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WORKSHOP 2

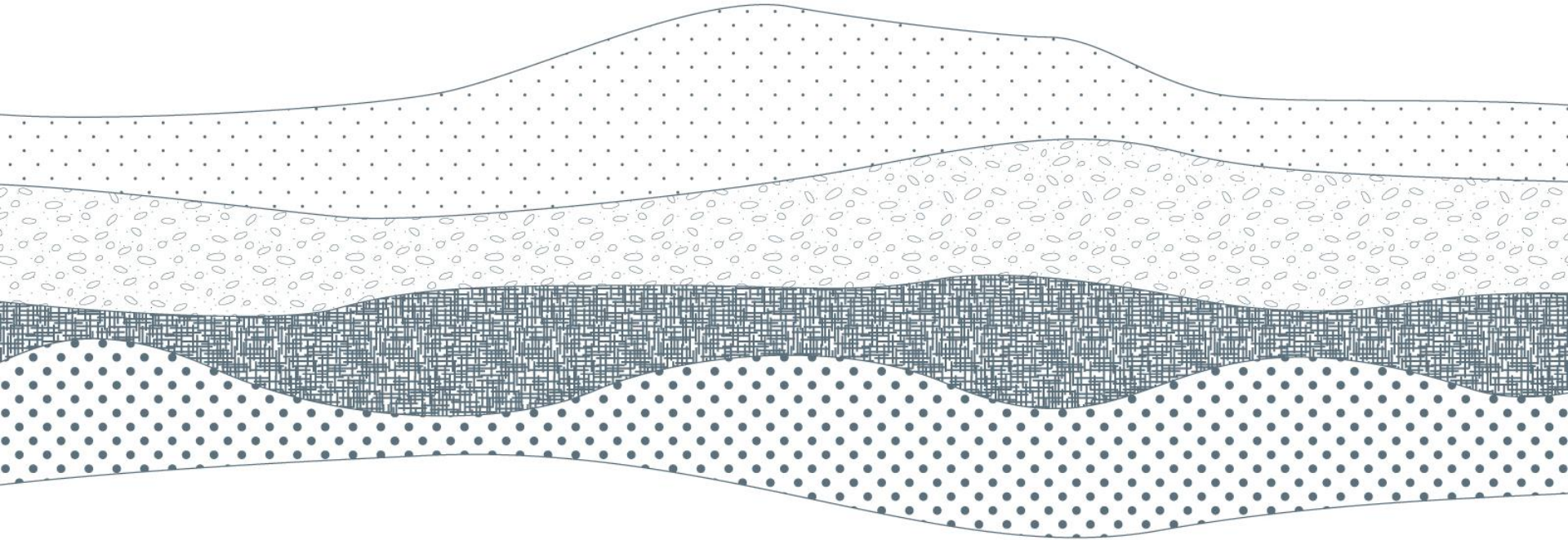
Global Overview of CCS Projects



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GLOBAL OVERVIEW OF CCS PROJECTS

