National Grid
Electricity Transmission

Environment consultation

July-August 2018

About this consultation

In 2017, we ran a programme of engagement activities as the England and Wales Electricity Transmission network to understand our stakeholders' priorities and explore what they would like us to focus on in our future business plans.

From this engagement, we established eight stakeholder priorities and three consumer priorities. Caring for the environment is one of these.

Using these priorities as the basis for our engagement topics, throughout 2018 we are talking to stakeholders about what they would specifically like to see in our plans for the next regulatory period, RIIO-2, which begins in 2021.

As part of this programme, we held a workshop on 26 June 2018 to consult stakeholders on the parts of our business plans which relate to our impact on the environment. This online consultation is based on the material discussed at the workshop, and provides an opportunity for those stakeholders not at the event to provide feedback on this topic.

About this consultation (continued)

We will incorporate the feedback from this consultation with what we heard at the workshop and through other engagement activities.

With input from our Stakeholder Group and Ofgem's Consumer Challenge Group, we will then use this to develop our RIIO-2 business plans.

We will publish the first draft of these plans in early 2019, so that stakeholders can review our proposals and let us know whether we've correctly interpreted their requirements.

We will continue to share updated plans with stakeholders before final submission to Ofgem in late 2019.

For more details of our engagement programme, please visit http://yourenergyfuture.nationalgrid.com/electricity-transmission/get-involved/

Consultation topics

This consultation follows the same structure as our June 2018 workshop.

Stakeholders are invited to provide feedback on the specific topic(s) that interest them most – we have split the consultation by topic to make this as easy as possible.

Each topic follows the same structure:

- Slides to introduce the subject and allow stakeholders to provide an informed opinion
- A short online survey to collect feedback

Consultation topics (continued)

Sections within this consultation are as follows:

1. **Introduction to National Grid**: for information, no consultation
2. **Our environmental approach**: an overview of our environmental sustainability strategy and the targets we have set ourselves, plus details of our current performance. General comment invited.
3. **The environmental impact of decision making**: how should we approach our investment decision-making process from a carbon perspective? Consultation questions plus general feedback.
4. **Visual impact**: how should we approach new and existing transmission lines from a visual impact perspective? Consultation questions plus general feedback.
5. **Construction**: how should we approach our construction activities from an environmental perspective? Consultation questions plus general feedback.
6. **Managing our land**: what should our approach be to land management and what do you think is our environmental corporate responsibility? Consultation questions plus general feedback.

Section 1
Introduction to National Grid

National Grid: what we do

- England & Wales Electricity Transmission Owner (TO)
  - own, build and maintain the network
- GB Electricity System Operator (SO)
  - balance the system and ensure that voltage and frequency are kept within acceptable limits
- GB Gas TO & SO
  - own, maintain and operate the gas National Transmission System (NTS) in Great Britain, with day-to-day responsibility for balancing supply and demand
- US interests
  - generation, electricity Transmission and Distribution, gas Distribution in New York, Massachusetts and Rhode Island
- **This consultation is for Electricity Transmission, not including the SO**

National Grid Electricity Transmission

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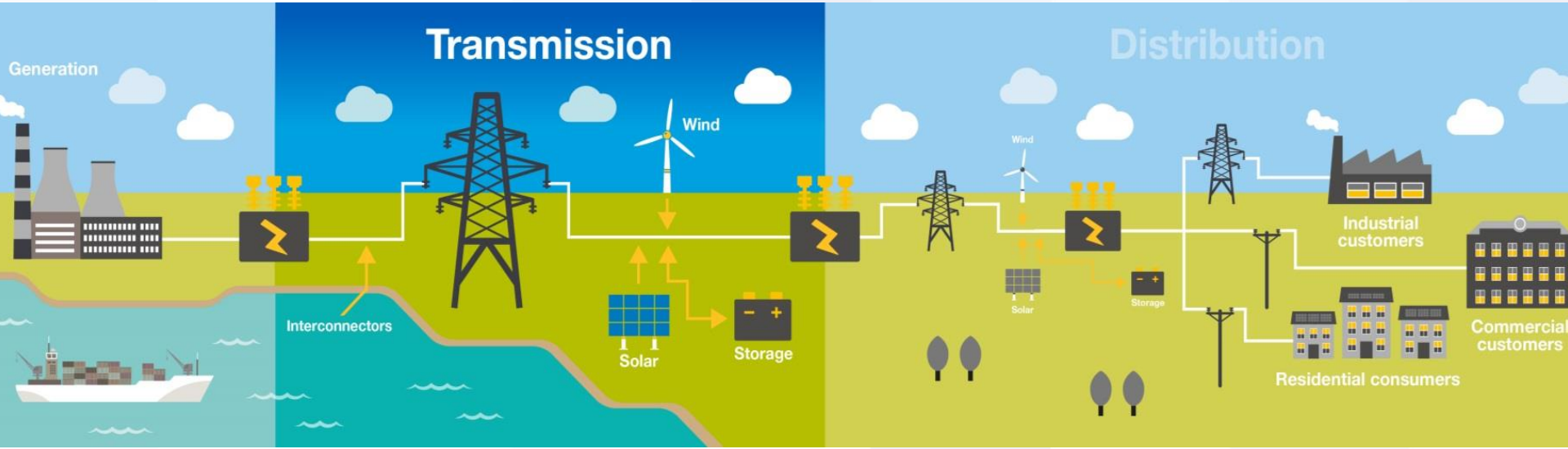
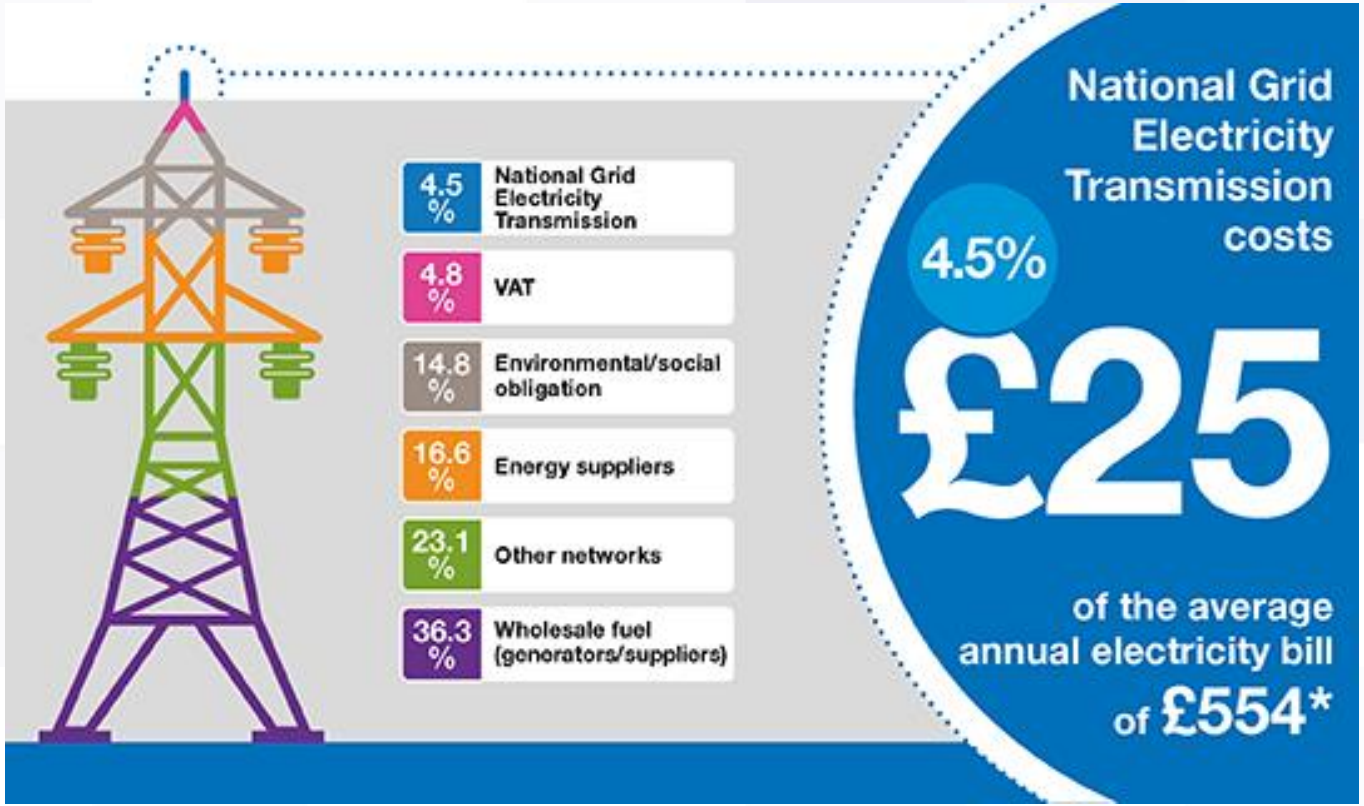


- Our network operates at 400,000, 275,000 and 132,000 volts
- 45 power stations, 12 Distribution networks and 3 interconnectors are connected to our network, along with a few, large directly connected customers

- What we **don't** do:
  - Generate electricity in the UK
  - Own or operate UK electricity Distribution networks
  - Sell electricity to end consumers in the UK

Our impact on the household bill



Note: we use Ofgem's methodology to calculate our bill impact. For more details on household bills, please visit the Ofgem website.

