parks e.g. Smugglers Leap with 40 homes;
  - Schools;
  - Conservation Areas;
  - Public Open Spaces;
  - Biodiversity and European sites
  - Implications on: Human Rights and Health effects
  - Noise monitoring

MITIGATION

- The ExA considered the proposal for uncapped Air Traffic Movements (ATMs) to be consented in the Applicant's original dDCO concluded that R21(1) in the recommended DCO, which provides an ATM limit was required to ensure that the DCO would reflect the worst-case assessment presented in the ES.
- The ExA considered the application of noise Quota Counts (QCs) to control noise impacts at night.
- R9c proposed by the ExA and accepted by the Applicant, sets a QC for aircraft in the 06:00 to 07:00 period and restricts noisier aircraft with QC 4, 8 or 16.
- The ExA concludes that this measure mitigates noise in the late part of the night-time quota period.

MITIGATION

- The ExA considered the use of a prospective contour to limit annual noise emissions.
- The contour area and relevant noise contours are secured in R9d was proposed by the ExA and accepted by the Applicant.
- The ExA concluded that the contour area cap represents a reasonable approach to mitigate and minimise the population exposed to aircraft noise above the day and night-time LOAEL.

MITIGATION

- The ExA considered the impact of the Proposed Development on schools and the thresholds for noise insulation.
- The ExA concluded that with the restriction of passenger ATMs during the period 09:00 to 12:00 and
- With additional committed funds in the Applicant's UU, significant adverse noise effects would be avoided for schools.

MITIGATION

- The ExA considered proposals for noise monitoring and concludes that R23 proposed by the ExA and accepted by the Applicant, provides an effective control for monitoring, auditing and reporting aircraft noise and mitigating noise effects of the Proposed Development.
- The ExA considered the potential health effects of noise on local communities.
- The ExA concluded that noise insulation and ventilation measures will mitigate and minimise noise effects for residents in closest proximity to the airport subject to the more significant noise impacts and will result in a minimisation of potential health impacts.

MITIGATION

- The ExA considered the potential health effects of noise on local caravan parks and was unable to conclude that noise insulation and ventilation measures for caravans will mitigate and minimise noise effects.
- Therefore the ExA cannot rule out the possibility of potential health effects on caravan occupants.
- The ExA concludes that the proposed interference with the Human Rights of individuals is not justified in the public interest and the degree of interference would not be proportionate.

NIGHT FLIGHTS

- The Applicant's first Noise Mitigation Plan (NMP) included a provision for scheduled night flights between 23:00 to 07:00.
- The Applicant's proposal for night flights was vigorously opposed by many IPs on the grounds of the medical evidence of the effects on sleep and general annoyance which can lead to chronic health effects

NIGHT FLIGHTS

- Applicant proposed a range of measures to mitigate the impacts of noise:
- A ban on aircraft between 11pm and 6am, other than late arrivals, emergency and humanitarian
- A ban on night-time flights (i.e. effectively between 0600 and 0700) of aircraft with a quota count of 4 or higher."
- The ExA considered that the Applicant's restrictive provisions are consistent with the direction of Government policy contained in the ANPS, which require a scheduled night flight ban of six and a half hours between 23:00 to 07:00.
- ExA incorporated the following restrictive wording into new R19b : **"No aircraft can take-off or be scheduled to land between the hours of 2300 and 0600".**

NPSE

- The NPSE states at paragraph 1.7 that: “Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:
  - avoid significant adverse impacts on health and quality of life;
  - mitigate and minimise adverse impacts on health and quality of life; and
  - where possible, contribute to the improvement of health and quality of life”

CONCLUSION

- ExA concluded that the Proposed Development does on balance meet the first aim of the NPSE to avoid significant adverse impacts on health and quality of life from noise for residential and schools receptors,
- However the ExA considers that uncertainty in the assessment i.e. certainty regarding the efficacy of mitigation for up to 40 residential caravan owners means that all significant effects are not avoided. If this is the case the Applicant will consider relocation.
- But relocation has likely significant effects on health and quality of life, therefore in the ExA's opinion it fails to satisfy the first aim of the NPSE;

CONCLUSION

- ExA concludes that on balance the Proposed Development can be said to meet the second aim of mitigating and minimising adverse impacts on health and quality of life from noise; and
- ExA notes that the third aim is to be achieved 'where possible' and consider that the Proposed Development in introducing a new airport cannot be concluded to improve health and quality of life from a noise perspective.
- However, the ExA notes that this aim is only to be applied where possible, therefore the ExA agrees that the Applicant has demonstrated that it has addressed this third aim of the NPSE.

CONCLUSION

- The ExA concludes and recommends that it has only been able to reach this overall conclusion following the proposed introduction by the ExA of the restrictions and other mitigation measures described above and stresses that should the SoS make the DCO but not include the new Requirements set out in this section, then the ExA's conclusion and recommendation would not stand;

CONCLUSION

- Following the ExA's amendments to the Applicants DCO related to the control of noise and appropriate mitigation, and given the evidence presented, the Proposed Development generally accords with:
  - paragraph 1.7 of NPSE;
  - paragraph 5.68 of the ANPS;
  - NPPF paragraphs 170 and 180;
  - PPG on noise 001-012; and
  - policy in the Local Plan with respect to Kent Intl. Airport
- Overall the ExA concluded that noise is a matter which **weighed moderately against giving development consent**.