Kathy Hill Principal Manager Storage

Global CCS Institute

China Australia Geological Storage of CO₂ October 2010

WWW.GLOBALCCSINSTITUTE.COM

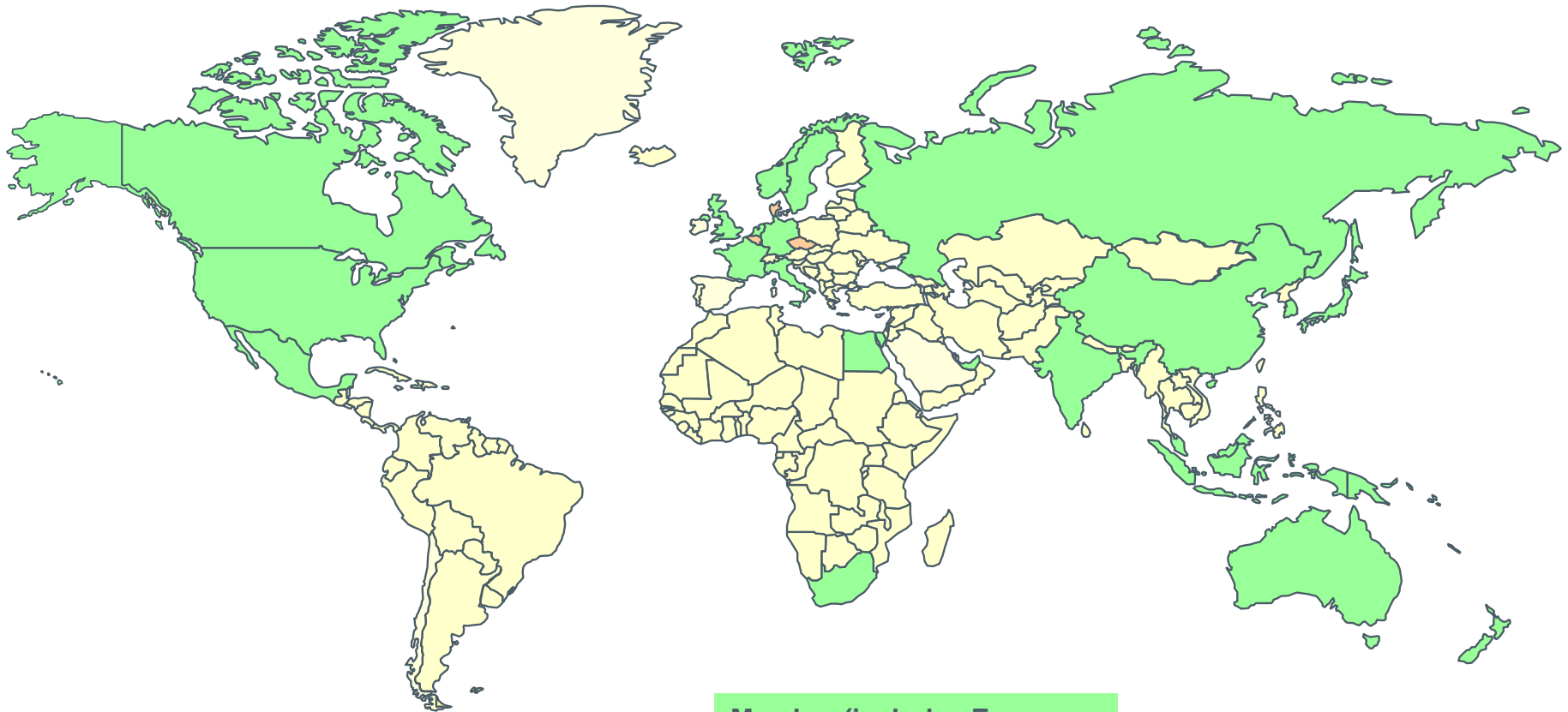
PRESENTATION OUTLINE

- Purpose – provide a global summary of the projects
- The Global CCS Institute
- Brief review of project activity
- Overview of status of large-scale integrated CCS projects (LSIPs)
- Observations and Challenges

THE GLOBAL CCS INSTITUTE

- Announced by the Australian Government in September 2008 the Global CCS Institute was formally launched in April 2009.
- Became an independent legal entity in July 2009.
- The Australian Government has committed annual funding.
- Objective is to accelerate the deployment of CCS.