*2016/17 figures

RIIO: our regulatory framework

Outputs for the RIIO-T1 period (2013-2021)

- Safety
- Reliability
- The environment
- Customer connections
- Customer satisfaction

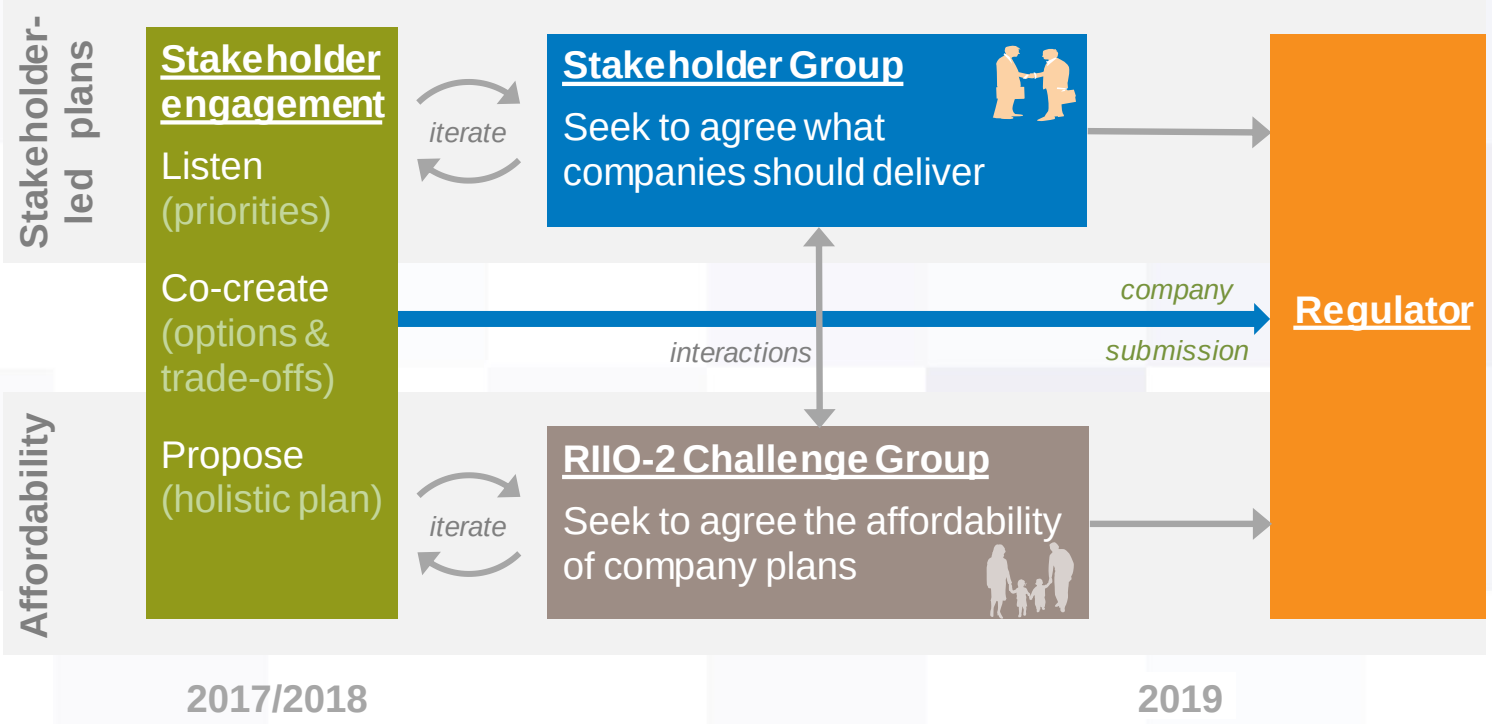
Ofgem's key themes for the RIIO-2 consultation

- Ensuring fair returns
- Responding to changes in how networks are used
- Giving consumers/stakeholders a stronger voice
- Driving innovation and efficiency
- Simplifying the price control

Our approach

- This consultation is part of a wider programme of stakeholder engagement to help us build our business plans for RIIO-2
- We're following a *constructive engagement* approach
- This involves listening to what you need from us, creating our plans with you, then checking that our plans reflect what you've told us

Constructive engagement



What we've heard from our *Listen* phase

In no particular order, our stakeholders have told us that these are their priorities:

Electricity stakeholder priorities
I want you to provide a reliable network, so that electricity is there whenever I need it
I want you to provide value for money
I want you to care for communities and the environment
I want your network to be safe and protected from external threats
I want you to enable the ongoing transition towards the energy system of the future
I want you to make it easy for me to connect to and use the electricity network
I want you to be transparent and easy to work with
I want you to be innovative

What happens after this consultation

- Our commitment
  - We'll process everything you tell us
  - We'll combine your feedback with the output from our workshop and other sources
  - We'll ask our Stakeholder Group to scrutinise this and we'll use it to form our RIIO-2 business plan
  - We'll publish our plan and all updates on our website, and keep you informed through our regular newsletters

Consultation sections

The rest of this consultation is split into sections. You can click on the links below to view the material on each section and to provide your feedback.

Our environmental approach
An overview of our strategy, targets and performance.

The environmental impact of decision making
How should we approach our investment decision-making process from a carbon perspective?

Visual impact
How should we approach new and existing transmission lines from a visual impact perspective?

Construction
How should we approach our construction activities from an environmental perspective?

Managing our land
What should our approach be to land management and environmental corporate responsibility?

Section 2
Our environmental approach

The energy landscape is changing and we have a key role to play in decarbonisation

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The changing energy landscape

Planning for a low-carbon future – helping decarbonise society's energy needs

Connecting low-carbon generation

How we'll operate the system in the future

The big picture

Impact of climate change
Extreme weather

Paris Agreement COP 21

Clean Growth Strategy
Clean Air Act

Companies reporting to the UN Sustainable Development Goals

25 Year Environment Plan

Our strategic targets

Our Climate Commitment:

- 80% reduction in GHG emissions by 2050.
- 45% reduction in GHG emissions by 2020.
- Implement carbon pricing on all major investment decisions by 2020.
- Reduce capital carbon of our major construction projects by 50% by 2020.
- Increase energy efficiency of our property portfolio by 10% by 2020.

Responsible Resource Use:

- Reuse or recycle 100% of recovered assets by 2020.
- Send zero office waste to landfill by 2020.

Caring for the Natural Environment:

- Recognise and enhance the value of our natural assets on at least 50 sites by 2020.
- Drive net gain in environmental value (including biodiversity) on major construction projects by 2020.