NOISE CONCLUSIONS

- The conclusions rely on the fact that, amongst other things, the ExA recommend the following provisions which were not included in the dDCO as submitted with the Application:
  - Night-time daytime passenger flight restrictions;
  - A noise contour area and ATM cap;
  - A QC reduction between 06:00 to 07:00;
  - Early morning noise and ATM restrictions;
  - A reduction of the SOAEL level of noise at which insulation and ventilation is offered;
  - A Requirement on monitoring

MANSTON AIRPORT

- **The ExA concluded that 'on balance the benefits of this proposal would not outweigh its impacts' and recommended that the Government should NOT grant development consent.– need, HRA, climate change, noise in October 2019**
- The decision deadline was delayed twice by DfT
- 9 July 2020, one day before the deadline, the Secretary of State for Transport granted consent for the Manston Airport Development Consent Order.
- **Judicially reviewed and this led to the DCO been quashed in February 2021**
- **I HAVE NO FURTHER COMMENT ON THE CASE AS IT IS STILL LIVE**

OXFORD BROOKES UNIVERSITY

SUMMARY

- Noise is a principal issue in most NSIP examinations
- Acknowledge the uncertainty in noise modelling and quantify it
- Do not forget noise impacts on fauna
- Cumulative effects
- Human rights
- Health effects

Biodiversity Net Gain in NSIPs

How BNG should interact with mitigation for protected species & habitats

East of England NSIP Centre of Excellence Session on the Natural Environment
22nd February 2023

Sue Hooton
Principal Ecological Consultant
Place Services at Essex County Council

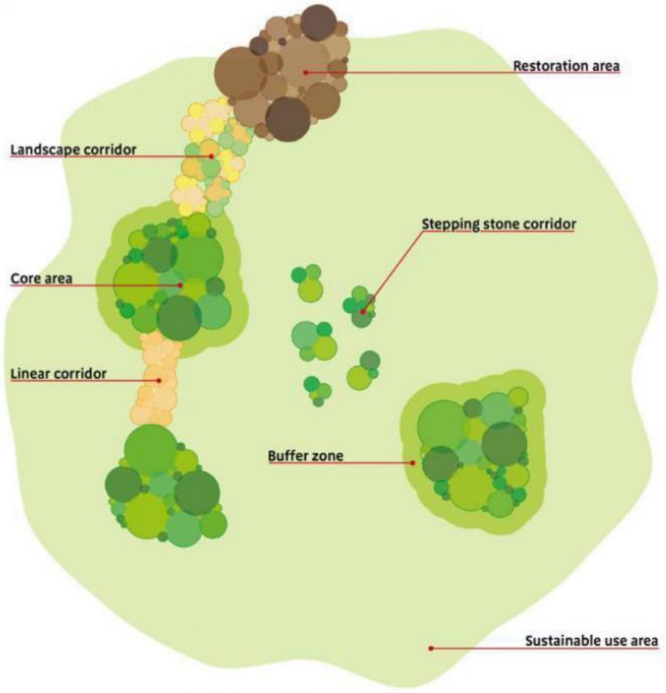
Legal and policy requirements for NSIPs for biodiversity

- Public bodies duty to conserve biodiversity …and soon enhance it too !
- National Policy Statements for NSIPs e.g.EN5 & commitments
- Local Plan policies & SPDs for biodiversity & BNG
- Schedule 15 of the Environment Act 2021 & Levelling Up and Regeneration Bill

Lawton principles and proportionate BNG

"More, Bigger, Better and Joined"
Prof Sir John Lawton, Making Space for Nature (2010)

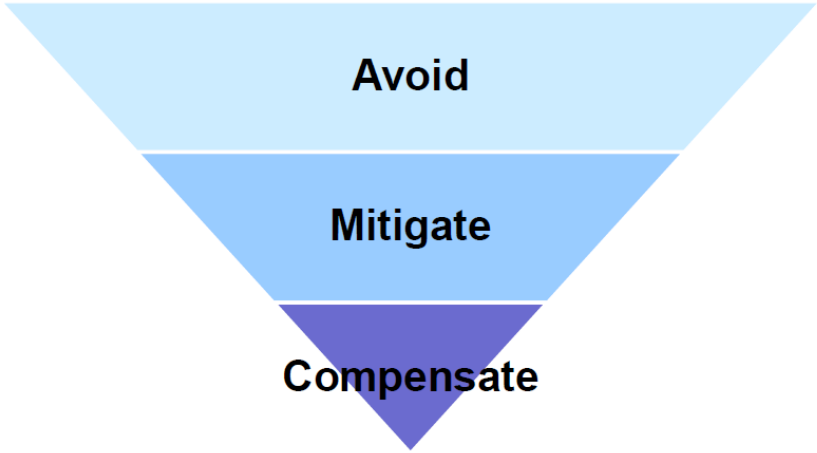
- **Creating new sites**;
- **Increasing the size** of wildlife sites;
- Protecting what we have, while improving its quality with **better management** including through **buffers** for wildlife sites;
- **Enhancing connection** by creating new wildlife corridors or stepping stones;



BNG and a genuine and meaningful outcome

The Metric and the Mitigation Hierarchy

- The metric sits within a decision framework based on the mitigation hierarchy
- It is a tool to aid decision making NOT a decision tool
- The metric recognises the importance of place. It seeks to:
  - enhance biodiversity in the locality of impacts
  - contribute to England's ecological network by creating more, bigger, better and joined areas for biodiversity.



- The core principles of Biodiversity Net Gain e.g.: additionality, not trading down etc. should be applied

BNG and a genuine and meaningful outcome

The 'Detailed results' provide:

- A detailed breakdown of the habitat area and biodiversity units lost and gained at the broad habitat level

On site change by broad habitat type						
	Baseline		Post development on site		Onsite Change	
Habitat group	Existing area	Existing value	Proposed area	Proposed value	Area change	Onsite Unit change
Cropland	0.88	1.76	0.00	0.00	-0.88	-1.76
Grassland	2.81	6.66	0.52	3.54	-2.29	-3.12
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	3.18	5.91	3.18	5.91
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.19	1.52	0.19	1.52	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00

Biodiversity Metric – Trading issues for protected habitats

Rule 3: 'Trading down' must be avoided. Losses of habitat are to be compensated for on a 'like for like' or 'like for better' basis. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than those lost. Losses of irreplaceable or very high distinctiveness habitat cannot adequately be accounted for through the metric.

