ED3 Sector Specific Methodology Consultation (SSMC) summary of responses

We received 84 responses to the ED3 SSMC. This document sets out the responses that came in via email. Where respondents provided separate documents, these are published alongside this document. Responses where explicitly marked as confidential, have been excluded.

Contents

We Are UMi

Dear Ofgem,

I welcome Ofgem's commitment to strengthening the NIA as a mechanism for early-stage research and development. The proposals outlined between paragraphs 5.39 and 5.48 are a necessary step towards making innovation a normal feature of network operation rather than an often fragmented, grant-funded exercise.

However, the energy sector's current innovation ecosystem has not appeared to deliver the level of transformation originally intended. Progress from research to BAU implementation remains slow and many promising technologies or methodologies have struggled to achieve replication across networks. This pattern reflects a system that has become administratively comfortable but operationally cautious, often seemingly recycling projects rather than scaling genuine breakthroughs.

Part of this challenge lies in the fragmented way innovation activity has been organised and supported, both within networks and through external intermediaries. Existing models have often created an impression of effectiveness without consistently delivering efficiency or demonstrable value for money. Communication and collaboration between networks have been inconsistent, with some innovation teams appearing to disengage or reassess their approaches as they question the tangible returns and outcomes achieved. The persistently slow pace of project progression and the limited rate of deployment into BAU operations across all networks indicate that the current structures and stakeholders, internal and external, are not yet capable of driving the step-change required.

Against this backdrop, Ofgem's intent to introduce greater consistency, comparability and accountability across DNO innovation strategies is both timely and essential. Yet these objectives cannot be achieved through governance reforms alone; they require a structural change in how innovation support is delivered.

Ofgem should therefore consider commissioning a **transparent, competitive procurement exercise** to identify one or more specialist organisations capable of managing, assessing and reporting on NIA activity on its behalf. Such an approach would introduce robust due diligence, ensure independence from the networks and provide clear value-for-money assurance.

A competitively appointed delivery partner could:

- Standardise evaluation and reporting, directly addressing the inconsistency Ofgem highlights in paragraph 5.42.
- Bring impartiality to project selection, ensuring that innovation funding is distributed based on merit and measurable outcomes.
- Strengthen dissemination and learning across the sector, creating a genuine mechanism for replicable impact rather than isolated pilots.

By opening this function to competition, Ofgem would send a strong signal that innovation governance itself must innovate and that transparency, accountability and demonstrable outcomes are the new benchmarks for the NIA's success in ED3.

Thank you for the opportunity to respond. I look forward to seeing how these proposals develop and how Ofgem's reforms can help innovation deliver faster, more consistent impact for consumers.

Spruce

Dear Ofgem,

I'm responding to your Electricity price control consultation. Please let me know if there is another format you'd like me to respond in (this was remarkably unclear in the consultation)

Context: I run a company making software for heat pump installers. We work with installers day in day out and see what a barrier DNO connections are.

Incentives for smaller connections

Q20. Do you agree with our proposal for LCT connections and their associated enabling works to be brought into the connections scope and incentivised, with the potential to set varying working day targets for different connection activities? Why?

Yes. Inventing auto-approval and time to approve in particular would make a huge difference. We see massive variability between DNO's on their current stats on this. For electrification of heat to succeed we need to enable distressed purchase of heat pumps and currently DNO approval blocks that. Auto-approval would solve that issue for those properties that could be auto-approved.

Time to Quote and connect are also important but affect fewer people than straight up auto-approvals where no work is needed. The cost to the DNO is also tiny so should be such an easy win.

Q21. Do you agree the incentive should be reward and penalty (as per the RIIO-ED2 minor connections incentive)? Why?

Not an expert on incentives but currently does feel like there are real leaders and laggards so feels worth both inventing best in class behaviour and penalising laggards.

Q22. Do you think any LCT connection incentive should be for domestic, non-domestic, or both? Why?

Both - although domestic is more important. Non-domestic install timelines are naturally longer so the blocker on waiting for approval isn't quite as catastrophic.

Q23. Notwithstanding the proposals we have set out under 'Redefining Connections Types', do you have alternative proposals for what DNOs need to do to speed up connection times for LCTs, and what incentives (other than those we have discussed in this chapter), obligations and/or funding may be required to support this?

Consider not requiring approvals. Currently you can install an electric boiler, an induction hob, a jaccuzi or an electric shower with no approval. The mere fact of it being "low carbon" means we put a barrier in the way of low carbon technologies. This is particularly perverse in the case of electric resistance heating vs. heat pumps where heat pumps will reduce peak demand by ~60% (please make sure all DNO's know that a 12kW heat pump doesn't draw 12kW of electricity!)

Best,

Steph Wilis

CPO and Co-founder at Spruce

Gary Cooper

Please dial back on the alarmist nonsense.

The move to intermittent and unreliable power generation requires vast reserves and immense cost. I'm sure it has its place in a few niche sectors but not as the main source of secure power for running a country.

If you want to get away from fossil fuels the only viable alternative currently available is nuclear.

I strongly object to the use of my money on a few vanity projects which will be undone as soon as the grown-ups are back in charge. Follow the observable science, not the ideological groupthink.

Best regards,

Gary Cooper

Catherine Allinson

I am a retired pensioner worried about Rachel Reeves upcoming budget decimating my pension savings and a concerned climate sceptic worried about Miliband's net zero zealotry. As such I express strong disapproval of the proposals contained in Ofgem's consultation on electricity distribution price control, which I suspect are designed to and will have the effect of making it more difficult for future governments to reverse the story on our current job destroying and bill inflating approach to net zero.

Just stop it now. Grant new North Sea exploration licences and start fracking for onshore gas instead of importing at high cost Norwegian oil and gas extracted from the same offshore fields which this current government is refusing to exploit. And stop importing Canadian wood pellets at high cost to fire the Drax power station.