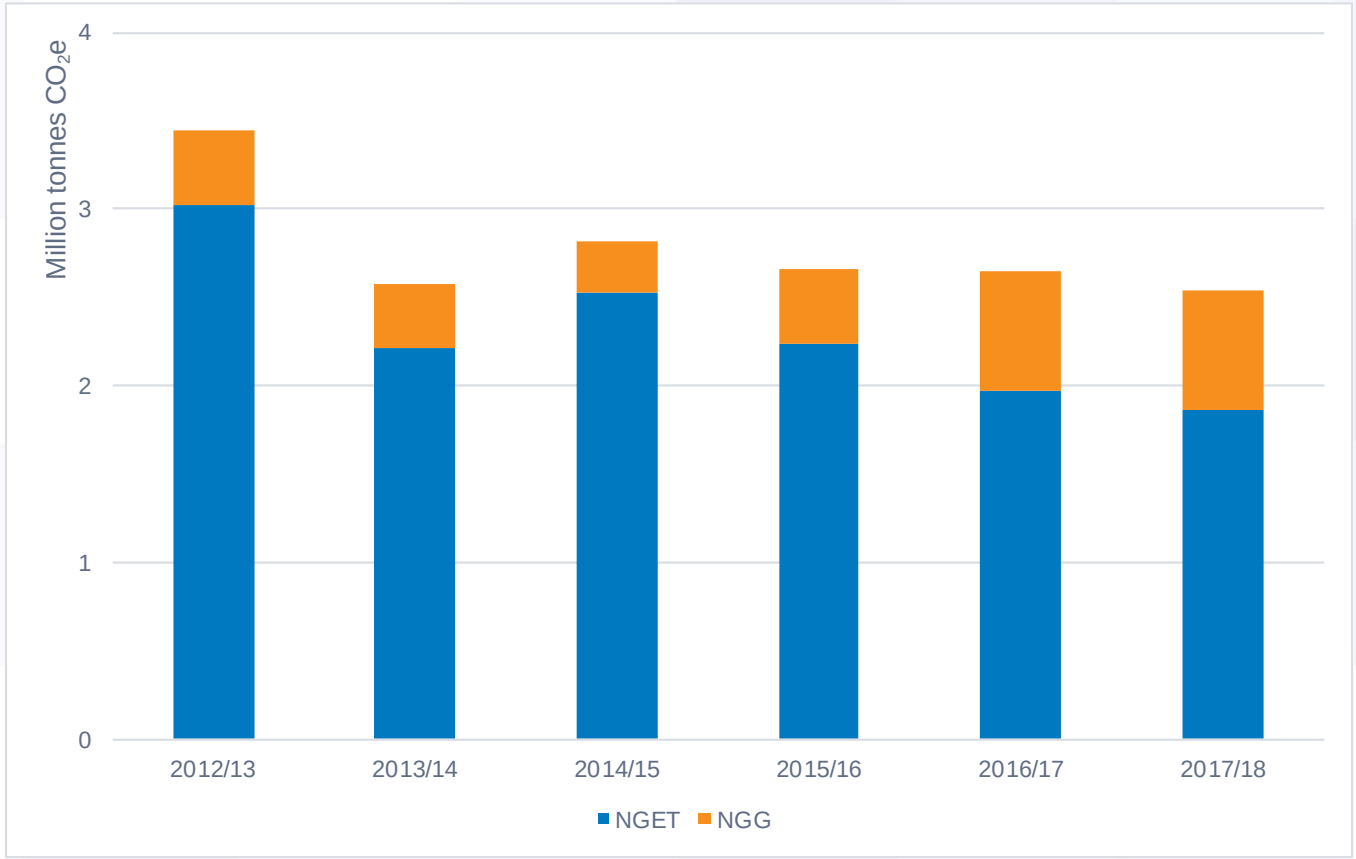
Carbon pricing

- We have a National Grid Group internal carbon pricing policy. When fully implemented this will use a non-traded carbon price to inform our major investment decisions.

- RIIO-T1 regulatory incentives are underpinned by a carbon price. Our SF_6 incentive includes a non-traded carbon price as part of the formula to calculate the incentive.

- A 'non-traded' price is used to for emissions not covered by a traded carbon market

Our carbon emissions: GB

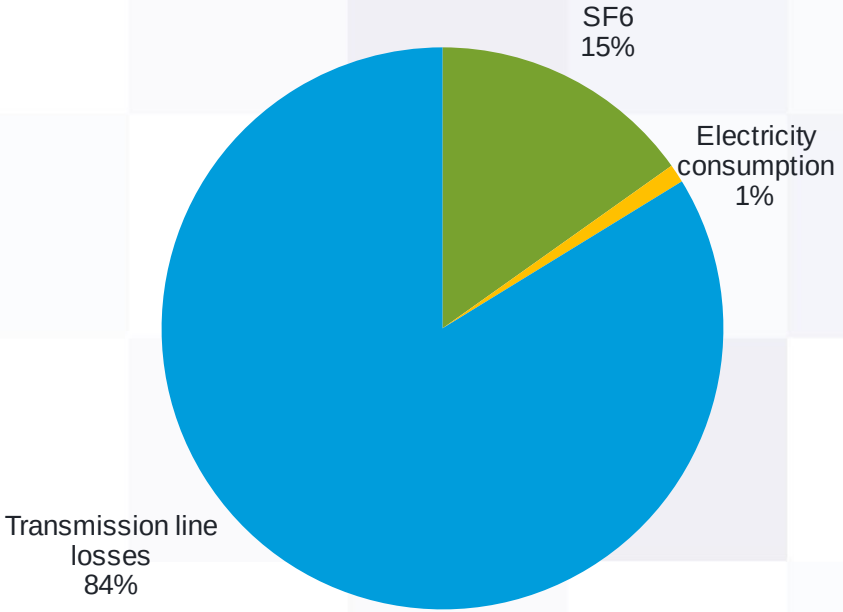


Overall emissions for our GB business

NGET = National Grid Electricity Transmission

NGG = National Grid Gas

Greenhouse gas emissions from our GB Electricity Transmission business



1.9 m tonnes

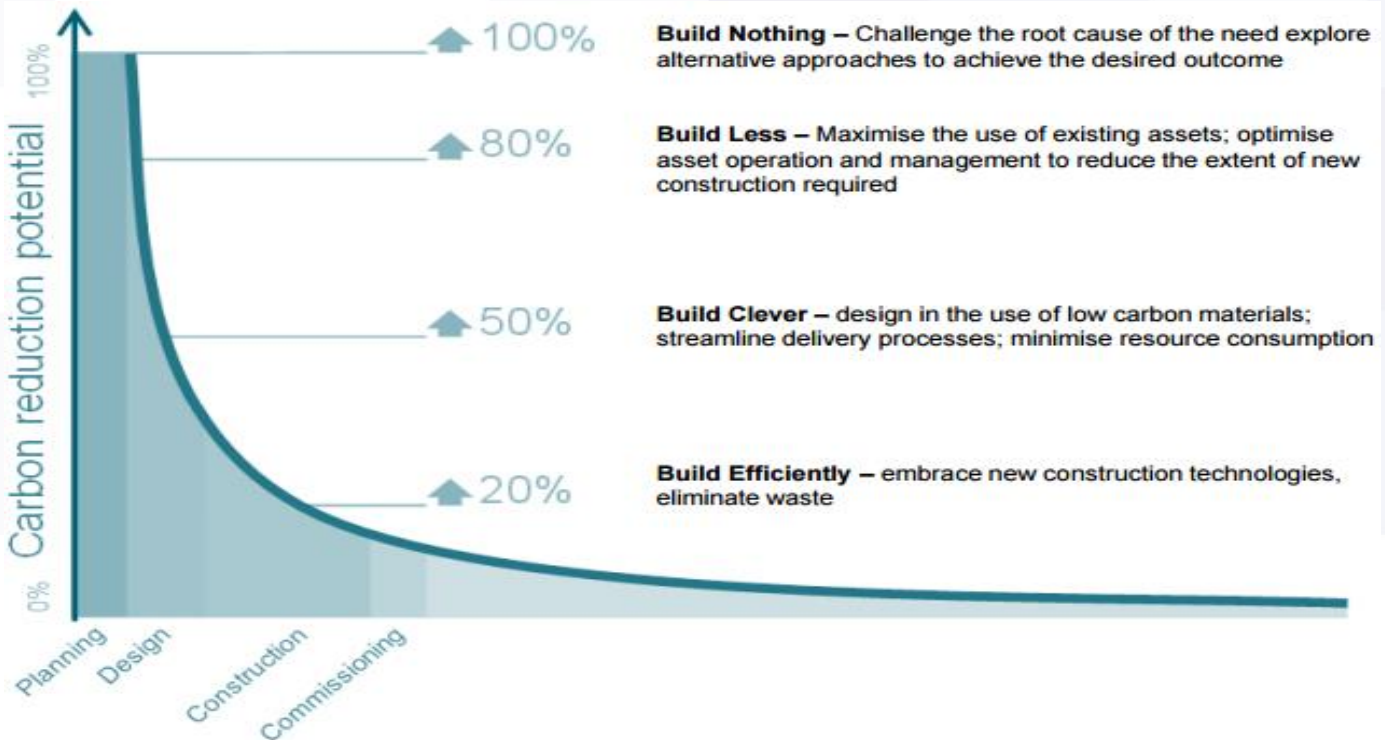
2017/18 figures

SF_6 = sulphur hexafluoride

SF_6 is an insulating gas which allows us to install high voltage equipment in smaller spaces. However, it has a very high Global Warming Potential of around 23,000 times that of CO_2

Our climate commitment: construction

Our ability to influence carbon impact decreases as we progress through a project



37% reduction in capital carbon intensity from 2015

Resources

- Majority of metallic assets are re-used / re-cycled
- In 2017/2018, 96% of waste was diverted from landfill
- We have a new pledge to ban single use plastics from our offices by 2020