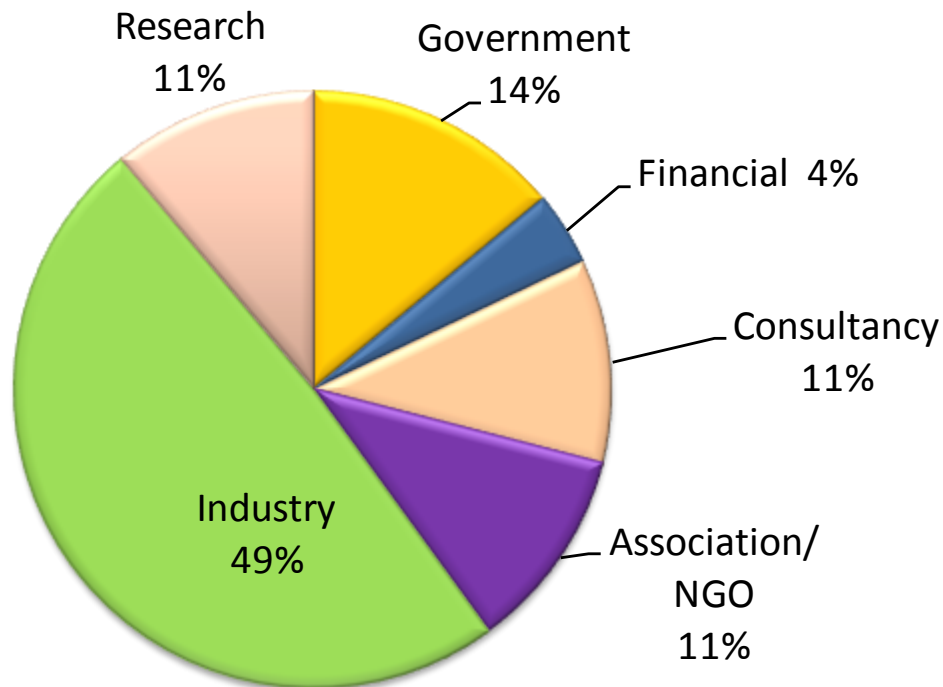
GOVERNMENT MEMBERSHIP



Member (includes European)

DIVERSE MEMBERSHIP PORTFOLIO

263* MEMBER ORGANISATIONS