Catherine Allinson

Myra Forster-van Hijfte

Dear team,

Since you asked for views from the consumer, I would like to respond.

The current energy bills are eye-wateringly high. Some of this is caused by fixing prices rather than following market prices and some of this is caused by adding subsidies for renewable energy on the basis of the idea that climate change is caused by the use of fossil fuels.

The problem with renewables are that they are unreliable and don't give us energy when there is no wind or sun. Further problems are the lack of energy storage (current battery technology) and the need for back-up systems.

In my view the whole NetZero needs a major rethink and the idea that prices will be fixed on flawed assumptions into 2033 fills me with dread.

I would urge you to closely look at the basis for these prices and also make sure we maintain flexibility rather than fixing prices long into the future.

Kind regards,

Myra Forster-van Hijfte

Rob Schneider

Please tone down your assumptions on climate alarmism and not make it any more difficult than it already will be for the next government to slow down the job-destroying, bill-inflating pursuit of Net Zero. Government's are supposed to serve the people. Do not use the UN's RCP8.5 which even they say is unrealistic and extremely improbable.

--rms

Alexandra Gibbs

The entire focus for Ofgem should be on reducing the cost of energy in the Uk. Climate forecasts and attempts to include these as considerations should be completely removed from electricity planning. The next government should not be hamstrung by the existing crowd of net zero group thinkers and their setting of long term massively inflated prices for renewable energy. The UK cannot afford these electricity prices.

Alex Bates

Kevin O’Donnell

Your consultation seems to be trying to deter people from responding. Is the average man on the Clapham omnibus going to read all of your documents, and take it in, and be able to constructively comment? Answers on a postcard please.

Before you continue to bankrupt the country now, and saddle us with debts into the future, you should do one thing.

Please ensure that the basis for your climate predictions are robust and the models predicting climate variations have been validated (impossible by the way) and have been checked for sound assumptions and numbers used.

The climate has always varied since the earth was formed. You will not stop this variation. To think you can is delusional.

By all means we should seek to be energy efficient but as evidence shows governments are good at ideas but not the practicalities. Reference the cavity wall insulation, external insulation and the problems these schemes have led to.

We need to be very careful in our plans for the future. Net zero and most of which it entails is a dangerous path for you to blindly follow without warning the consequences.

Kevin O'Donnell, C Eng. M IChemE.

Matthew Colley

Dear Sir / Madam,

In the absence of any genuine evidence supporting the claims about “Climate Change” why is your office still pursuing this nonsense?

I am an angry taxpayer who has seen my energy costs escalate along with my taxes despite my income remaining almost the same. Your office is failing to look after the people footing the bills.

M G Colley

Stella Hopkins

Hello Ofgem.

I am a member of the public. My response is PLEASE GIVE UP ON ALL THIS STUPID NET ZERO MYTHOLOGY. JUST REVERT TO RESPONDING TO CURRENT CONDITIONS, INSTEAD OF TRYING TO PREDICT CONDITIONS WHICH WILL NEVER COME TRUE"

I heartily resent having to pay far more than necessary for gas and electric to fund delusions thought up by people who have a lot of incentive to push hysteria - my maxim is always "follow the money".

So there.

Stella Hopkins

Kevin Wilson

Please focus on reducing the cost of U.K. energy for both consumers and business as a priority rather than pursuing the religion of climate change.

Climate change is predicated on a false premise that CO2 is a pollutant which anyone with just a modicum of science education will realise is nonsense as CO2 is a vital life-giving force. I mean why pump CO2 into greenhouses to boost plant growth if it's that bad for the environment? Besides temperature goes up before the rise in CO2 and not the other way round as the net zero devotees claim, so what's the problem?

Consumers and business are increasingly on the hook for the ever-increasing costs of net zero. The technology being forced on us at enormous cost is largely uneconomic and some of which, like carbon capture storage, haven't been proved to work at scale. This is no way to provide energy security - previous energy transitions had worked out solutions that provided greater amounts of power at lower cost than what's being imposed on us today.

The green industry is impoverishing the public, destroying manufacturing, spoiling the environment, destroying wildlife and its habitat, and for what? We're a national laughingstock with the highest energy costs in the west.

Governments over decades have gradually moved away from representing us by handing over power to unelected quangos like the Climate Change Committee and Ofgem where green zealots and activists hold sway. This set up is not working for the public and will have to change.

The Americans are already helping to dismantle the green focus across the world, and rather than obsessing about how energy prices are to be increased and how that’s done to ensure further money is siphoned off bill payers and sent upstream to developers and energy suppliers, we need to call a halt to net zero and the unrealistic modelling behind the insane decisions being made.

Unless the public's wish for a change of policy is not respected, then certainly the next election will see either of the two parties likely to win power begin to dismantle the green lawfare that's captured our energy system and put the country on the road to ruin.

Well you did ask!

Kevin Wilson

Robert Edge

Dear Sirs,

Summary

Ofgem's climate stress testing framework relies the Met Office which relies on RCP8.5h — a worst-case emissions scenario that leading climate scientists consider highly implausible. It assumes runaway fossil fuel use and no climate action, which contradicts current global trends.

Using RCP8.5 to guide UK energy policy risks overestimating threats and misallocating resources.

More realistic scenarios like RCP4.5 or SSP2-4.5 reflect moderate emissions with mitigation — and are better suited for planning resilient, cost-effective infrastructure.

Structured Critique of RCP8.5 Use in Ofgem's 'ED3 SSMC Climate Resilience Stress Testing Methodological Framework Annex'

Introduction

The Ofgem 'ED3 SSMC Climate Resilience Stress Testing Methodological Framework Annex' (hereafter, the ED3 SSMC Annex) sets out the approach for stress testing the resilience of Great Britain's electricity distribution networks under future climate change. Central to its methodology is the use of climate scenarios to estimate future vulnerabilities and inform investment decisions. Notably, the Annex relies on the high-end Representative Concentration Pathway 8.5 (RCP8.5) scenario, which projects a world of unmitigated, rapidly rising greenhouse gas emissions and extreme warming.