Environmental Value

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Biodiversity Net Gain

- New way of assessing biodiversity impacts and opportunities
- Development that enhances biodiversity and contributes towards wider strategic priorities
- Builds on the mitigation hierarchy:

- Considers wider values and services provided by the natural environment

Environmental Value

Natural Capital

- Defined as the world's stores of natural assets
- Includes geology, soil, air, water and all living things

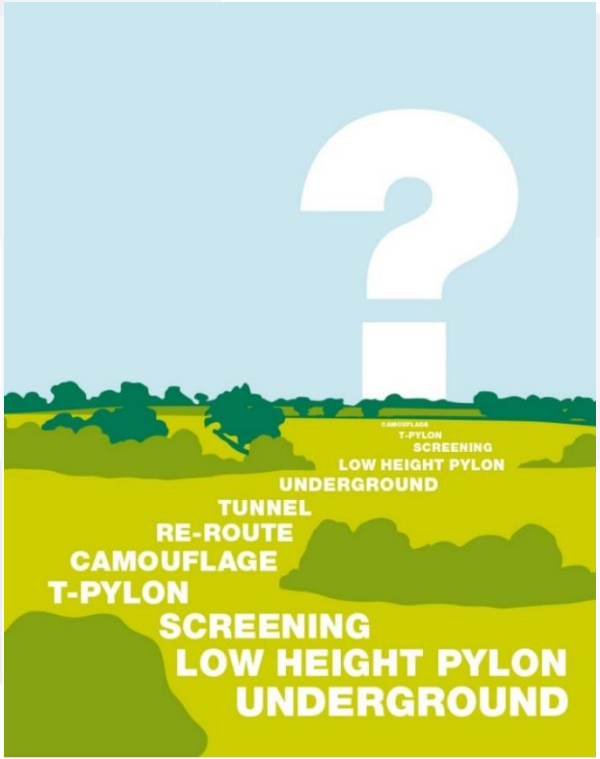
- Natural Capital Value is a financial representation of the benefits and services that Nature provides to society and businesses
- Includes visual screening, flood control, improved air quality, raw materials, recreation, clean water, etc

Caring for the natural environment

- We own over 7,000 hectares of land (that's 7,000 football pitches!)
- Managing this effectively is important for the environment, local communities and our business
- The UK is one of the most nature-depleted countries in the world
- Target of 50 sustainability action plans by 2020
  - Increase potential Natural Capital Value by 30%
  - Reduced health and safety risks by 22%
  - Improved local community relationships

Visual impact

- Current Visual Impact Provision scheme (VIP) focuses on Areas of Outstanding Natural Beauty (AONBs) and National Parks
- £500m available across all GB Transmission networks in RIIO-T1
- Different solutions include:
  - Undergrounding (cables)
  - Non-engineered solutions – Landscape Enhancement Initiative e.g. High Weald *Beautiful Boundaries* scheme



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- Please click here to provide your feedback now

- Or click here to return to the consultation menu

Section 3

The environmental impact of decision making

We have many investment considerations

Location: Coastal, industrial, residential, available space?

Land: Already owned, available to buy, cost?

Planning: Permission available/required, surveys, conditions?

Environmental: Carbon, ecology, visual impact, contamination, noise?

Construction: Carbon, groundworks, transport, timeframe, cost ?

Maintenance: Resources, frequency, accessibility?

Technology: Air insulated, gas insulated, cable, overhead line?

And several have an environmental impact…

Location: Coastal, industrial, residential, available space

Land: Already owned, available to buy, cost

Planning: Permission available/required, surveys, conditions

Environmental: Carbon, ecology, visual impact, contamination, noise

Construction: Carbon, groundworks, transport, timeframe, cost

Maintenance: Resources, frequency, accessibility

Technology: Air insulated, gas insulated, cable, overhead line

An example:
Air Insulated vs Gas Insulated substations

Carbon in our decision-making process

- In gas insulated equipment, we use SF_6 as an insulating gas
  - Allows us to install high voltage equipment in smaller spaces
  - Very high Global Warming Potential, c.23,000 times that of CO_2
  - Equipment leaks (c.1.14 % across network)
  - We minimise leaks by replacements
  - Our current target is to minimise total percentage leak rate (more detail can be found on page 16 of Ofgem's Annual Report)

Carbon in our decision-making process

- Insulating gases: alternatives
  - Some alternatives are on the market
  - Trialled g^3 in our assets
  - Trials of g^3 for 132,000 volts have been successful
  - g^3 has a Global Warming Potential (GWP) of 345
  - 98% better than SF_6, but is that still too high?
  - Other companies are working on alternatives with lower GWP, but these are not yet market ready

The future for insulating gas

What should our approach be in the future?

1. No change, continue with our current approach
2. We could put g^3 in all new 132kv assets (+5% on cost of gas vs SF_6 – c.£4k/site)
3. We could develop 400kv g^3 solutions (estimated innovation costs of £6m over 5 years – around 2p per year on household bills – then +5% on cost of gas)
4. We could work to develop additional solutions to g^3

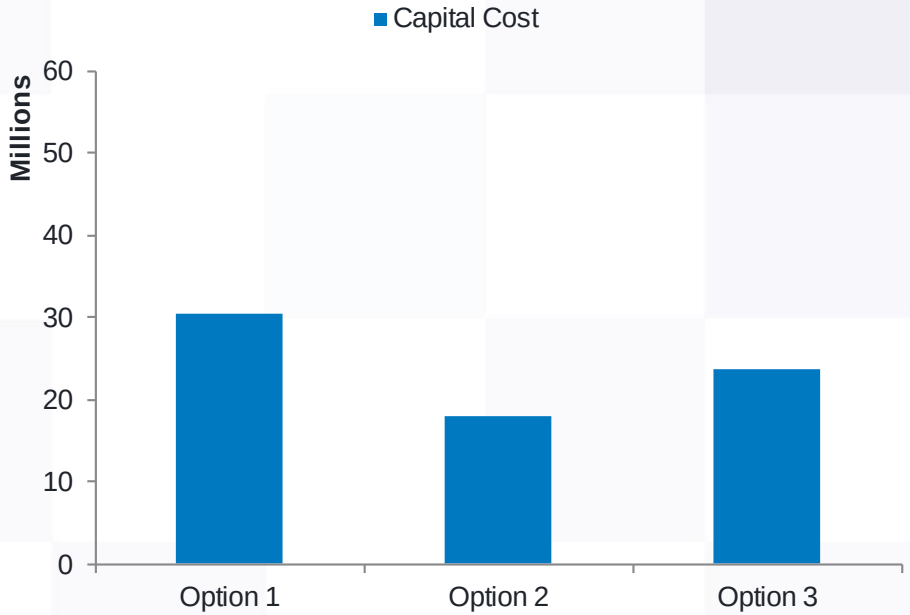
Carbon in our decision-making process

- Losses are the difference between energy generated and energy supplied
- These are largely outside of our control
- But we can impact losses by choosing different equipment

Case study: Low loss conductor

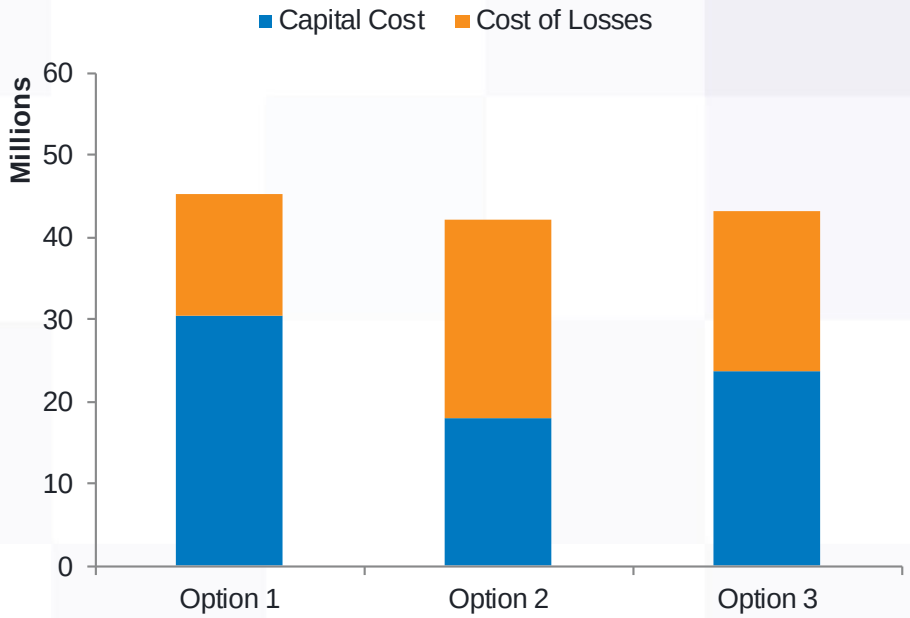
- 3 conductor options
- Option 2 has been taken as the baseline as it's one of the most common conductor types