Small area of Other Neutral Grassland

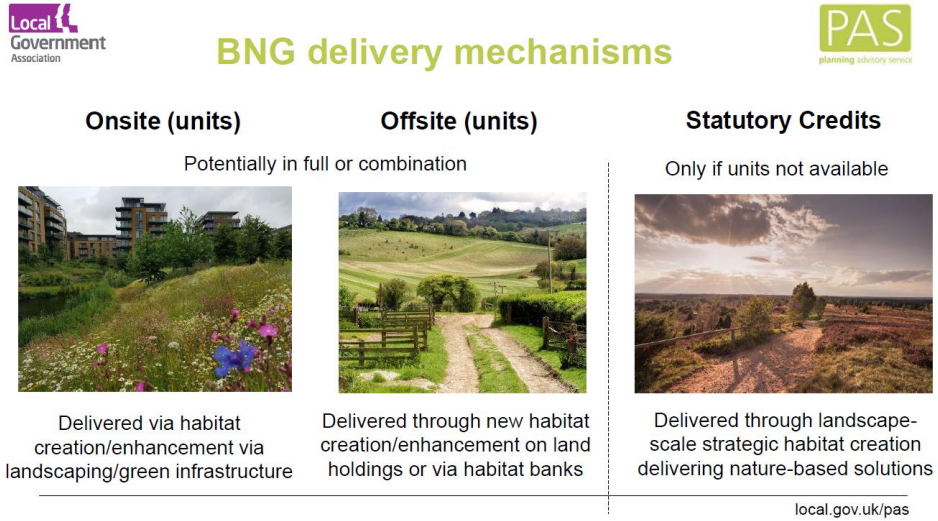
Large area of Modified Grassland

Ensuring BNG in NSIPs delivers for protected species & habitats

Ensuring BNG in NSIPs delivers for protected species & habitats

Onsite - offsite BNG

- Linear NSIPs may not retain sufficient land post construction for 10% onsite BNG
- Response to BNG Regulations consultation just published
- Habitat enhancement /habitat creation ?
- Locations of offsite BNG – local/national ?
- “Banked” habitat in advance ?



Monitoring of BNG delivered

- Risk that calculated gains might not translate to much on the ground so monitoring is essential.
- Large scale NSIPs need BNG to be proportionate
- Embedded into onsite land management plan for 30 years minimum
- Delivery of promised condition of habitats within the timescales identified by Metric
- Support delivery of Local Nature Recovery Networks ?

BNG in NSIPs – How it should interact with mitigation for protected species & habitats

Summary

- LAs and SoSs have a legal biodiversity duty as well as NPS requirements
- Following Lawton principles should deliver meaningful and genuine BNG
- NSIPs should deliver BNG for protected species & habitats as well as mitigation
- Onsite – offsite BNG both for minimum 30 years
- Monitoring of BNG delivered needs to be secured under DCO to support LA auditing

Thanks for listening

Sue Hooton Principal Ecological Consultant Placeservicesecology@essex.gov.uk

Essex County Council

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Challenges and Benefits of Undergrounding Cables and Cumulative Impacts

22 February 2023

Overview

1. What constitutes OHL development
2. Guidance for successful integration
3. Challenges in the East of England
4. How to minimise cumulative effects
5. Is undergrounding the solution?

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400kV OHL Development

- Lattice pylons 45-50m in height
- Differing pylon types –suspension/deviation
- Length of transmission routes
- Main impacts – landscape and visual

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Guidance – Holford Rules

- Rules 1 & 2: Avoid valued landscape
- Rule 3: Avoid changes in direction
- Rule 4: Backdrop with landform/vegetation
- Rule 5: Valleys with woods
- Rule 6: Create coherence
- Rule 7: Avoid residential areas

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Challenges in the EoE

- Dispersed pattern of settlement
- Lowland landscape, subtle topography
- East-west valleys – narrow and shallow
- Valley landscapes are sensitive
- Plateau landscapes - large scale, simple

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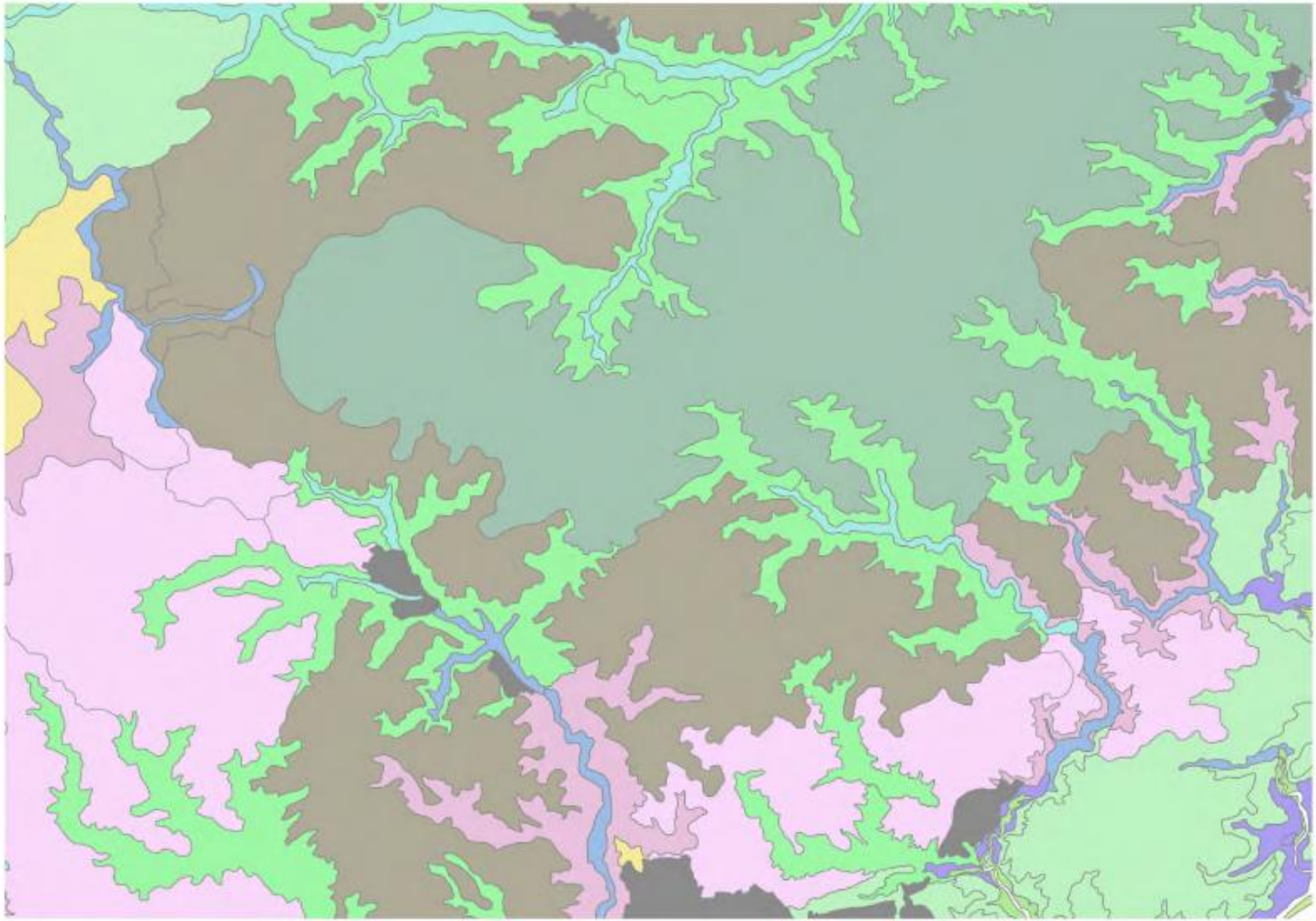