This critique examines the appropriateness of using RCP8.5 as the primary scenario for stress testing, drawing on the latest Intergovernmental Panel on Climate Change (IPCC) assessments, expert literature, and UK-specific guidance. It argues that RCP8.5 is now widely considered highly unlikely and should not be used as a basis for policy or investment planning. Instead, more plausible scenarios such as RCP4.5 or SSP2-4.5 should be prioritized. The report also provides a comparative analysis of scenarios and

offers recommendations for robust, evidence-based scenario selection in regulatory planning.

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1. Identification of RCP8.5 References and Use in the ED3 SSMC Annex

1.1 Where and How RCP8.5 Is Used

The ED3 SSMC Annex explicitly references RCP8.5 as the scenario underpinning its climate stress testing methodology for Phase A. Key sections include:

- **Section 4.9 and 4.12 (Methodology Overview):** The Met Office is tasked with projecting changes in vulnerability thresholds for windstorms and extreme heat by 2080, "based on climate projections using a 4°C warming scenario using RCP8.5".
- **Section 5.8:** The analysis of climate impacts in 2080 is "based on 4°C global warming under RCP8.5."
- **Section 5.10:** UK Climate Projections (UKCP18) are used, specifically "using the RCP8.5 warming scenario pathway."
- **Glossary and Footnotes:** RCP8.5 is defined as a scenario specifying a greenhouse gas concentration of 8.5 W/m^2.
- **Appendices and Data Requests:** The methodology for stress testing and data collection is structured around the RCP8.5 scenario, with temperature and wind projections derived from UKCP18's RCP8.5 outputs.

The Annex does not reference alternative scenarios (such as RCP4.5 or SSP2-4.5) for its main stress testing exercises, nor does it provide a rationale for selecting RCP8.5 over other pathways. The scenario is treated as the default for estimating future climate hazards and associated investment needs to "maintain current levels of climate resilience by 2080".

1.2 Context of Scenario Use in ED3 (Phase A Objectives)

Phase A of the stress testing aims to "build evidence to provide greater clarity on a long-term climate resilience goal," specifically by estimating the investment required to maintain current resilience levels by 2080. The methodology is vulnerability-led, correlating historical asset faults with weather data, and then projecting future changes using RCP8.5-based climate projections. The outputs are intended to inform regulatory decisions and investment allowances for the ED3 price control period (2028–2033).

2. The Scientific and Policy Context: RCP8.5 in the IPCC and UK Guidance

2.1 What Is RCP8.5?

RCP8.5 is a high-end emissions scenario developed for the IPCC's Fifth Assessment Report (AR5). It represents a future where greenhouse gas emissions rise rapidly throughout the 21st century, resulting in radiative forcing of 8.5 W/m^2 by 2100 and global mean temperature increases of 4.3°C (best estimate, with a range of 3.2–5.4°C). The scenario assumes a dramatic expansion of coal use, limited climate policy, and high population growth.

2.2 How RCP8.5 Has Been Used and Interpreted

RCP8.5 was originally intended as a "very high baseline emission scenario" representing the 90th–98th percentile of no-policy baseline scenarios available at the time of its development. However, it has often been mischaracterized as a "business as usual" (BAU) scenario, both in academic literature and policy analysis, leading to confusion about its likelihood and relevance.

The IPCC's Sixth Assessment Report (AR6) and recent expert commentary have clarified that RCP8.5 (and its successor, SSP5-8.5) is now considered highly unlikely, given current policy trends, technological developments, and observed emissions trajectories.

3. Why RCP8.5 Is Not a Realistic Scenario for Future Emissions and Climate Impacts

3.1 IPCC Assessment of RCP8.5/SSP5-8.5 Likelihood

The IPCC AR6 Working Group I report (2021) and its Summary for Policymakers make clear that:

- **SSP5-8.5 (the CMIP6 successor to RCP8.5) is a "very high GHG emissions scenario,"** with CO_2 emissions roughly doubling by 2050 and leading to 4.4°C (3.3–5.7°C) warming by 2100.

- **No likelihood is formally attached to any scenario,** but the report and supporting literature state that "the likelihood of high emission scenarios such as RCP8.5/SSP5-8.5 is considered low".
- **High-warming outcomes under SSP5-8.5 are "extremely unlikely" (below 5% likelihood),** and are primarily used for risk assessment of low-likelihood, high-impact events, not as central or expected outcomes.

The AR6 SPM Table SPM.1 shows that intermediate scenarios (SSP2-4.5) project 2.7°C (2.1–3.5°C) warming by 2100, while SSP5-8.5 projects 4.4°C (3.3–5.7°C). The report emphasizes that "scenarios with very low and low GHG emissions would strongly limit the change of several climate impact-drivers… relative to higher GHG emissions scenarios".

3.2 Expert Critiques and Literature on RCP8.5 Misuse

A growing body of literature has criticized the continued use of RCP8.5 as a default or BAU scenario:

- **Hausfather & Peters (2020, Nature):** Argue that RCP8.5 is "increasingly implausible with every passing year," requiring an unprecedented fivefold increase in coal use by 2100—an amount larger than some estimates of recoverable coal reserves. They note that "current emissions are in line with median scenarios," and that overstating the likelihood of RCP8.5 can lead to poor planning and defeatism.
- **van Vuuren et al. (2011, 2020):** Emphasize that RCP8.5 was never meant to be a BAU scenario, but rather a high-end, worst-case pathway. More than 90% of no-policy baseline scenarios in the literature result in lower emissions.
- **Pielke & Ritchie (2021):** Document the "misuse and abuse" of extreme scenarios in climate research and policy, calling for a course correction and more realistic baselines.
- **Met Office (2024):** Notes that RCP8.5 is often misinterpreted as a 4°C world or worst-case, but in fact projects a median warming of 5.1°C by 2100, with the 10th–90th percentile range spanning 4–6.5°C. The report calls for clarity in scenario interpretation and the use of more plausible pathways for adaptation planning.