Looking just at capital cost…



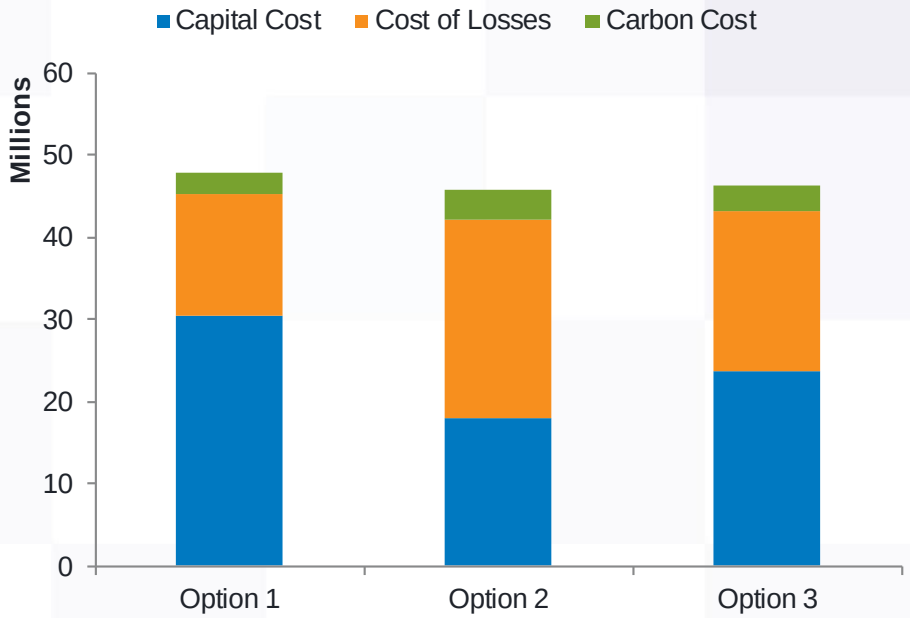
	Option 1	Option 3
Saving in losses	48%	32%
Saving in carbon	9%-28%	5%-15%
Cost increase	+69%	+32%

Looking at capital and operational cost gives a different result



	Option 1	Option 3
Saving in losses	48%	32%
Saving in carbon	9%-28%	5%-15%
Cost increase	+3%	+7%

And looking at capital, operational and carbon cost is different again



	Option 1	Option 3
Saving in losses	48%	32%
Saving in carbon	9%-28%	5%-15%
Cost increase	+1%	+5%

A substation scenario

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We look at physical location options:
whether the location is coastal or inland, and whether it's near any high polluting industry e.g. steel works, power stations

A substation scenario

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A substation scenario

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A substation scenario

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Ecological impacts:
areas designated as protected, or with any protected species

A substation scenario

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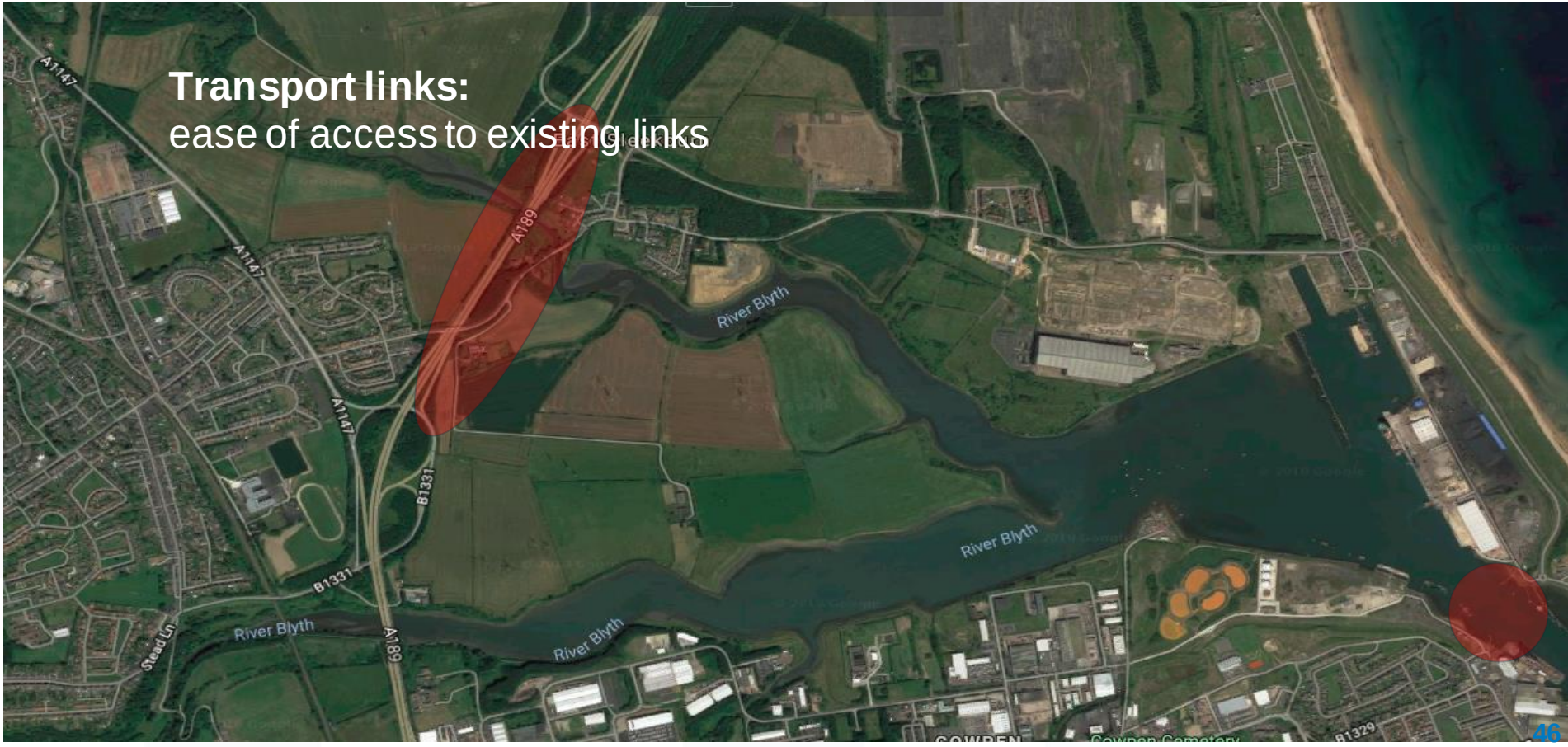
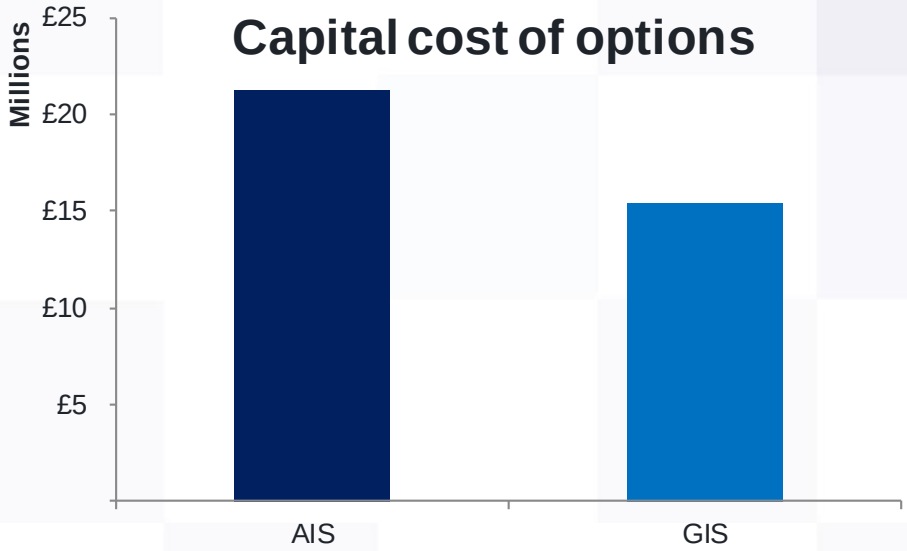
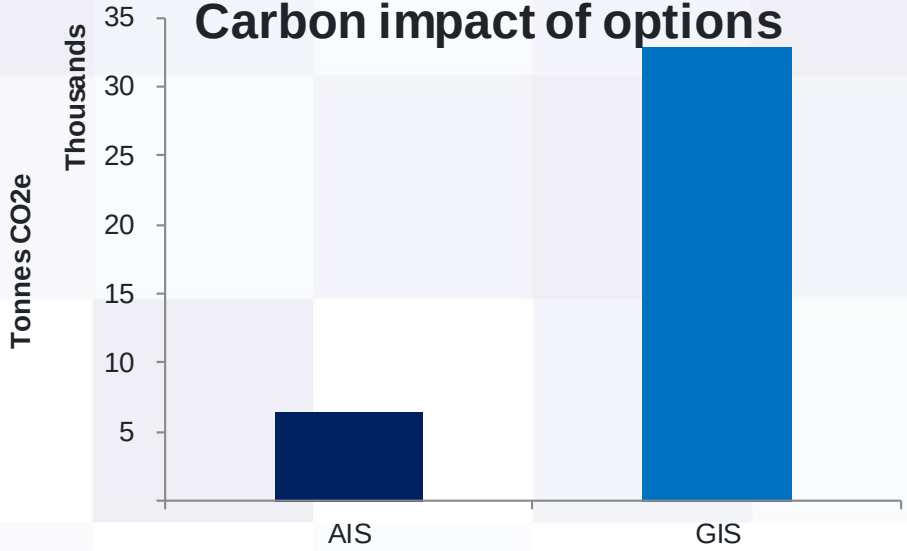