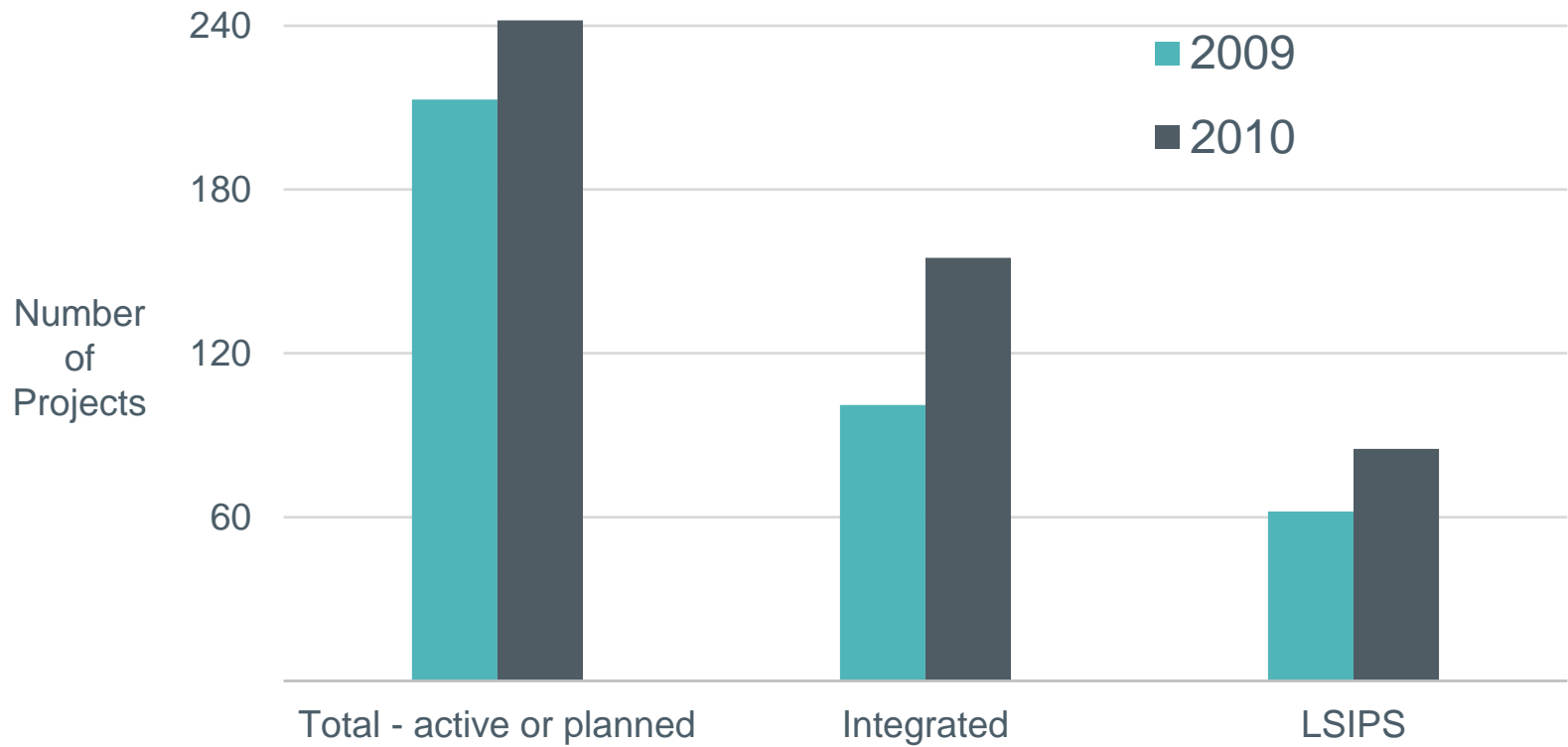
The Global CCS Institute aims to maintain a balance in organisational, political and geographical representation – a true public private partnership.