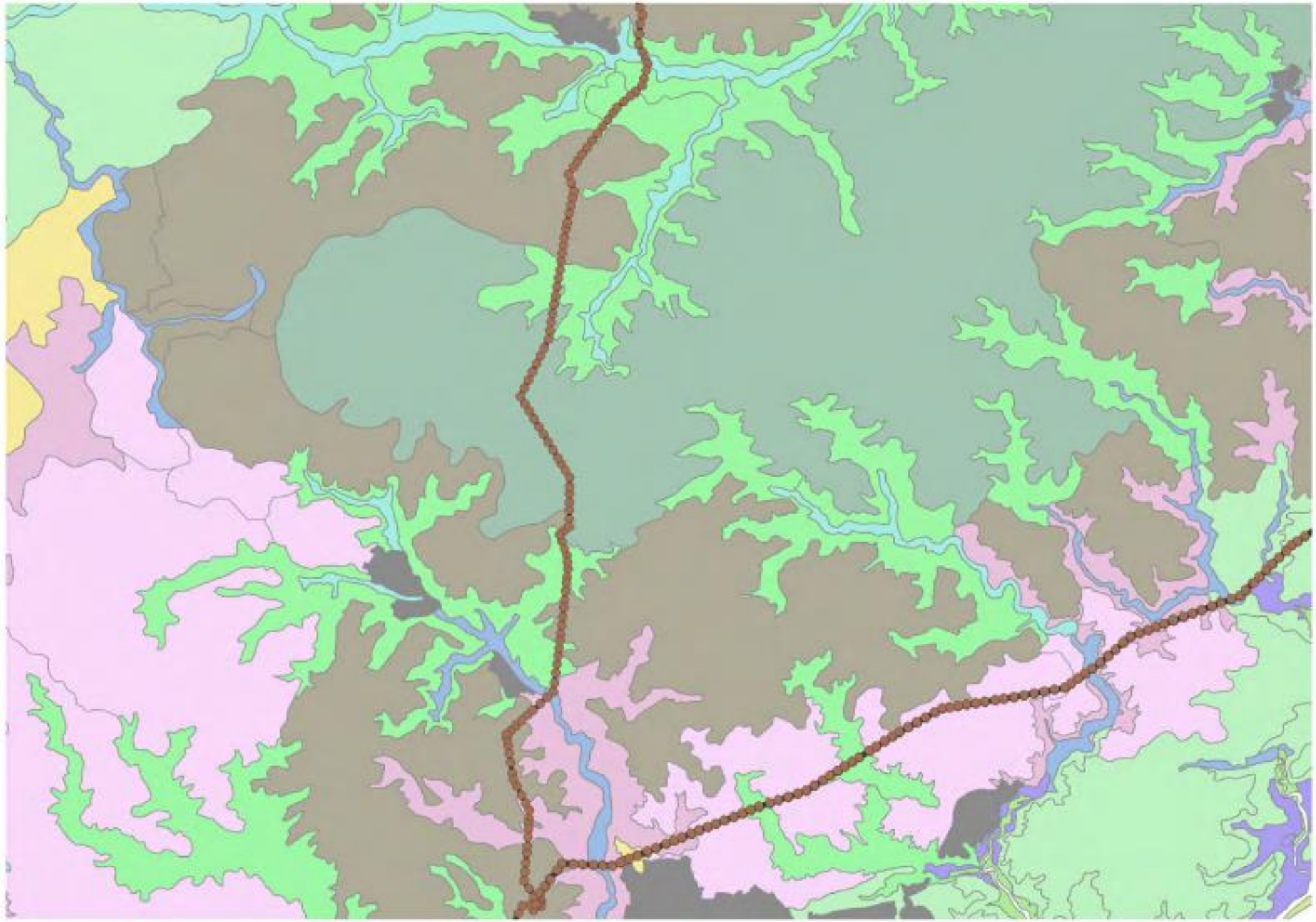

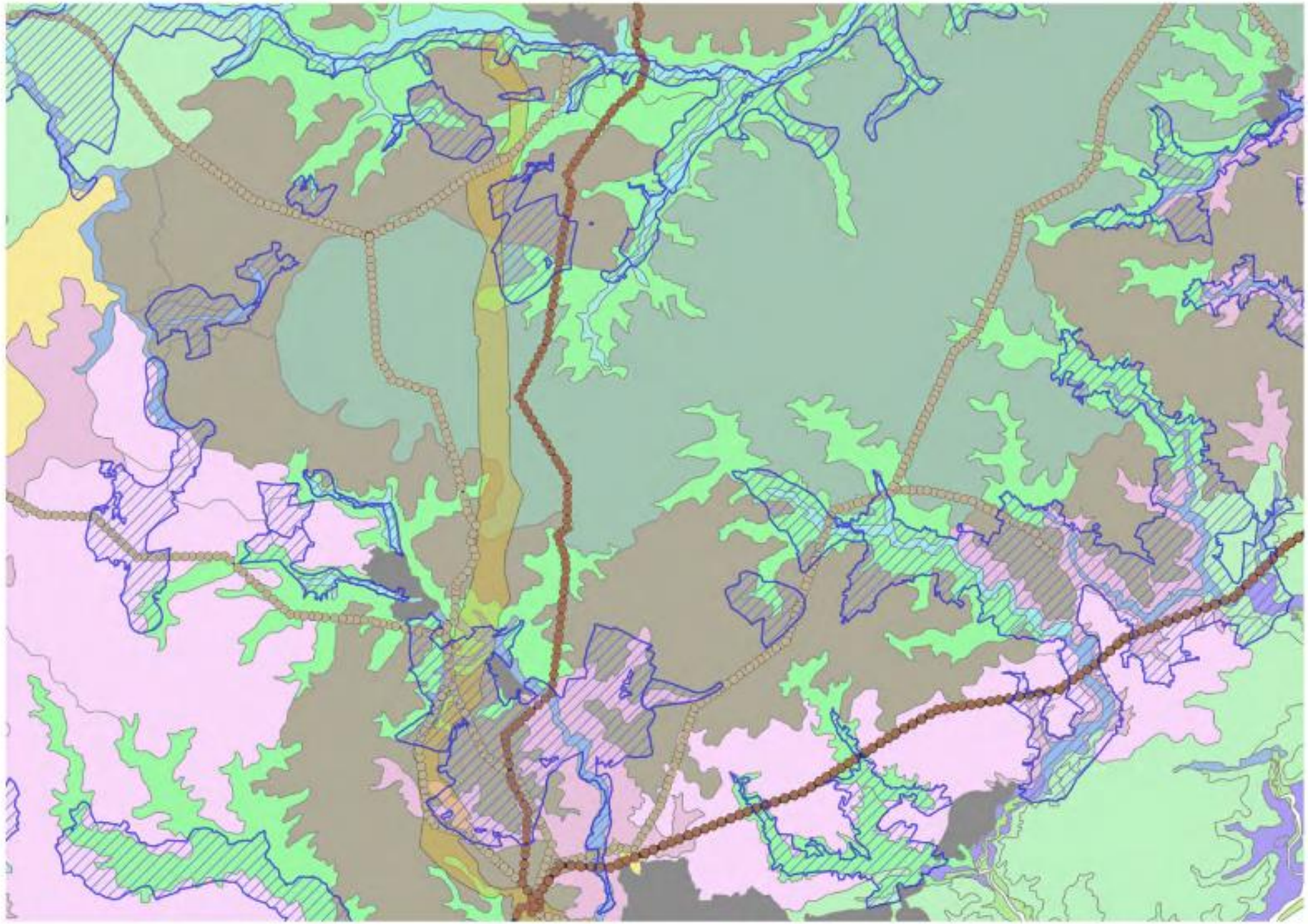

NG Mitigation Hierarchy

1 Routeing
2 Planting
3 Design
4 Wirescape rationalisation
5 Undergrounding

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1. Routeing Challenges

- Existing OHL adopt the most suitable routes
- Close parallel routes may present:
  - Technical difficulties
  - Landscape has no further capacity
  - Mix of pylon sizes – 132kV and 400kV