And we look at the capital cost and carbon impact





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- Please click here to provide your feedback now

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Section 4
Visual impact

We have policies to guide us when choosing between overhead lines and underground cables

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New transmission circuits

Undergrounding policy: Approach to new connections

National Grid considers every case for using underground cables for amenity reasons instead of overhead lines on its merits, but in view of the extremely high additional costs the company reserves detailed considerations for those places where the benefits of maintenance of visual amenity can be demonstrated to:

- outweigh the adverse effects upon other environmental factors;
- justify the high additional cost; and
- where it is technically possible and will not conflict with our statutory duties.

In identifying such places, National Grid takes account of the views of professional authoritative advisors, statutory environmental bodies and other organisations as it feels appropriate.

Guidelines for consideration of undergrounding of new high voltage transmission connections

The excessive cost of high voltage underground transmission coupled with the environmental and operational disadvantages are important reasons for the limited use of underground cables at 400 kV. National Grid's approach is to seek overhead connections wherever possible.

The following guidelines set out the categories of area which National Grid believes are the highest priority and where consideration may be given to undergrounding. They indicate those exceptional circumstances where National Grid believes undergrounding might be justified.

Exceptionally constrained areas

The term "exceptionally constrained areas" has been adopted to refer to situations where physical or amenity factors related to landscape, land use and development weigh most heavily against the use of overhead lines and therefore where consideration of underground cables is warranted. In such areas, judgement on the merits of each case will be required to justify the use of underground cables.

The nature of the "exceptionally constrained areas" varies in urban, rural and estuary crossing areas and the key factors are outlined as a basis for the consideration of the potential use of underground cable.

- **Exceptionally constrained urban areas:** Urban areas where there may be exceptional constraints on siting of overhead transmission lines comprise those locations where the density of residential, community and associated development and public open space is such that a reasonable direct overhead route is impracticable.
- **Exceptionally constrained rural areas:** Of special concern in the siting of overhead transmission lines in the countryside is the protection of important landscape features in nationally or internationally designated areas of amenity value. These designated areas comprise National Parks, Areas of Outstanding Natural Beauty, Heritage Coasts and World Heritage Sites. "Exceptionally Constrained Rural Areas" comprise those locations within or immediately alongside those designated areas where the scale of new high voltage transmission towers and conductors would dominate unspoilt landscape and cause serious damage to major open views of spectacular panoramas, crests of prominent rides and skylines or attractive small scale valleys seen from important locations within or immediately alongside the designated areas.
- **Exceptionally constrained estuary and major river crossings:** These occur where the exceptional difficulty and cost of an overhead line would be comparable with or exceed those of an underground cable.

Existing transmission circuits

Undergrounding policy: Approach to existing overhead lines

Our approach is always to seek to retain our existing overhead lines in situ. To promote the successful development of sites crossed by existing overhead lines, and the creation of well-designed places, National Grid has developed "a sense of place, design guidelines for development near high voltage overhead lines."

There are significant technical, cost and environmental challenges associated with relocation or undergrounding of high voltage overhead lines. Any proposals to alter existing overhead lines crossing or on the edge of development sites will therefore require special justification. It will be for the promoter of the site to demonstrate to National Grid why the development cannot take place with the existing overhead line in situ. National Grid strongly believes in the need to run its transmission operations in a way that is as supportive as possible of the broader needs of society. Therefore, National Grid will support proposals for the relocation or undergrounding of existing high voltage overhead lines across sites where the developer can demonstrate that the development could not take place with the overhead line in situ and where such proposals satisfy both the two following sets of criteria:

1. Where it can be clearly demonstrated by the promoter that such proposals will

- directly facilitate a major development or infrastructure project of national importance which has been identified as such by central government; and
- provide a beneficial step change in the environmental character and quality of the associated area; whilst at the same time not resulting in any unreasonable detriment to the environmental character and quality of the area to which the overhead line is relocated or undergrounded;

and

2. Where National Grid is satisfied that such proposals for relocation or undergrounding will

- not compromise the security of supply, the reliability and the maximum capability of the high voltage transmission system now or in the foreseeable future; and
- be technically feasible, fully compliant with National Grid's current design specifications and achievable in terms of system outages and resources within a timescale that does not adversely affect National Grid's wider investment programme; and
- be fully funded by the promoter, who will also be responsible for securing all agreements in principle to allow National Grid to site its equipment on land and acquire any necessary land without the need to resort to compulsory powers.

* These comprehensive site layout, design and landscaping guidelines provide advice and pragmatic solutions to demonstrate how a creative design approach can minimise the impact of overhead lines. They promote design initiatives which help to retain land values; ensure that new good quality environments are built; that residential densities can be retained; and that the environmental impacts of overhead lines are minimised. They demonstrate that for many developments, overhead lines can be retained in situ without adversely affecting sites' development potential. For further information visit the Sense of Place website at: http://www.nationalgrid.com/uk/senseofplace

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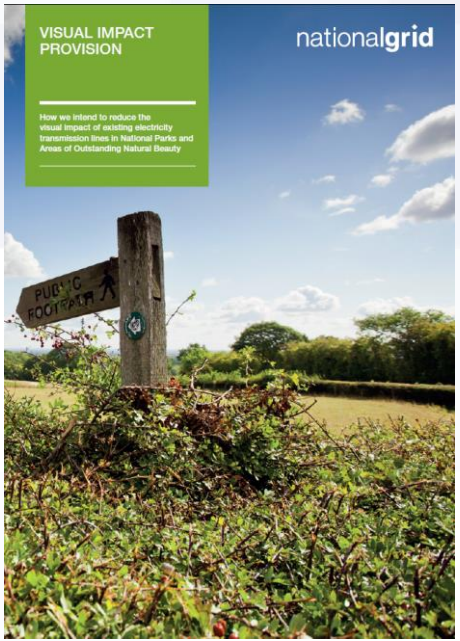
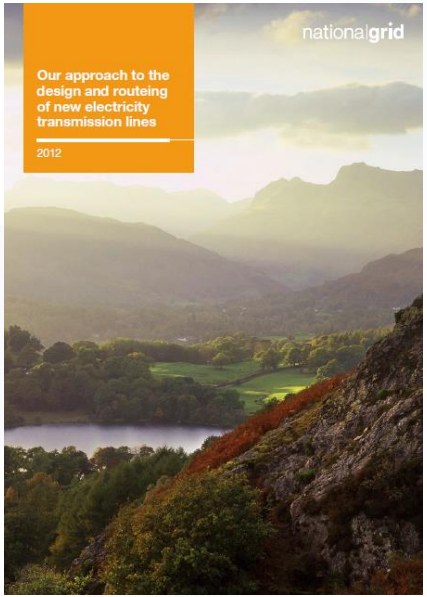
The power of action.



New transmission lines

We have no inherent preference for either overhead or underground approaches and we will always seek to deliver the best balance*



We have to balance our Licence duties

- "…develop and maintain an efficient, co-ordinated and economical system of electricity transmission…"
- "…have regard to … preserving [and reasonably mitigating the impact on] natural beauty, flora, fauna and features of special interest…"

* Please note: we incorrectly provided an out of date version of our approach to workshop attendees in their handout material. This was corrected for the presentation during the workshop itself, and the wording above reflects our most up-to-date approach.