*September 2010

ANNUAL REPORT

- Annual survey and update of projects
- First edition 2009 *Strategic Analysis of the Global Status of CCS*
- Second edition will be released shortly (an interim report is available)
- Focus is on Large Scale Integrated Projects (LSIPs) – defined by G8 – criteria
- Projects are listed in detail and assessed against a set of criteria

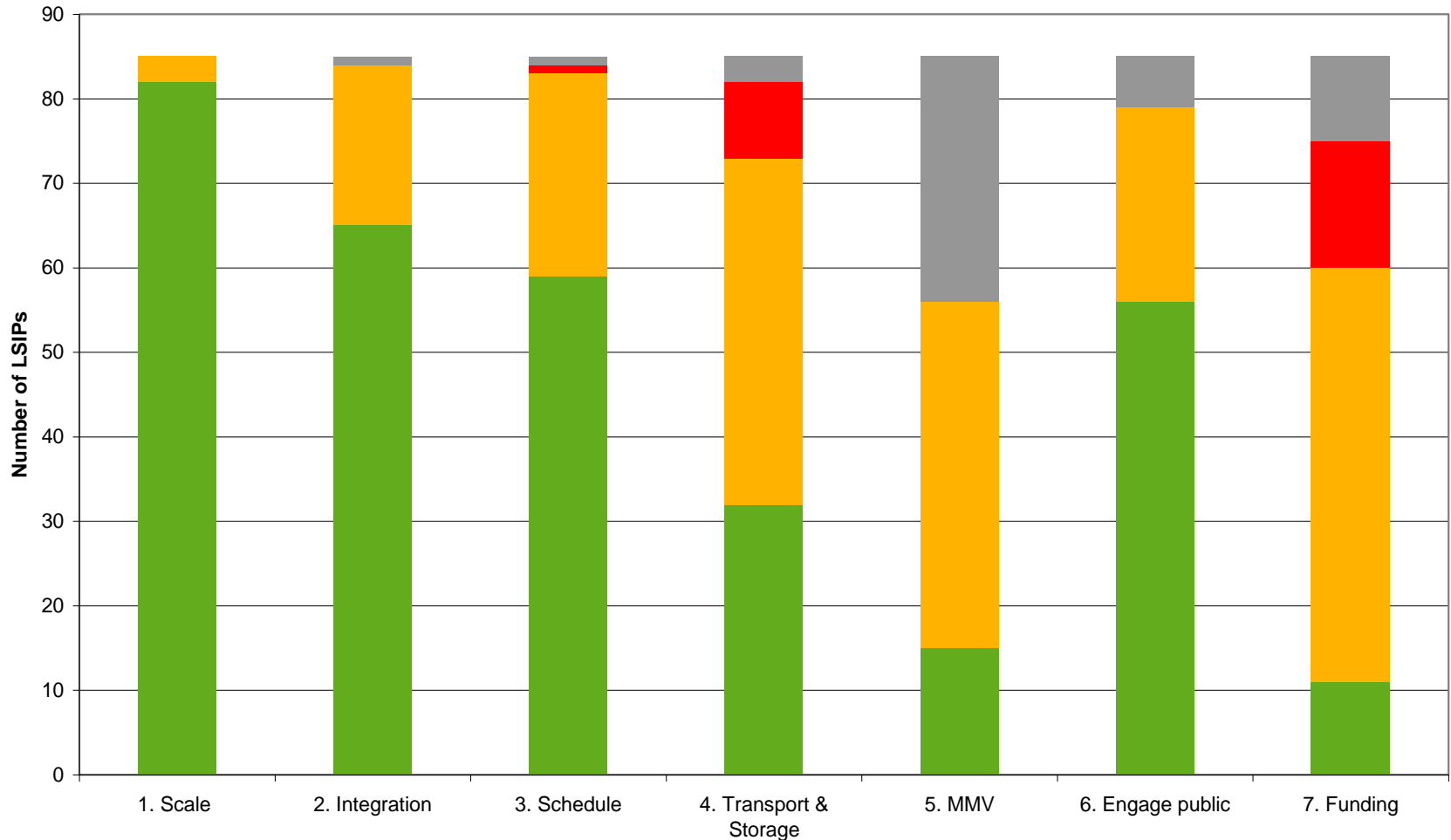
Status of CCS Projects



LSIP G8 CRITERIA- (IN POINT FORM)

1. **Scale** > 1MTPA (Coal); > 0.5 MTA (Natural Gas)
2. **Integration-** of capture, transport, storage
3. **Schedule-**Operate full scale before 2020
4. **Transport & Storage-** Site identified, characterisation underway
5. **MMV-** plan provides confidence in secure storage
6. **Public engagement-** strategy
7. **Funding** Project implementation and funding plans with milestones