3.3 Recent Emissions Trends and Coal Use

- **Global coal use peaked in 2014,** and while there has been a recent rebound (notably in China and India), most energy forecasts expect coal use to plateau or decline over the coming decades, especially outside Asia.
- **IEA (2024):** Reports that global coal demand hit a new record in 2024, driven by Asia, but growth is slowing and is expected to peak this decade. Western countries are rapidly phasing out coal, and renewables are expanding at record rates.
- **Current emissions are tracking below RCP8.5,** and closer to intermediate scenarios (RCP4.5/SSP2-4.5), according to the IPCC and independent analyses.

3.4 UK-Specific Projections and Policy Context

- **UKCP18 Projections:** The UK's official climate projections (UKCP18) provide probabilistic projections for RCP2.6, RCP4.5, RCP6.0, and RCP8.5, but high-resolution regional and local projections are only available for RCP8.5 due to computational constraints.
- **UK Guidance:** The Supplementary Green Book Guidance (Defra, 2024) and Environment Agency recommend using both a 2°C (RCP2.6/RCP4.5) and a 4°C (RCP8.5) scenario for adaptation planning, but stress that RCP8.5 represents a low-probability, high-impact outcome, not a central or likely case.
- **Regulatory Precedent:** Other UK regulators (e.g., Ofwat, ONR, Environment Agency) require testing against both low and high scenarios, but increasingly recognize the need for clarity on scenario plausibility and the risks of over-reliance on RCP8.5.

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4. Implications of Using RCP8.5 for Policy, Cost, and Investment Planning

4.1 Overestimating Risks and Costs

Using RCP8.5 as the sole or primary scenario for stress testing can lead to:

- **Overestimation of future climate hazards,** resulting in inflated estimates of required investment to maintain resilience.
- **Potential misallocation of resources,** as adaptation measures may be sized for extreme, unlikely outcomes rather than the most probable range of futures.
- **Reduced cost-effectiveness and public trust,** as consumers may bear unnecessary costs for overbuilt infrastructure, and policymakers may be accused of alarmism or poor risk management.

4.2 Regulatory and Analytical Risks

- **Scenario selection should be representative of the plausible range of futures,** not just the extremes. The IPCC and UK guidance recommend using a suite of scenarios to capture uncertainty, but not to treat high-end scenarios as central or likely.
- **Stress testing under only RCP8.5 may bias regulatory decisions,** leading to overinvestment and reduced flexibility to adapt as new information emerges.
- **The Ofgem Annex does not provide a rationale for selecting RCP8.5,** nor does it test sensitivity to more plausible scenarios, which is inconsistent with best practice in scenario analysis and risk management.

4.3 UKCP18/UKCP24 and Scenario Availability

- **UKCP18's high-resolution projections are only available for RCP8.5,** but probabilistic projections exist for RCP2.6, RCP4.5, and RCP6.0. Pattern-scaling and time-slicing techniques can be used to approximate impacts at lower warming levels (e.g., 2°C, 3°C).
- **Recent CCC and Met Office guidance recommend using warming-level scenarios (e.g., 2°C, 4°C),** not just emissions-based pathways, and stress the need for clarity in scenario interpretation and communication.

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5. Alternative, More Plausible Scenarios for Policy Planning

5.1 RCP4.5 and SSP2-4.5: The "Middle of the Road" Pathways

- **RCP4.5** is a stabilization scenario where emissions peak around mid-century and then decline, resulting in radiative forcing of 4.5 W/m^2 by 2100 and a best-estimate warming of 2.4°C (1.7–3.2°C).
- **SSP2-4.5** is the CMIP6 equivalent, representing a "middle of the road" socioeconomic pathway with moderate challenges to mitigation and adaptation. It projects 2.7°C (2.1–3.5°C) warming by 2100.
- **These scenarios are consistent with current policy trends,** observed emissions, and the range of likely outcomes under existing national and international commitments.

5.2 Rationale for Using RCP4.5/SSP2-4.5

- **Better alignment with observed emissions and policy trajectories:** Current global emissions are tracking below RCP8.5 and closer to RCP4.5/SSP2-4.5.

- **Reflects the UK's net zero commitment:** The UK has legislated for net zero emissions by 2050, and all major political parties (except Reform UK) support ambitious decarbonization targets.
- **Provides a more realistic basis for investment planning:** Using RCP4.5/SSP2-4.5 as the central scenario ensures that adaptation measures are proportionate to the most likely range of climate outcomes, while still allowing for stress testing against higher-end risks.

5.3 Guidance on Scenario Selection

- **IPCC Criteria:** Scenarios should be consistent with global projections, physically plausible, applicable to impact assessments, representative of the potential range of futures, and accessible for analysis.
- **UK Government Guidance:** The Green Book and Defra recommend testing against both a 2°C and a 4°C scenario, but stress that the 4°C case is a low-probability, high-impact outcome, not a central estimate.
- **Best Practice:** Use a suite of scenarios (e.g., RCP2.6/SSP1-2.6, RCP4.5/SSP2-4.5, RCP8.5/SSP5-8.5) to capture uncertainty, but base core planning and investment decisions on the most plausible pathways.