Planning for transmission lines

- In principle…
  - The Government does not believe that development of overhead lines is generally incompatible with our statutory duty

- In practice…
  - New above ground electricity lines can create adverse landscape and/or visual impacts
  - This is dependent upon their scale, location, degree of screening and the nature of the landscape and local environment
  - These impacts can often, but not always, be mitigated

How we evaluate options – the different considerations

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Technical	Environmental	Socio-economic	Cost
Technical complexity	Landscape and Visual	Local economic impact	Capital cost
Construction/project delivery issues (incl resource and waste issues)	Ecology	Aviation and Defence	Lifetime cost
Suitability of technology	Historic environment	Traffic and Transport	
Network capacity	Water		
Network efficiencies/ benefits (incl energy efficiency)	Local air quality		
	Noise and Vibration		
	Soils and Geology		

Overhead versus underground

	Overhead	Underground
Technology options	▪ Conventional steel lattice towers ▪ Low height steel lattice towers ▪ 'T' pylon	▪ Conventional underground cables, shallow bury ▪ Use of deep bore tunnel ▪ Gas Insulated Lines
Construction	▪ Less intrusive, quicker to complete than underground	▪ Long length of trench excavated ▪ Longer duration and more disruptive installation than overhead. ▪ Stranded land with landowner access required across working area
Permanent impact	▪ Visibility of pylons and conductors, difficult to screen	▪ Sealing end compound at each end of cable sections ▪ Link boxes at joint positions ▪ Restriction on planting and development above cables

Other potential options: low height pylon designs

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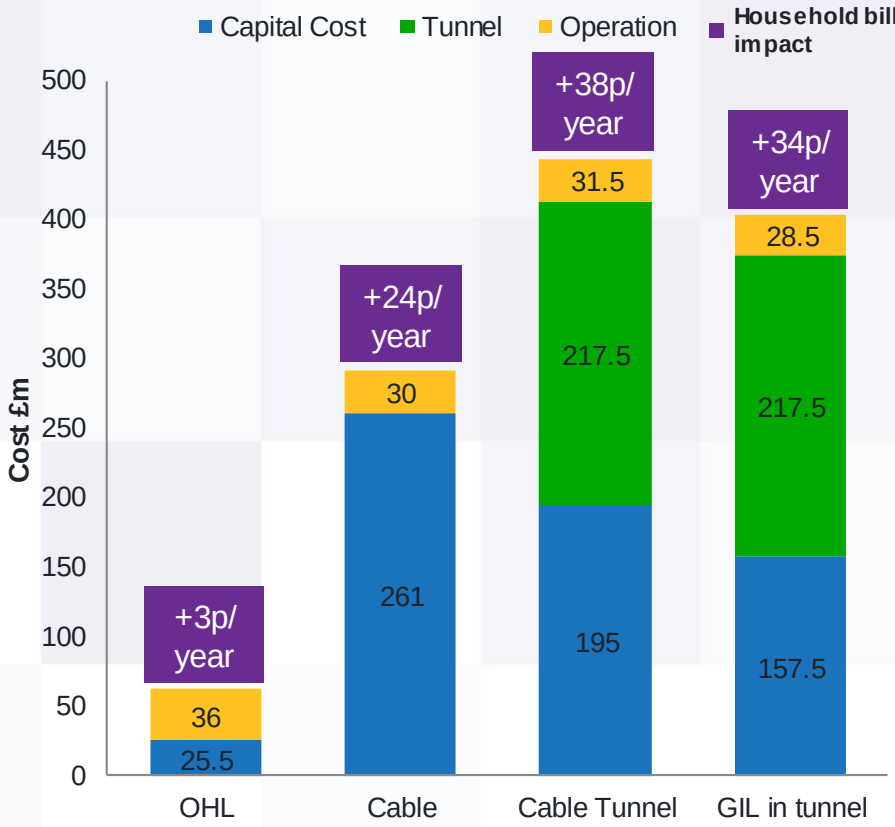
Case study: new 15km 400kV route

- No two routes are the same, but we've taken a 'standard' example to illustrate some of the available options
- As well as differences in cost, the environmental impacts of the options are different:
  - Overhead lines are quicker to build than underground installations, but result in a permanent visual impact
  - Underground options result in short-term environmental impacts in construction, but very small permanent visual impact
- Operational costs over 40 years include electrical losses and maintenance



*Illustrative example only. GIL = Gas Insulated Line

Examples of recent outcomes

Richborough connection (Kent)

- 20km route avoided any nationally designated areas
- All overhead line – permission granted and in construction

Hinkley Point connection (Somerset)

- 65km route mostly follows an existing 132kV overhead line (which will be dismantled)
- Passes through the Mendip Hills AONB
- Permission received for OHL (mostly T-pylon) with an 8km underground section through the Mendip Hills
- Construction anticipated to start 2019

Mid Wales connection (Powys and Shropshire)

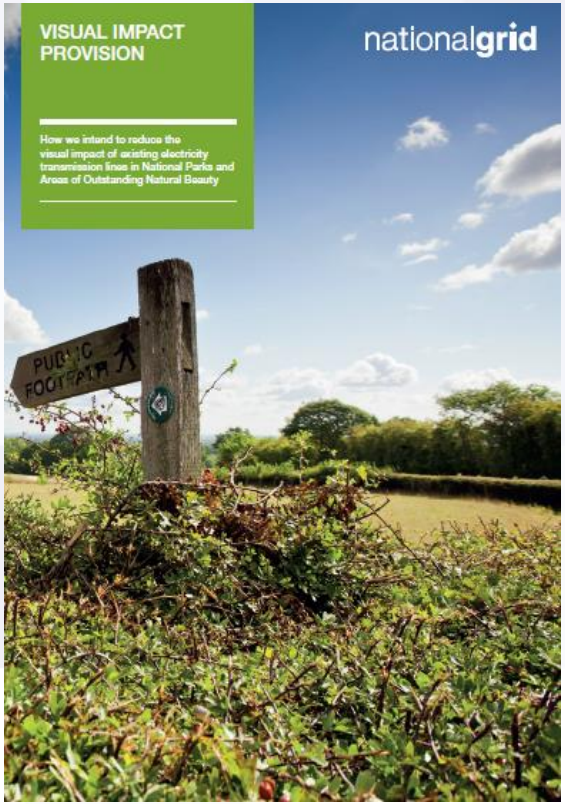
- Proposed 55km route avoided any nationally designated areas
- Proposal for two sections of overhead line, one section with low height pylons, separated by an 13km underground section
- Project on hold

Bramford to Twinstead (Suffolk)

- Proposed 20km route replaces an existing 132kV overhead line runs and largely in parallel with an existing 400kV overhead line
- Proposal for majority overhead line with underground sections in Dedham Vale AONB and across the Stour Valley (no national designation)
- Project on hold

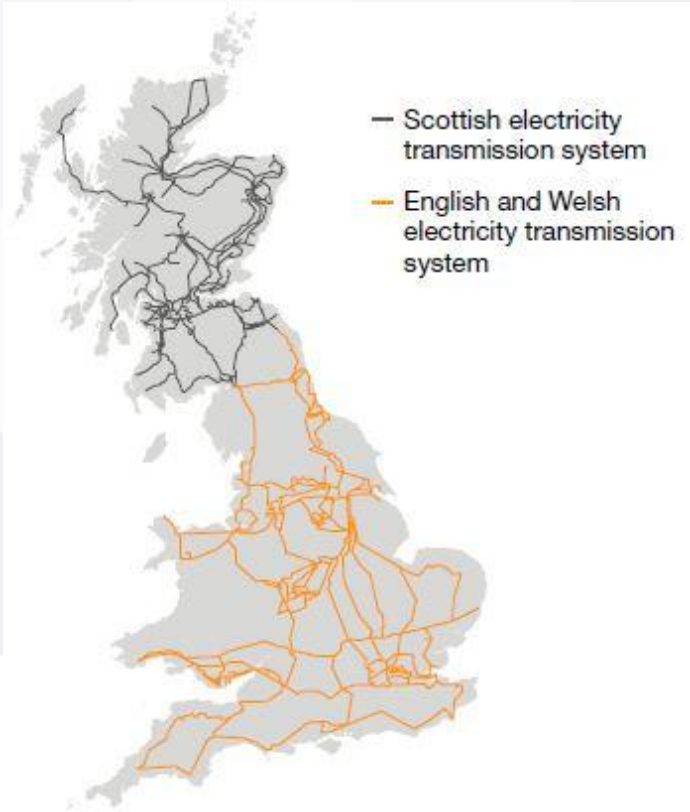
Existing overhead lines

- There is a £500m provision (in 2009/10 prices) in RIIO-T1 for electricity Transmission Owners to mitigate the visual impact of existing electricity infrastructure in nationally protected landscapes
- This converts to c.42p/year on the average household bill
- Covers National Parks and AONBs (more details are available on our website)
- National Grid's approach is called VIP
- SSE = VISTA
- Scottish Power = VIEW