LISPs BY G8 CRITERIA

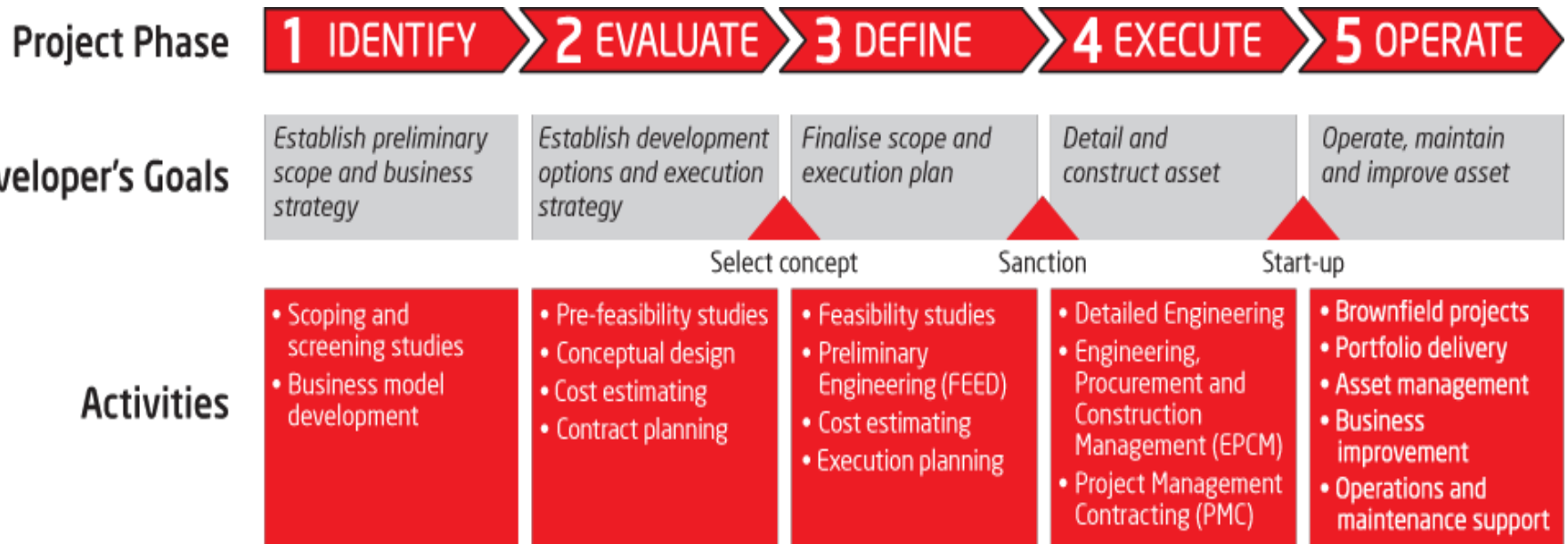


criteria to track progress against the G8 large-scale projects goal



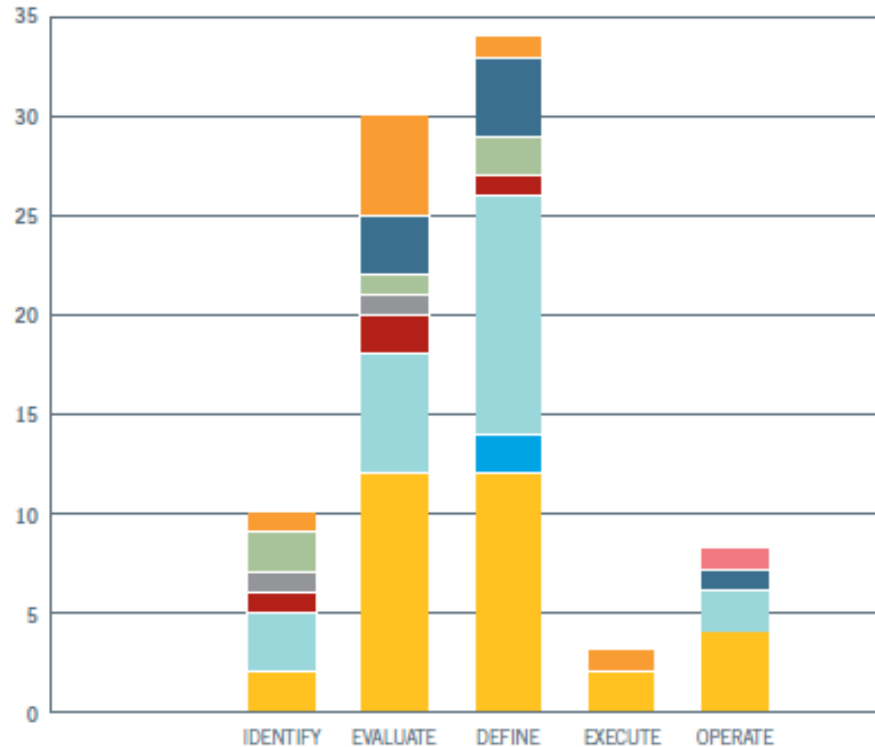