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6. Comparative Table: RCP8.5 vs. More Plausible Scenarios

Scenario	Forcing (W/m^2, 2100)	Socioeconomic Pathway	2100 Warming (°C, best estimate)	2100 Warming (°C, likely range)	Key Assumptions	IPCC/UK Guidance on Likelihood
RCP2.6	2.6	N/A	1.6	0.9–2.3	Rapid mitigation, net zero by 2070	Plausible with strong mitigation
SSP1-2.6	2.6	Sustainability	1.8	1.3–2.4	Sustainable development, low emissions	Plausible with strong mitigation
RCP4.5	4.5	N/A	2.4	1.7–3.2	Emissions peak mid-century, then decline	Most plausible under

Scenario	Forcing (W/m^2, 2100)	Socioeconomic Pathway	2100 Warming (°C, best estimate)	2100 Warming (°C, likely range)	Key Assumptions	IPCC/UK Guidance on Likelihood
						current policies
SSP2-4.5	4.5	Middle of the Road	2.7	2.1–3.5	Moderate challenges to mitigation/adaptation	Most plausible under current policies
RCP8.5	8.5	N/A	4.3	3.2–5.4	Rapid, unmitigated emissions, massive coal use	Highly unlikely, low probability
SSP5-8.5	8.5	Fossil-fuelled Development	4.4	3.3–5.7	High population, high fossil fuel use, no climate policy	Highly unlikely, low probability

Table Notes:

- Warming estimates are relative to pre-industrial (1850–1900) and based on IPCC AR6 SPM Table SPM.1.
- "Most plausible" indicates alignment with current emissions trends and policy commitments.
- "Highly unlikely" reflects IPCC and expert consensus that such scenarios require a reversal of current policy and technology trends, especially in coal use.

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7. Recommendations for Ofgem and UK Regulatory Scenario Planning

7.1 Reframe the Use of RCP8.5

- **RCP8.5 should not be used as the central or sole scenario for stress testing or investment planning.** Its use should be limited to sensitivity analysis for low-

probability, high-impact risk assessment, not as a basis for setting policy or regulatory allowances.

- **Communicate clearly that RCP8.5 represents a worst-case, not a business-as-usual, outcome.** All documentation and stakeholder engagement should reflect this distinction to avoid misinterpretation and alarmism.

7.2 Prioritize More Plausible Scenarios

- **Adopt RCP4.5/SSP2-4.5 as the central scenario for policy and investment planning.** This aligns with current emissions trajectories, UK net zero commitments, and international best practice.
- **Use a suite of scenarios (e.g., RCP2.6/SSP1-2.6, RCP4.5/SSP2-4.5, RCP8.5/SSP5-8.5) to capture uncertainty,** but base core decisions on the most likely range, with high-end scenarios reserved for stress testing and resilience analysis.

7.3 Leverage UKCP18/UKCP24 and Warming-Level Approaches

- **Utilize UKCP18 probabilistic projections for RCP2.6, RCP4.5, and RCP6.0,** and apply pattern-scaling or time-slicing to approximate impacts at 2°C and 3°C warming levels.
- **Follow CCC and Met Office guidance to test both 2°C and 4°C scenarios,** but treat the 4°C case as a low-probability, high-impact outcome, not a central estimate.

7.4 Ensure Transparency and Robustness in Scenario Selection

- **Document the rationale for scenario selection,** including the plausibility and relevance of each pathway for the UK context.
- **Engage with stakeholders, experts, and the public** to ensure that scenario analysis is transparent, evidence-based, and aligned with societal values and risk tolerances.

7.5 Avoid Overinvestment and Maintain Flexibility

- **Size adaptation and resilience investments for the most likely range of futures,** with flexibility to scale up if high-end risks materialize.
- **Regularly review and update scenarios and investment plans** as new information emerges, ensuring that regulatory decisions remain robust under uncertainty.

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8. Conclusion

The Ofgem ED3 SSMC Annex's reliance on RCP8.5 as the primary scenario for climate resilience stress testing is inconsistent with the latest scientific understanding, policy trends, and best practice in scenario analysis. RCP8.5 is now widely recognized as a highly unlikely, worst-case pathway, requiring a reversal of current decarbonization trends and an implausible expansion of coal use. Its use as a central scenario risks overestimating future hazards, misallocating resources, and undermining public trust in regulatory decision-making.

Instead, Ofgem and other UK regulators should prioritize more plausible scenarios such as RCP4.5 or SSP2-4.5, which align with current emissions trajectories and the UK's net zero commitments. High-end scenarios like RCP8.5/SSP5-8.5 should be reserved for sensitivity analysis and risk assessment of low-probability, high-impact outcomes. Scenario selection should be transparent, evidence-based, and regularly updated to reflect new information and societal values.

By adopting a robust, balanced approach to scenario analysis, Ofgem can ensure that its regulatory framework supports effective, proportionate, and resilient investment in the UK's electricity distribution networks, safeguarding consumers and the energy system in a changing climate.

Appendix: Scenario Comparison Table

Scenario	**Forcing (W/m^2, 2100)**	**Socioeconomic Pathway**	**2100 Warming (°C, best estimate)**	**2100 Warming (°C, likely range)**	**Key Assumptions**	**IPCC/UK Guidance on Likelihood**
RCP2.6	2.6	N/A	1.6	0.9–2.3	Rapid mitigation, net zero by 2070	Plausible with strong mitigation
SSP1-2.6	2.6	Sustainability	1.8	1.3–2.4	Sustainable development, low emissions	Plausible with strong mitigation
RCP4.5	4.5	N/A	2.4	1.7–3.2	Emissions peak mid-century, then decline	Most plausible under current policies

Scenario	Forcing (W/m^2, 2100)	Socioeconomic Pathway	2100 Warming (°C, best estimate)	2100 Warming (°C, likely range)	Key Assumptions	IPCC/UK Guidance on Likelihood
SSP2-4.5	4.5	Middle of the Road	2.7	2.1–3.5	Moderate challenges to mitigation/adaptation	Most plausible under current policies
RCP8.5	8.5	N/A	4.3	3.2–5.4	Rapid, unmitigated emissions, massive coal use	Highly unlikely, low probability
SSP5-8.5	8.5	Fossil-fuelled Development	4.4	3.3–5.7	High population, high fossil fuel use, no climate policy	Highly unlikely, low probability

Table Notes:

- Warming estimates are relative to pre-industrial (1850–1900) and based on IPCC AR6 SPM Table SPM.1.
- "Most plausible" indicates alignment with current emissions trends and policy commitments.
- "Highly unlikely" reflects IPCC and expert consensus that such scenarios require a reversal of current policy and technology trends, especially in coal use.