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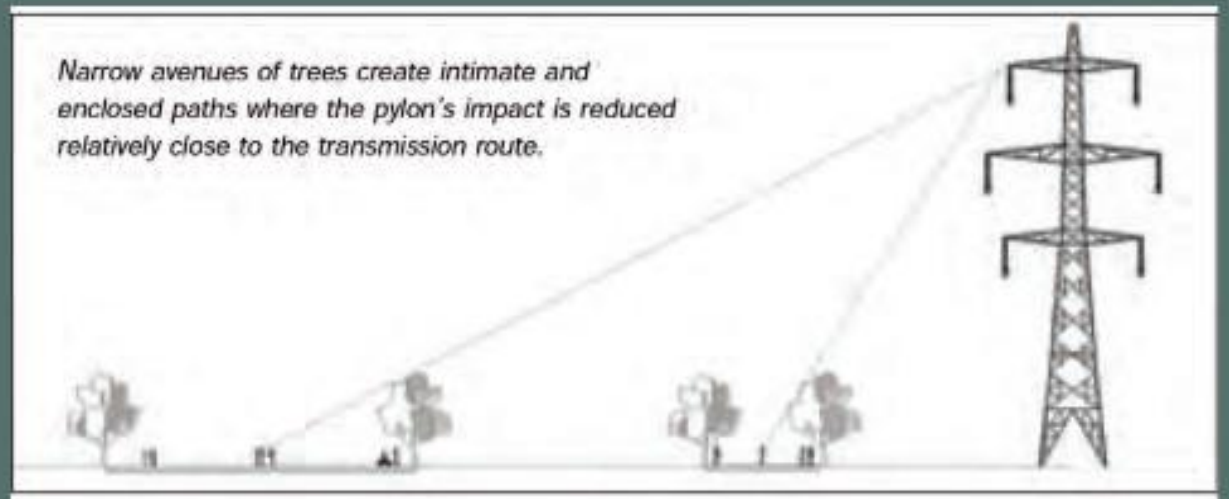
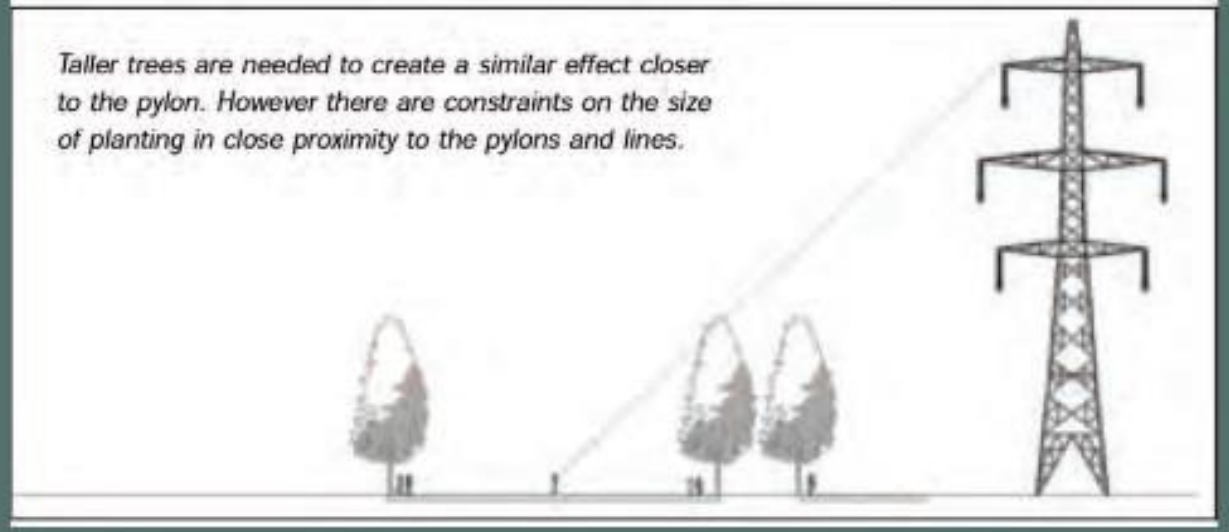
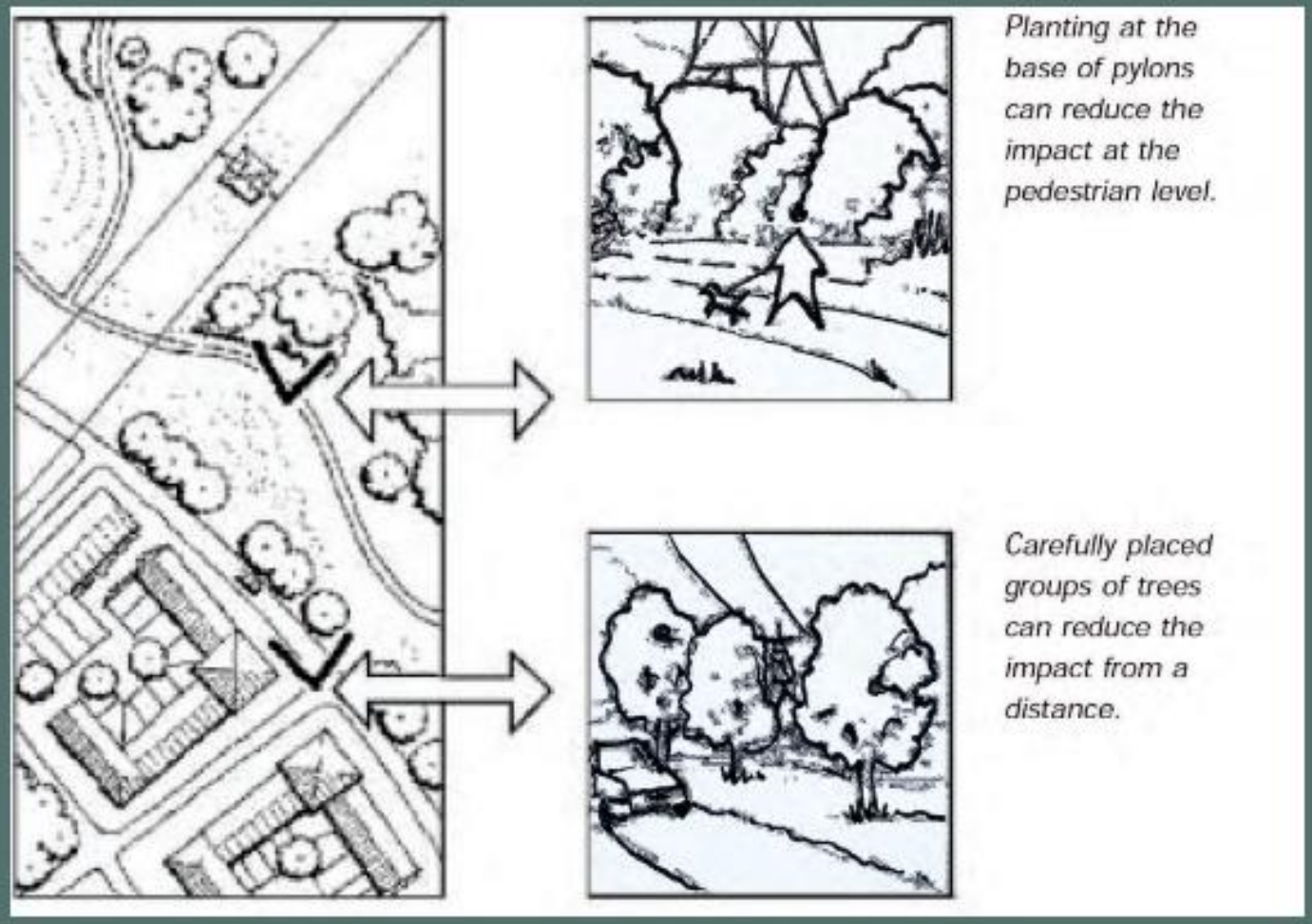
2. Planting


Narrow avenues of trees create intimate and enclosed paths where the pylon's impact is reduced relatively close to the transmission route.


Taller trees are needed to create a similar effect closer to the pylon. However there are constraints on the size of planting in close proximity to the pylons and lines.

2. Planting Cont.



Planting at the base of pylons can reduce the impact at the pedestrian level.

Carefully placed groups of trees can reduce the impact from a distance.

