

# Going Beyond – The Radius Response to the IPCC Climate Change 2021 Report

## Introduction

Ahead of the COP26<sup>1</sup> hosted by the UK in Glasgow, the Intergovernmental Panel on Climate Change (IPCC) – of which 195 countries are a member – has released a report detailing the physical science basis of the current state of climate change.<sup>2</sup> The importance of this report cannot be overstated, with past IPCC reports informing the seminal Paris Agreement, it is likely that the COP26 and any follow up policy will be greatly influenced by the 2021 Report. Therefore, it is important to understand the implications of the 2021 Report and what that can mean for us at Radius Systems.

## The Current State of the Climate

‘It is unequivocal that human influence has warmed the atmosphere, ocean and land.’

- Paragraph A.1 The 2021 Report

Anthropocentric greenhouse gasses have increased due to human activity, leading to an unprecedented warming of the lower atmosphere by approximately 1.2°C. Causing the hallmarked phenomena associated with climate change; rising sea levels, extreme weather events, retreating ice caps, etc. What the 2021 Report discusses here forms well-trodden ground, but what has changed, is the language. With advances in methodology, data and climate change impacts, what was once potential, is now observed, and what was once likely, is now unequivocal. With the IPCC data, there is a high confidence and agreement that Northern Europe<sup>3</sup> has seen an increase in extreme temperatures and instances of heavy rainfall. But are these set to continue?

## The Possible Climate Futures

‘Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO<sub>2</sub> and other greenhouse gas emissions occur in the coming decades.’

- Paragraph B.1 The 2021 Report

In each of the emission models in the 2021 Report, global temperatures are set to increase between now and 2050. Even a steep decrease in global emissions and CO<sub>2</sub> neutrality by 2050 is dangerously close to exceeding the preferred 1.5°C limit set by the Paris Agreement.

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<sup>1</sup> The Conference of the Parties (or COP) are annual meetings of policy makers from around the world in accordance with the UN Framework Convention of Climate Change

<sup>2</sup> IPCC ‘Climate Change 2021 Physical Science Basis Summary for Policymakers’ [Sixth Assessment Report \(ipcc.ch\)](https://www.ipcc.ch) <accessed 13<sup>th</sup> August 2021> (Hereafter 2021 Report)

<sup>3</sup> Which includes the UK for the purpose of the 2021 Report

This will intensify the global damage caused by climate change, and the extreme weather events already increasing in the UK.

### The Impact on Radius Systems and Customers

How the 2021 Report will shape COP26, and the subsequent policy and strategy of the UK is unclear. The 2021 Report highlights the importance of ambition that reaches further beyond the current UK government's goals of carbon neutral by 2050, and the necessity, in shielding our operations from the impacts of climate change.

Through enhancing our environmental management system, we will create a comprehensive catalogue of how climate can affect Radius Systems' operations and develop strategies to mitigate its effects. This includes capital investment into the drainage system to handle an increased frequency of rainstorms, exploring how an increase in heat waves can damage Radius Systems' stock, and ways to protect the safety and well-being of stock operators during extreme weather events.

Going beyond also requires a set of more ambitious climate targets. Having moved 99.9% of our electricity usage to renewable sources, we have already cut down significantly in our emissions, but neither our work, nor aspirations stop there. Through setting targets in key climate related areas, such as raw material and water usage, waste management, and energy efficiency, we have highlighted and capitalised on significant opportunities for emission reductions. Furthermore, we have created plans to increase the emission awareness across Radius Systems operations, and better quantify how specific aspects of our operations impact climate. Strengthening our ability to capitalise on emission opportunities.

We further hope that the 2021 Report will help us to communicate the significance of Going Beyond with members of our value chain, allowing for more fruitful cooperative problem solving. This is especially important for understanding how the urgency required by the 2021 Report will embolden our customers' pre-existing climate mitigation and adaptation goals. From facilitating a switch to a hydrogen network, creating a sustainable and resilient water infrastructure, to lowering emissions of operations. This non-exhaustive list of goals highlights the critical support Radius Systems can provide the gas and water network in climate mitigation and adaptation.

### The Radius Innovations that Tackling Climate Change

With innovations that reduce the need for costly excavation our gas and water companies can enjoy a lower operational cost. In both financial and climate terms, saving up to 77% in emissions compared to trenched pipe placement.<sup>4</sup> These innovations include: Subcote™, a process of rehabilitating metallic pipes through spraying a solvent-free FLP solution that forms a resistant barrier; ServiFlex®, a flexible pipe that can line 1" steel service pipes; and Rolldown®, a technique that pushes a pipe through a set of rollers to compress the outer

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<sup>4</sup> Samuel Ariaratnam and Shaik Sihabuddin 'Comparison of Emitted Emissions Between Trenchless Pipe Replacement and Open Cut Utility Construction' (2009) Journal of Green Building 126

diameter, which is then expanded back to its original size once slip-lined into the host pipe, maximising the capacity of the renovated pipe.

Turning to hydrogen, as 85% of UK homes are heated by natural gas, the UK government and Climate Change Committee have placed hydrogen at the heart of net-zero plans. The 2020s are marked as the pivotal decade for this transition. As a result, validating the safe use of hydrogen in existing gas networks is imperative. And Radius Systems plays a key role in contributing to this validation, as our Derek Muckle, Director of Innovation explains:

“The gas distribution network is a significant invested asset; it can be repurposed to hydrogen storing vast amounts of energy that is available on demand. A key point in favour of conversion of the network is that we are well advanced replacing old iron pipes with new welded polyethylene alternatives. This reduces risk still further and provides assets with long predictable lifetimes into the future. To validate this pathway, we have played our part, investing in skills and infrastructure to generate the evidence and technical proof for regulatory safety cases. And it is that, a reasonable use of existing infrastructure, which is one part of the jigsaw to a low carbon future”

## Conclusion

To put it plainly, the 2021 Report portrays a bleak look into the global climate future. With climate change leading to real harm across the globe and in the UK, and even in best case scenarios, this harm is likely to be on the rise for decades. But in this gloom, the importance of developing a path Shaping a Sustainable Future has never been so bright. And we at Radius Systems, will take the necessary steps towards this future and go beyond. By transitioning our energy to renewable sources, protecting our employee’s welfare and operations in the face of extreme weather events, and cultivating industry communication to provide innovative solutions and products that reduce emissions and help facilitate the shift to lower carbon fuel sources.