Detailed Analysis of Table Content

The table above illustrates the stark differences between RCP8.5/SSP5-8.5 and more plausible scenarios such as RCP4.5/SSP2-4.5. RCP8.5 and SSP5-8.5 assume a world of unmitigated emissions growth, massive expansion of coal use, and limited climate policy—assumptions that are increasingly at odds with observed trends and policy commitments. In contrast, RCP4.5 and SSP2-4.5 represent stabilization pathways that are consistent with current emissions trajectories, technological progress, and the UK's net zero target.

The IPCC and UK guidance now stress that high-end scenarios like **RCP8.5/SSP5-8.5 are highly unlikely and should not be used as central cases for policy or investment planning**. Instead, they should be reserved for sensitivity analysis and risk assessment of low-probability, high-impact outcomes. Core planning and regulatory decisions should be based on the most plausible range of futures, as represented by RCP4.5/SSP2-4.5.

Final Remarks

In summary, the continued use of RCP8.5 as the primary scenario for stress testing in the Ofgem ED3 SSMC Annex is scientifically and policy-wise unjustified. Ofgem should urgently revise its methodology to align with the latest IPCC assessments, expert guidance, and UK policy commitments, ensuring that scenario analysis is robust, proportionate, and fit for purpose in a rapidly changing energy and climate landscape.

Kind Regards

Robert Edge

John Tattersall

I'm not convinced by climate alarmism and I'm even less convinced Britain should be trying to set an example to the rest of the world in reducing carbon emissions when we can't even fix the potholes in the road network. I suspect I'm not alone and that public opinion is slowly shifting.

My view on your consultation is that Ofgem should put the brakes on the net zero stupidity and not make it any more difficult for the next government to back away from the job destroying bill inflating net zero agenda.

Thank you for your time.

John Tattersall

Sonia Diacono

We all know that you are basing your future plans on RCP 8.5, which is the most unlikely of all scenarios. Please could you scale this back so that the taxpayer and other people using electricity aren't screwed over for something that is never going to happen?

Please don't sign up to contracts for Net Zero lunacy that will take us far beyond 2029.

The British public are slowly realising that this whole thing is a farce that is rapidly bankrupting the country.

Please stop.

Peter Lucey

Dear Sir or Madam,

My reply – as a lowly consumer – is that your should work ro provide the lowest cost reliable energy for UK businesses and consumers.

The mad Net Zero craze is almost over as none of the climate alarmist predictions have been fulfilled.

The next UK Government (or even this one) will soon drop the requirements.

So please do not allow climate alarmism to affect your proposals.

Best wishes

Peter Lucey

Larry Sylvestre

Citizen - Aged 77 years ...L M Sylvestre - Truro, Cornwall.

I protest fully against any increase in electricy charges prompted by you at OFGEM looking into your Crystal

Ball to predict the future and how the electicity distribution network needs to be upgraded in the coming years

I hope, along with all the people I know, that the policiy with the fancy name of ' net-zero ' (not deserving of capital letters!) is cancelled asap! If so, there will be no need to activate any of your plans.

Please take my opinion into account when PUBLIC CONSULTATIONS are looked at.....

I don't think, for a second, that your plans have been widely publicised by 'on board' net-zero fanatics such as the BBC

so I Imagine that there won't be many messages such as this.

SSEND Independent Stakeholder Group

Dear Ofgem

Please find below SSEND's Independent Stakeholder Group (ISG) response to the ED3 SSMC.

Question 47: Consumer voice and research (Appendix 3)

The SSEND ISG supports the importance of consistent, high quality and meaningful consumer research in ED3 and increased transparency of how this research is used to inform business plans. However, we are also concerned that the research undertaken for the price control needs to represent value for money for consumers.

Joint and collaborative research, particularly in 'difficult' areas such as with hard to reach groups or on more technical topics, can reduce costs. To support this, we consider that greater clarity is needed in the ED3 framework in terms of the research that Ofgem will lead on and the research that is for companies (e.g. as it is place or customer group specific). It takes time to commission, apply and scrutinise meaningful research so the timing of Ofgem and joint DNO research work will be crucial. ISGs need to know what joint research is coming and when.

In previous price controls in energy, and other sectors, there have been some concerns that regulators have not always given due weight to the consumer research that has been carried out. To avoid this happening in ED3, it will be important for Ofgem to spell out how it will take account of and use consumer research in its determinations and for Ofgem to provide clear information on how relevant consumer research has been taken into account in its decision documents.

Question 48: Enhanced stakeholder engagement (Appendix 4)

Paragraph A4.5 notes that Ofgem may ask the ISGs to review specific areas of the business plans if it decides that there is a particular need or consumer or stakeholder interest. Whilst we understand that issues can emerge in the price control process, the SSEND ISG would be concerned if this led to scope creep and significant new requirements for the Group.

Best wishes

Sharon Darcy

Chair, SSEND ISG

Community Power

Good morning,

Natural monopolies should never have been privatised. The UK now faces the consequences. Reacquisition - even at a premium - is money well spent.

Not ideology, not nostalgia.

But a **rational economic correction**.

This is not the 1980s anymore. The system has hit physical, economic, and geopolitical limits — and the only solution is **public ownership of critical infrastructure**.