3. T-Pylon Alternative

- 35m high
- White & solid
- Good in flat landscapes
- Visual confusion with lattice towers

4. Rationalisation

- Reference to UK Power Networks interactive mapping
- 132kV routes where ‘highly utilised and or reinforcement is required’
- 132kV routes with ‘limited capacity’
- Re-organisation to increase capacity

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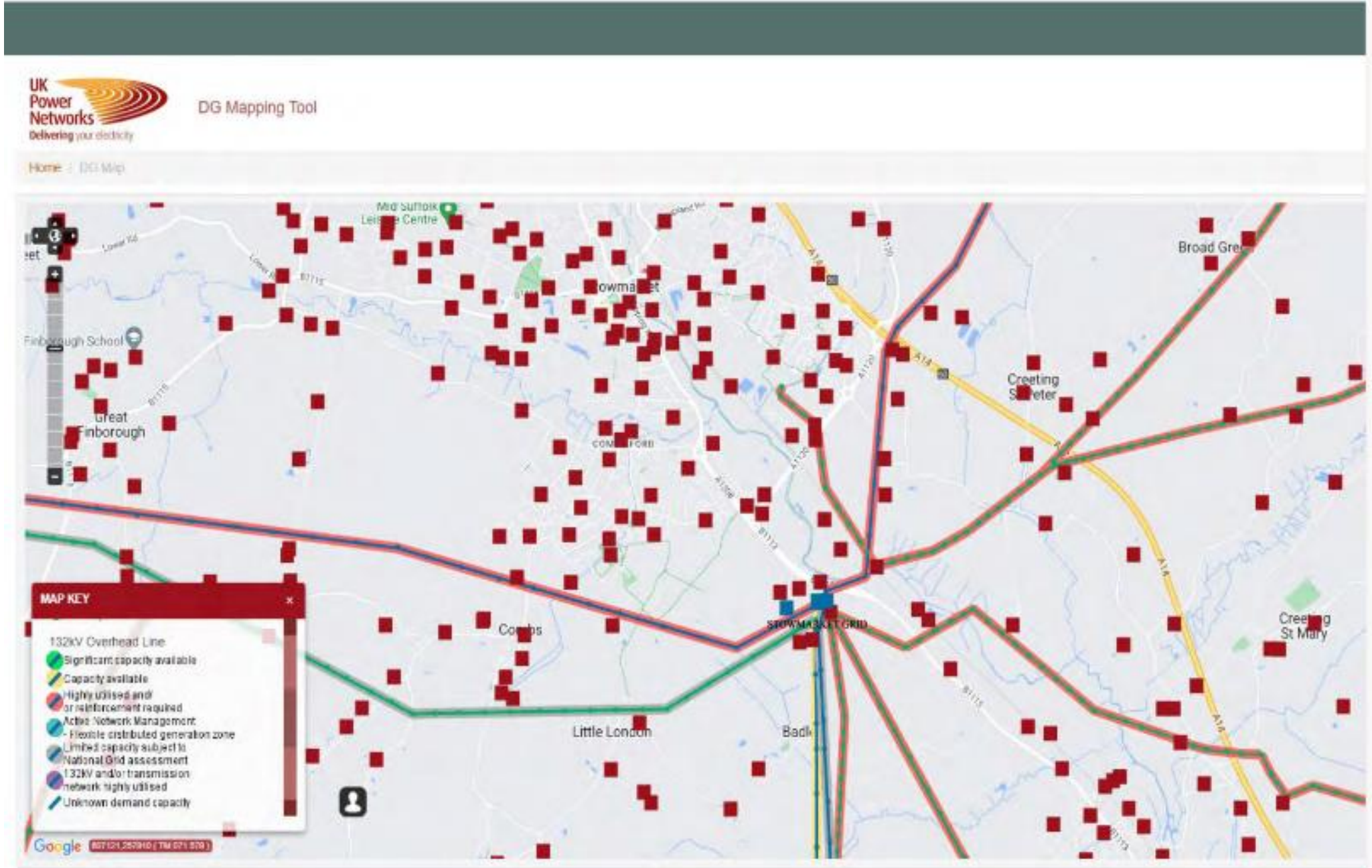
UK Power Networks
Delivering your electricity
DG Mapping Tool
Home
Great Finborough
Broad Green
Creeting St Peter
Creeting St Mary
Coddenham
Little London
STOWMARKET GRID
MAP KEY
132kV Overhead Line
Significant capacity available
Capacity available
Highly utilised and/or reinforcement required
Active Network Management - Flexible distributed generation zone
Limited capacity subject to National Grid assessment
132kV and/or transmission network highly utilised
Unknown demand capacity
Google

5. Undergrounding

- EN-1 undergrounding in protected landscapes
- Draft EN-5 para 2.11.20 states:

'where there is a high potential for widespread and significant landscape and/or visual impacts, the Secretary of State should also consider whether undergrounding may be appropriate, now on a case-by-case basis'…

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Is undergrounding a Solution?

- Large cable swathe – 65m in width
- Widens every 500-1000m for jointing
- Visual effects are temporary but physical effects can be significant
- Cable Sealing End compound – 300 x 80m and pylon which transitions the cable conductor to OHL