The electricity transmission system

- 7,200 km of overhead lines
- 1,560 km of underground cables
- 346 substations
- Historically, underground cables were installed in urban areas and under large river estuaries
- 571 km of overhead lines are within National Parks and Areas of Outstanding Natural Beauty (AONBs)



VIP policy and guiding principles

- Working with stakeholders, we will prioritise proposals which:
  - result in **greatest landscape** enhancement benefits
  - result in greatest opportunities to conserve and enhance **natural beauty, wildlife and cultural heritage** whilst avoiding unacceptable impacts on the natural and historic environment
  - result in greatest opportunities to encourage **public understanding and enjoyment of the protected landscapes**, including positive socio-economic impacts
  - are **technically feasible** in context of the wider transmission system
  - are **economical and efficient**

VIP Projects: New Forest

- Undergrounding of approximately 4km of overhead line and removal of 8 pylons
- Highly Designated Landscape
- Working closely with Natural England, National Trust and local stakeholders


New Forest National Park

VIP Projects: Peak East

- Undergrounding of approximately 2km of overhead line and removal of 7 pylons
- Requires temporary diversion of the Trans-Pennine Trail


Peak District National Park

VIP Projects: Snowdonia

- Undergrounding of approximately 4km of overhead line and removal of 8 pylons
- Undergrounding would be through a tunnel


Snowdonia National Park

VIP Projects: Dorset

- Undergrounding of approximately 8km of overhead line and removal of 22 pylons
- Complex archaeology
- Working closely with Historic England and Dorset County Archaeologist

Dorset AONB

Other VIP work:
Our Landscape Enhancement Initiative

- Spreading the allowance more widely
- Stakeholder-led
- Allowance for smaller, localised improvement projects
- Available to 30 AONBs and National Parks
- Launched in May 2016

End of section

- Please click here to provide your feedback now

- Or click here to return to the consultation menu

Section 5
Construction

Our construction portfolio

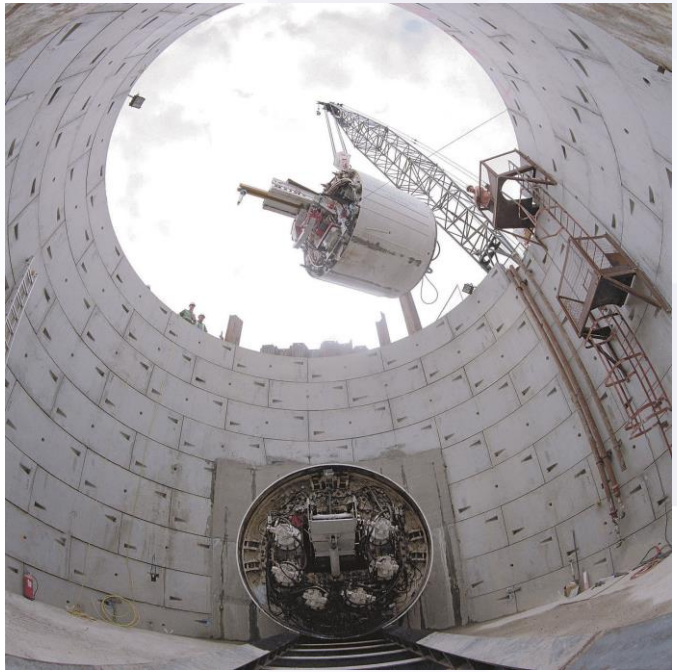
- Delivering £1billion in infrastructure per year
- Working across the country on 60-70 schemes per year
- Engaging with 25+ Tier 1 contractors

Our construction impact

Local	How do we affect our neighbours?
National	How do we consider consumers nationwide?
Global	How do we minimise our carbon impact?

Locally

- We impact our neighbours:
  - Noise
  - Traffic
  - Dust
  - Visual
  - Local environment
  - Amenity impact



Nationally

- We have UK wide impacts:
  - Using UK supply chains
  - Supply routes
  - Consumers may pay more to mitigate local impacts that aren't local for them

Global impact

- 50% reduction in carbon intensity from 2015-2020
- What's next? Only so far we can reduce…
- Can we go carbon neutral?

Case study: Carbon Neutral

Our carbon footprint: 195,000tCO_2e

Carbon offsetting schemes cost: £6 - £12.60 per tonne CO_2e

Cost to offset: £1,170,000 - £2,515,500

Cost for consumer: 2p-4p per year*

* Based on current RIIO parameters

Biodiversity Net Gain

- Net Gain is a defined approach to quantify loss and drive positive outcomes for biodiversity and ecosystems as efficiently as possible

An example…

Baseline 100 units

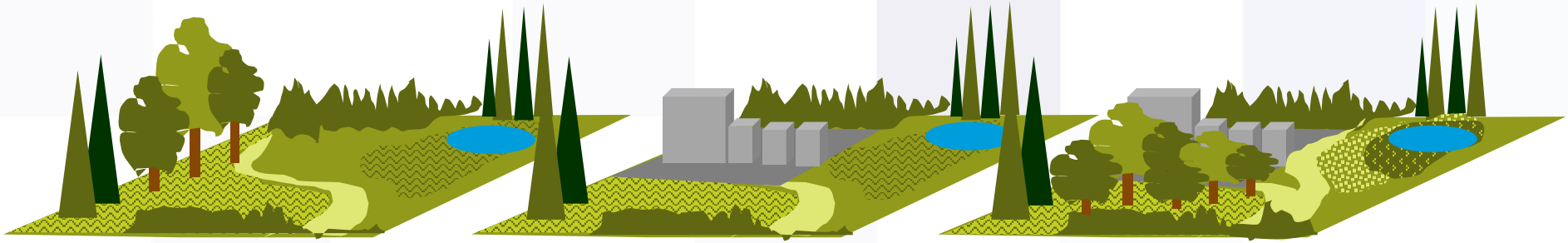
Mod: Broadleaved Woodland
Mod: Plantation Woodland
Poor: Wetland / Marsh
Mod: Semi improved Grassland
Poor: Bridleway

Loss of 20 units

Mod: Broadleaved Woodland
Mod: Semi improved grassland
Poor: Bridleway

Creation of 25 units

Broadleaved Woodland – Target GOOD + 10
Wetland / Marsh + 5
Semi improved Grassland – Target GOOD +5
Re routed bridleway – Target Con GOOD + 5



End of section

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Section 6
Managing our land

Our *Natural Grid* approach

- We use collaboration and partnerships with third parties to implement more sustainable approaches to land use and management
- These identify areas of shared interest and value
- We use a Natural Capital assessment to support decision making

Our target

- 50 sites by the end of RIIO-T1 (2021)
- Explore opportunities to use our linear footprint (overhead line routes) to create green corridors

Costs

- c.£40k per year by 2021 (average £800/site)
- For all c.350 sites = £280k per year (less than ½p per year per household)

- Reactive management costs reduced
- Safety & environmental risks reduced
- Natural Capital value increased
- Positive community / stakeholder engagement

The environment is part of our corporate social responsibility work: we currently have four environmental education centres

nationalgrid

TCV The Conservation Volunteers

Skelton Grange Environment Centre
Skelton Grange Road
Stourton
Leeds
LS10 1RS

GROUNDWORK CHANGING PLACES CHANGING LIVES

West Boldon Environmental Education
West Boldon Substation
Newcastle Rd
West Boldon
Tyne & Wear
NE36 0BG

Bishops Wood Environmental Centre
Crossway Green
Stourport-on-Severn
Worcester
DY13 9SE

FSC

Iver Environment Centre
Slough Road
Iver Heath
SL0 0EB

GROUNDWORK CHANGING PLACES CHANGING LIVES

Environmental education centres

- For every £1 National Grid investment, the centres leveraged £5 of additional external funding
  - 46,542 visitors last year
  - 25,000 educational visits
  - 26,000 volunteer hours
  - >10,000 attendees at community events
- Supports access to nature for socially and/or economically disadvantaged communities
- National Grid running cost of c.£32k per centre per year (other costs are met by our partners)
- c.£500k construction cost for a new centre (c.½p per year per household)

Visitor satisfaction 9.6 / 10

100% of adults reported increased wellbeing or had developed new skills

End of section

- Please click here to provide your feedback now

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Thank you