The regulatory model, since the 80s, has let private owners:

- game the price controls
- underinvest strategically
- outperform financially
- deliver mediocre service
- lobby heavily
- slow-walk upgrades

The regulator's tools were too weak relative to the financial sophistication of the owners.

This would not be the case if ownership were public:

- incentives align with national interest
- investment becomes proactive
- resilience becomes the priority
- monopoly profits stop leaking abroad

Sometimes the simplest solution is the correct one:

If competition can't work, ownership should be public.

Kind regards

Peter Kennedy

Chairman

Energise Barnsley

Dear Sirs,

Energise Barnsley Response to ED3 Sector Specific Methodology Consultation

Energise Barnsley https://energisebarnsley.co.uk is a community benefit energy society working on smart local low carbon energy systems. We are responding to Q23 in the consultation, specifically:

Q23. Notwithstanding the proposals we have set out under 'Redefining Connections Types', do you have alternative proposals for what DNOs need to do to speed up connection times for LCTs, and what incentives (other than those we have discussed in this chapter, obligations and/or funding may be required to support this? (chapter4)

There is a need for conformity across the DNO when accessing connection times for LCTs as the current arrangement is a region/postcode lottery on what type of connection response result you receive and over what time period.

We echo Ofgem's desire for the 'DNO's to do more.' We would like the following to be enforced:

- A threshold of >95% capacity at a local substation before it needs to be upgraded/reinforced. [Currently the threshold is not set and some DNO's will want to upgrade the substation if capacity is at 85% therefore delaying LCT connections]
- Multiple applications for LCTs connections should be part of Ofgem Guaranteed Standards. [After relooking and redefining what constitutes 'multiple applications' response times from the DNO should be mandatory not voluntary, as connection time responses under the current scheme are very irregular, at best]
- Looped Properties & connecting LCTs [The current policy differences between DNOs is a mess and a bottleneck to connecting LCTs]. DNOs should take UKPN's approach and install 3 phase electric supply at the DNO cut off point to the looped property on the mains connection, with 2 of the phases going to the other 2 homes on the looped supply. This engineering solution, in addition to an

additional 3 phase of 4 or more looped properties should be rolled out across all DNOs instead of insisting on delooping properties first which is both cost and time prohibitive for all parties involved

- DNOs should all comply with automatic connection for LCTs at a set kWp rate with G98 testing provided after connection. For example 5kW of solar, 9kW heat pump, 7kW vehicle electric charger should all receive automatic connection acceptance. [At the moment 2.8kWp <16 amps of solar can be connected automatically in some regions whilst on multiple applications DNO connection permission has to be granted before installation, and this is not being granted for looped properties until delooping takes place
- DNOs need guidance and conformity when assessing multiple LCT connection requests at the same time on one property especially on the role of a smart battery and the ability of devices to limit export. [At the moment there is no consistency and DNOs treat smart batteries and other LCT demand devices at total kWP when assessing the effect on the local network, with varying results and denial of connections]

Our main concern is currently how looped properties in certain DNO regions are being prevented from connecting LCTs until delooping occurs.

This is preventing the 'just transition' to a low carbon economy. If a small amount of solar (2.8kWp) is being permitted to be installed it is not allowed to export any solar generated energy until the delooping works have taken place. This in turn means that community energy solar financial models will not be able to be deployed. UKPN has taken a different approach to looped properties by providing the solution of introducing 3 phase electricity to the home with the mains connection.

We, alongside the NEA have written a report on delooping residential properties in England, and would like to work with Ofgem to implore all DNOs to provide the engineering solution UKPN are doing after researching and testing the viability (cost and time savings/economic benefit) across all DNOs, in order that there is a just transition.

We would welcome further engagement on this topic with Ofgem,

Kind regards**,**

Andy Heald

Heat Geek

Hi there,

This response is submitted in accordance with the consultation instructions on page 211. Our responses are not confidential.

The purpose of this submission is to provide clear, experience-based feedback on unlooping, general connections, and low-carbon technology (LCT) connections. The views expressed reflect practical issues encountered in domestic heat pump deployment and the broader electrification process. Delays associated with DNO processes, particularly unlooping, materially affect consumer decisions and pose barriers to the energy transition.

SECTION 1: UNLOOPING (RESPONDING TO QUESTIONS Q1–Q7)

Q1

I strongly agree with the guiding principles. Unlooping delays currently represent a major real-world barrier to low-carbon technology adoption. Consumer value, transparency and national consistency are especially important. A stronger regulatory framework with proactive planning and clear accountability will reduce delays and improve consumer confidence.

Q2

The proposed objectives for long-term integrated plans are appropriate. A reactive approach to unlooping is no longer sufficient. A long-term, strategic approach that includes identifying looped supplies early and planning for proactive upgrades will reduce today's unpredictable delays.

Q3

I support the proposed structure and contents of the plan. Improved network visibility is essential. At present, neither installers nor customers can know whether a home is looped until very late in the process. This creates an unpredictable lottery where some customers face months of delay while others proceed instantly. Embedding unlooping data and clear unlooping plans within the structured development plan will help resolve this.

Q4

I strongly agree with using tRESP outputs in DNO network impact assessments. This ensures consistency across regions and prevents unlooping from becoming a postcode-dependent experience. Consistent planning inputs will improve fairness and accelerate low-carbon technology deployment.

Q5

I strongly support the proposed guidelines for proactive investment. Reactive unlooping is extremely slow today and is one of the most significant causes of heat pump installation delays. Clear criteria for low-regret intervention and proactive identification of areas needing unlooping will improve timelines and customer experience.

Q6

I strongly agree that LV reinforcement and unlooping are suitable for a programmatic, area-based approach. Unlooping frequently results in several months of delay, especially when customers and installers have no prior warning. For households with broken boilers, these delays make choosing a fossil fuel replacement the rational option, even when the customer prefers a heat pump. A programmatic approach will deliver consistency, efficiency and fairness.

