

# ZERO CARBON RUGELEY

## WP6-D4: FIRST VERSION OF RUGELEY SLES DESIGN

Version: 1.1  
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Element	Description
Title	ZERO CARBON RUGELEY WP6-D4: FIRST VERSION OF RUGELEY SLES DESIGN
Creator	Maria Briola (ENGIE UK) and Chris Mazur (ENGIE UK)
Subject	Keywords – Distribution Networks (DNs), Energy demand, Prosumer tool, Basecase models, Improvement scenarios, Heating technologies, energy converters, nodes, lines, CAPEX, OPEX, electricity market, gas market, gas boiler, electric boiler, thermal store, fixed network, flexible network
Description	Zero Carbon Rugeley project aims to design a Smart Local Energy System (SLES), which consists of different individual energy solutions that are integrated with each other and seek to decrease carbon emissions, reduce energy bills by at least 25% and provide wider benefits to the local area by 2030. In order to achieve that, WP6 aims to analyse the current energy system in Rugeley, which covers new and existing buildings, mobility and energy assets and create energy models of the existing energy system (infrastructure and energy users). WP6-D4 has tested 3 different improvement scenarios for 2030 and compared them against the basecase scenario. <b>Improvement scenario 1: Fixed network with residential GB</b> : Existing electricity and gas network, integration of RE technologies and storage, applied retrofit for the residential buildings, <b>Improvement scenario 2: Fixed network without residential GB</b> : Existing electricity network, HPs only for residential users, applied retrofit for the residential buildings and <b>Improvement scenario 3: Flexible network without residential GB</b> : Allow the expansion of the electricity distribution network, HPs only for residential users, applied retrofit for the residential buildings. There is also included an updated version of the BAU (basecase) PROSUMER models.
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Format	xlsx
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Source	ERIS, CADENT, WPD, SHAP <a href="https://www.westernpower.co.uk/network-flexibility-map-application">https://www.westernpower.co.uk/network-flexibility-map-application</a> <a href="https://www.westernpower.co.uk/our-network/embedded-capacity-register">https://www.westernpower.co.uk/our-network/embedded-capacity-register</a> <a href="https://www.westernpower.co.uk/downloads-view/129382">https://www.westernpower.co.uk/downloads-view/129382</a> <a href="https://www.mygridgb.co.uk/map/">https://www.mygridgb.co.uk/map/</a> <a href="https://www.gov.uk/government/publications/updated-energy-and-emissions-projections-2018">https://www.gov.uk/government/publications/updated-energy-and-emissions-projections-2018</a>
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Zero Carbon Rugeley (ZCR) Smart Local Energy System (SLES) design demonstrator is funded by the government's Department for Business, Energy and Industrial Strategy (BEIS) as part of the Industrial Strategy Challenge Fund (ISCF) ([link](#)).

Relation	SHAP, Energy Systems Catapult, ENGIE
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Rights	Shared with consortium and ERIS/ IUK consortiums
Dissemination / confidentiality	<input type="checkbox"/> Public/ ZCR webpage/ Social media <input checked="" type="checkbox"/> ERIS/ IUK Consortiums <input checked="" type="checkbox"/> Funder <input checked="" type="checkbox"/> Consortium <input type="checkbox"/> Internal

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Version 0.1 created and shared with consortium	Maria Briola and Chris Mazur	30/04/2021

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