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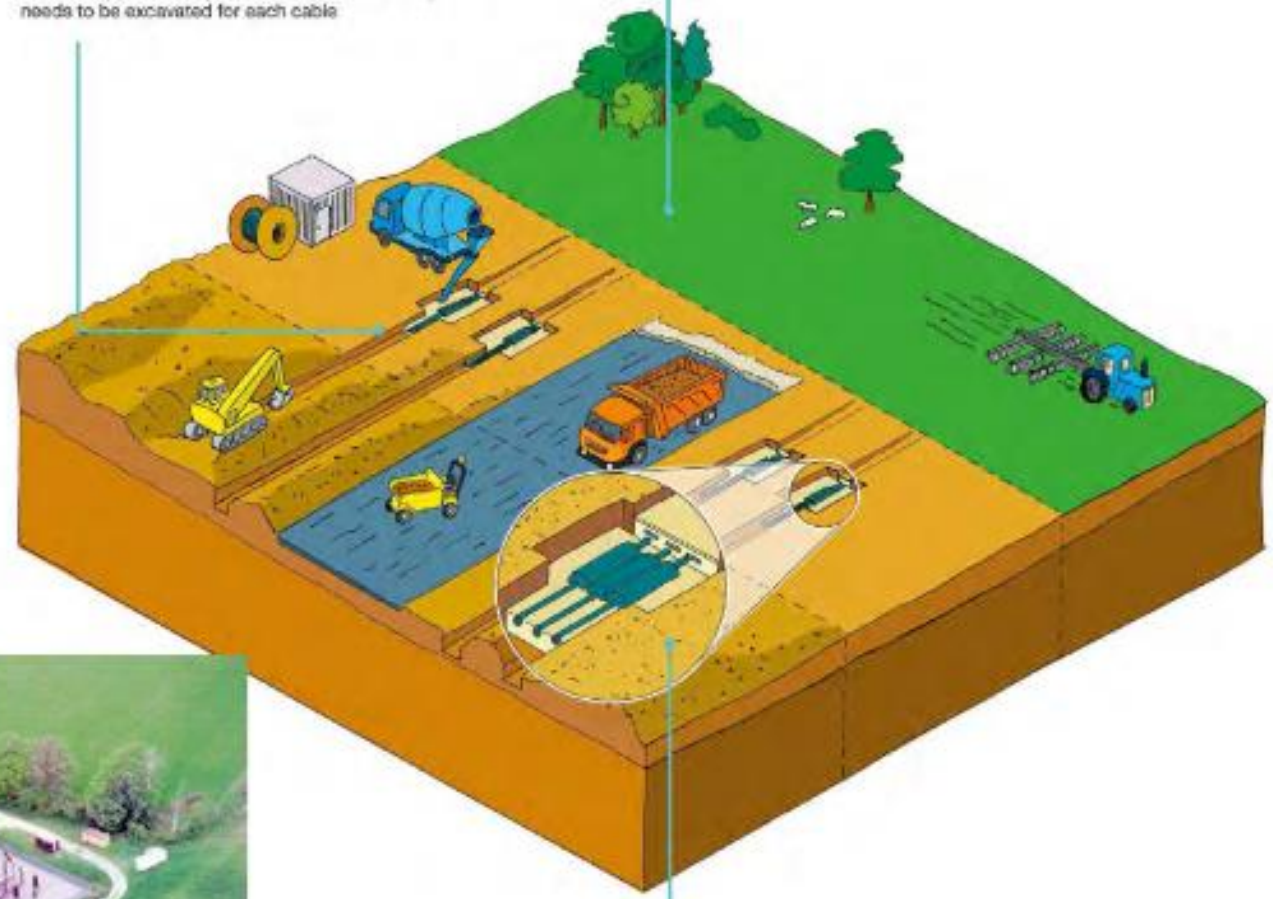
Direct Buried Cable Installation

For a 400kV double circuit connection we would need to excavate four trenches each containing three cables

A trench approximately 1.5m wide and 1.2m deep needs to be excavated for each cable

Once land is reinstated, land-use restrictions may apply to avoid risk of cables being disturbed or damaged



rking width of the land

Joining bays are needed where one section of cable joins the next

Set out the Case

- Landscape sensitivity
- Consider nature of effects given landform, landscape scale, extent of woodland and settlement pattern
- Demonstrate mitigation can not address
- Demonstrate effects of undergrounding would be less adverse

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Conclusions

- Complex issues
- Each area of landscape has its own set of constraints
- Rationalisation / Undergrounding
- Search for creative solutions
  - integrate the new
  - improve the existing

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AFA

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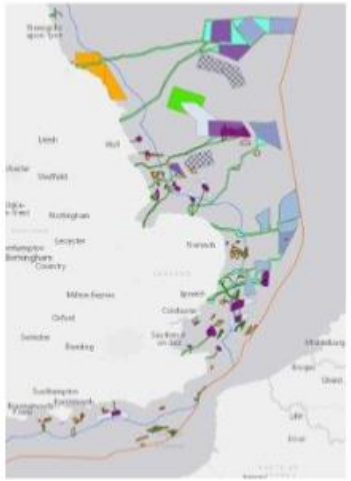


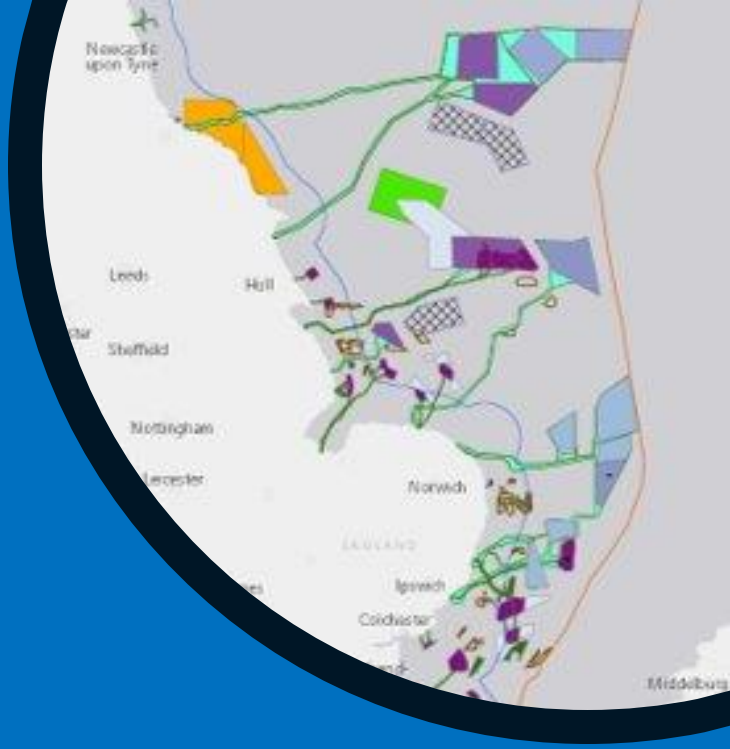


NSIP Centre of Excellence – Coming up

NSIPs East of England Centre of Excellence Conference
The Apex, Bury St Edmunds

- Free of charge conference for local authority officers
- More information and booking details can be found in today's session brochure

Wednesday March 15th 2023



PLEASE FILL IN THE FEEDBACK QUESTIONNAIRE

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