

# Table of contents

<b>I. Introduction</b> .....	7
<b>II. Terminology</b> .....	9
<b>III. Technological aspects and challenges</b> .....	11
1. Separation and capture .....	11
1.1 Pre-combustion .....	11
1.2 Post-combustion .....	12
1.3 Oxy-fuel .....	12
1.4 Direct air capture .....	13
2. Transport .....	14
3. Storage .....	15
3.1 Saline aquifers .....	15
3.2 Depleted oil and gas reservoirs .....	15
3.3 Basalt formations .....	16
3.4 Storage capacity .....	16
3.5 Monitoring .....	16
4. Usage .....	17

<b>IV. Economic viability</b>	19
1. Economic costs	19
1.1 Capture costs	20
1.2 Transport and storage costs	21
1.3 Emissions trading: the EU emissions trading system	23
1.4 Carbon contracts for difference	26
1.5 Looking beyond 'first-of-a-kind' costs	27
2. Public funding	28
3. CCS/CCU project financing and bankability	32
4. CCS risk profile and insurability	32
<b>V. Networks and initiatives</b>	33
1. International level	33
2. European level	34
<b>VI. CCS/CCU projects and national strategies</b>	37
1. Scandinavia	38
1.1 Sleipner and Snøhvit Projects	38
1.2 Longship Project	39
1.3 Project NOR-GE	39
1.4 Norcem Brevik	39
1.5 Project Greensand	39
2. United Kingdom	40
2.1 East Coast Cluster	40
2.2 Acorn Project	42
2.3 Caledonia Clean Energy Project	42
2.4 Viking CCS	42
3. Netherlands	43
3.1 Porthos Project	44
3.2 Aramis/Delta Rhine Corridor	44
4. Eastern Europe	45
5. United States	46
5.1 Petra Nova	48
5.2 Illinois Industrial CCS Project	49

<b>6. Canada .....</b>	49
6.1 Boundary Dam CCS .....	51
6.2 Quest .....	51
6.3 Polaris .....	51
<b>7. Middle East .....</b>	52
<b>VII. Sources of law .....</b>	53
<b>1. International law .....</b>	54
1.1 UNCLOS .....	54
1.2 London Protocol .....	57
1.3 OSPAR Convention .....	63
<b>2. EU law .....</b>	65
2.1 EU Carbon Storage Directive .....	65
2.2 Hydrogen strategy .....	76
2.3 Sustainable carbon cycles .....	77
2.4 Carbon removal certification .....	79
2.5 Net-Zero Industry Act .....	81
2.6 Other EU legislation .....	84
2.7 Assessment of the EU regulatory framework .....	87
<b>3. National laws .....</b>	90
3.1 Implementation of EU law .....	90
3.2 German law .....	91
<b>4. Standard setting .....</b>	98
<b>VIII. Conclusion .....</b>	99
<b>Notes .....</b>	102
<b>About the authors .....</b>	116
<b>About Globe Law and Business .....</b>	119