Review of equations of state and available experimental data for carbon capture and storage fluids

energy institute

REVIEW OF EQUATIONS OF STATE AND AVAILABLE EXPERIMENTAL DATA FOR CARBON CAPTURE AND STORAGE FLUIDS

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CONTENTS

Contents continued

Contents continued

Page

Contents continued

Page

LIST OF FIGURES AND TABLES

Page

Figures

Tables

Contents continued

FOREWORD

This document has been produced by Wood plc. on behalf of the Energy Institute (EI) via the CCS2001 Working Group and the Carbon Capture Utilisation and Storage (CCUS) Committee. The purpose of this document is to develop a research report on equations of state (EoS) suitable for use with carbon capture and storage (CCS) fluids and to provide the relative strengths and weaknesses of each. Furthermore, this technical report aims to provide a gap analysis of required experimental data, which could be used to tune EoS.

It is anticipated that this research report should be used as a good practice guideline for EoS selection in CCUS modelling, and that it will identify gaps in current knowledge for further tuning of the recommended EoS.

It is expected that the user of this publication will have prior knowledge or experience in fluid modelling from an industry or academic background.

This research report is written in the context of United Kingdom (UK) legislative and regulatory framework; however, the principles set out within this publication can be applied in other countries, providing national and local statutory requirements are met.

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