Q7

I strongly support national consistency. Today's unlooping experience varies significantly across the country. Some customers receive immediate responses while others wait months. National standards, including consistent SLAs, communication and reporting, would eliminate this postcode variation and create a fair and predictable experience for all customers.

SECTION 2: GENERAL CONNECTIONS (RESPONDING TO Q18)

Q18

Yes, the definitions of connection types should be updated. I recommend splitting by domestic versus commercial customers, with an additional voltage layer underneath. Domestic customers do not understand voltage terminology, and even professionals can confuse volts and amps. Splitting by customer type provides a clearer, more intuitive structure. It also allows tailored customer journeys while still enabling DNOs to incorporate voltage distinctions internally. The highest priority is improving timeliness and service, and this categorisation best supports that goal.

SECTION 3: LCT CONNECTIONS (RESPONDING TO Q20–Q22)

Q20

Yes, LCT connections and their enabling works should be included in the incentive framework. Delays in fuse upgrades, cut-outs and reactive unlooping commonly slow down LCT installation. Including these activities in a formal incentive framework will align DNO behaviours with national electrification goals. Current customer communications relating to LCT approvals and enabling works are frequently unclear, overly technical and inconsistent between DNOs. This creates anxiety and confusion for customers, and would score poorly in customer satisfaction surveys. Greater transparency and clearer, standardised communications about what is required, why, and when customers can expect completion would significantly improve the customer journey. The proposed metrics (time to quote, time to connect, time to approve and customer satisfaction) are appropriate and will help drive this improvement.

Q21

Yes, the incentive should be both reward and penalty. A penalty-only framework does not encourage excellence or innovation. A balanced approach ensures high performers are recognised and that all regions see improvements in service. This structure supports a fairer and more effective rollout of low-carbon technologies.

Q22

The incentive should apply to both domestic and non-domestic customers. Domestic customers need predictable timelines, especially when replacing failed heating systems. Commercial customers often install multiple LCTs and require reliable timeframes for investment and operational planning. Consistent incentives across both groups are necessary to support the scale of transition required.

CLOSING STATEMENT

The ED3 period represents a pivotal opportunity to remove longstanding blockers in the connections process. Unlooping delays and inconsistent DNO performance currently slow the adoption of heat pumps and other low-carbon technologies, directly influencing customer decision-making and slowing the national energy transition. I strongly support Ofgem's direction of travel: proactive investment, improved accountability, national consistency and clearer customer-focused structures. These reforms will help ensure that domestic heating, transport electrification and distributed generation can scale reliably and efficiently.

If required, I am happy to provide further evidence or case studies regarding real-world delays experienced by customers.

Thank you,

Holly

Lindy Wheeler

Dear team,

Since you asked for views from the consumer, I would like to respond.Some of what I say is not necessarily directly relevant to pricing but ought to inform those involved to better understand the whole argument about adherence to net zero being wrongly used for increasing household bills.

The current energy bills are eye-wateringly high. Some of this is caused by fixing prices rather than following market prices and some of this is caused by adding subsidies for renewable energy on the basis of the idea that climate change is caused by the use of fossil fuels. The tiny rises in CO2 over the past 25 years has been shown to improve crop yields so enabling increasing populations to feed themselves. I don't see that mentioned in government briefs.

The problem with renewables are that they are unreliable and don't give us energy when there is no wind or sun. Further problems are the lack of energy storage (current battery technology) and the need for back-up systems. HEP and tidal power are way more reliable but more costly to set up in the areas where they would yield best results. One might accept higher prices if guaranteed energy production day in night out were guaranteed. .

In my view the whole NetZero movement needs a major rethink and the idea that prices will be fixed on flawed assumptions into 2033 fills me with dread.

I would urge you to closely look at the basis for the prices being considered and also make sure we maintain flexibility rather than fixing prices long into the future when a different government might find its hands tied by the previous. long term fixing.

I suggest those involved in the ED3 report tones down any of its ridiculous climate alarmism, which is unsupported by many scientists - well, those who do **not** rely on government handouts for their research into energy! It must not make it any more difficult than it already will be for the next government to slow down the job-destroying, bill-inflating pursuit of Net Zero.

To climb down from the stupid high pedestals that many idiotic politicians have scaled will be impossible, as being humble and admitting they are wrong flies in the face of their egos and their income! No government will admit it has done the wrong sums and come up with completely erroneous policies. Civil servants are in thrall to the whole

woke belief of net zero. If 50% were got rid of we might have a chance of sanity returning to many ministries.

Government's are supposed to serve the people, not use the people to unwillingly support harebrained schemes that do not consider the use of our UK fossil fuel supply nor using the relatively cheap and effective small Nuclear reactors that could be placed in strategic positions in every county as possible alternatives to Net Zero. These in conjunction with SOME solar wind HEP tidal energy production would be the most sensible way forward price wise.

Ed Milliband's ridiculous adherence to a Net Zero approach to energy production in the UK has destroyed our steel industries and will destroy most other manufacturing industry before too long, while causing each and every household to pay much more than is necessary for the actual energy used by it. Current policies of the Labour party will FAIL to produce the electricity for the rapid emergence of AI which is at the forefront of 'progress' in many fields, and ironically lauded by Starmer!

The loss of productive arable land in the Uk to solar farms is wicked. The catastrophic loss of birds, bats and many many insects to wind turbines both on land and off shore is quite shocking and the inability of most of the turbine blades and ALL of solar panels to be recycled is disgustingl. Even the balsa wood that is used for the blades has been illegally harvested from pristine areas of South American virgin forest and mixed with that from plantations to hide the illegality of the process. The energy required to make one wind turbine is more than it generates over many years..... but this imbalance is never mentioned in government information. These are all facts that are hidden from public consumption and do not feature in any argument about pricing energy.

YOURS

lindy Wheeler