THE ASSET LIFECYCLE MODEL

- A phased approach was used as the framework to assess project status



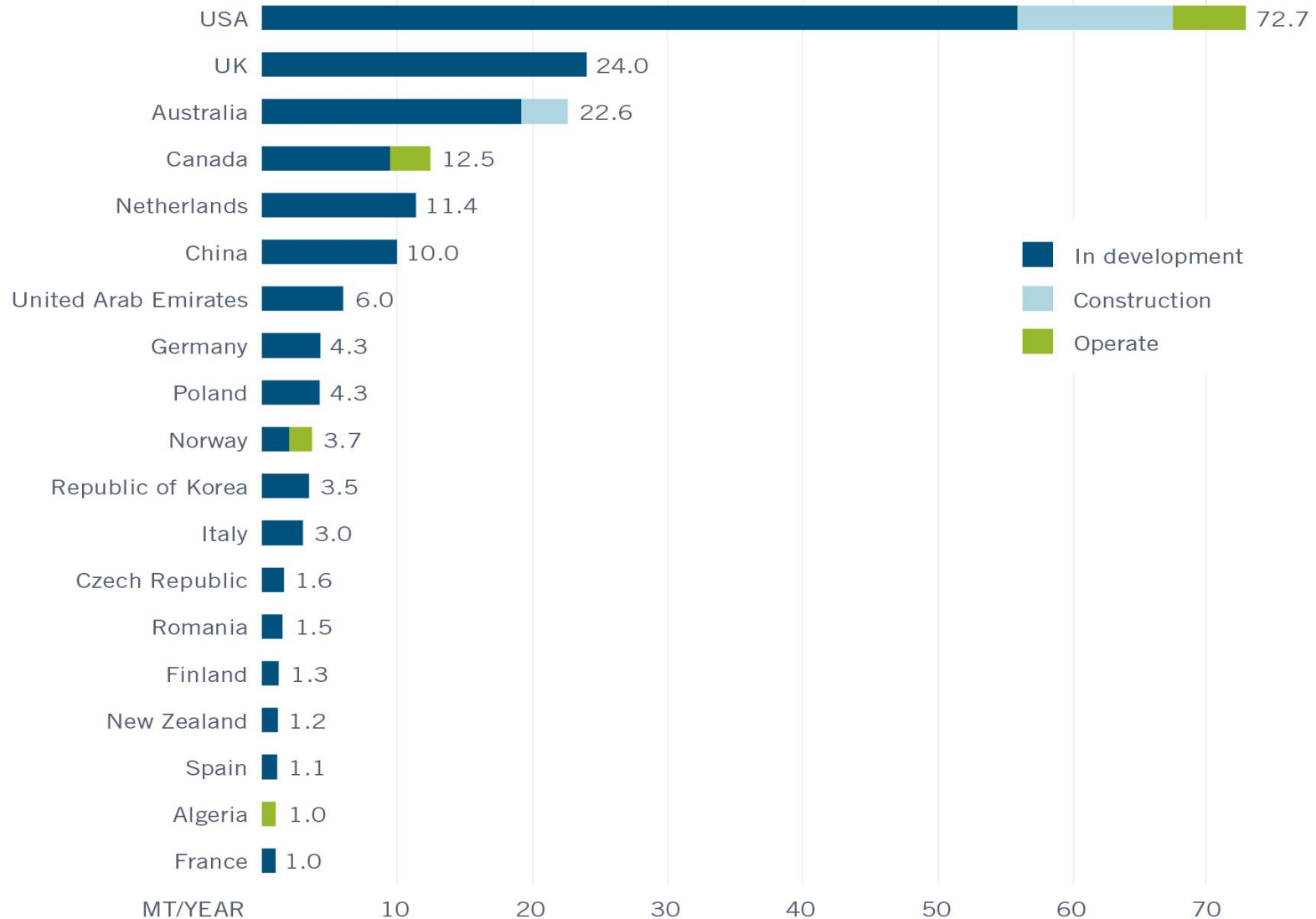
Source: WorleyParsons

LSIPs BY ASSET LIFECYCLE

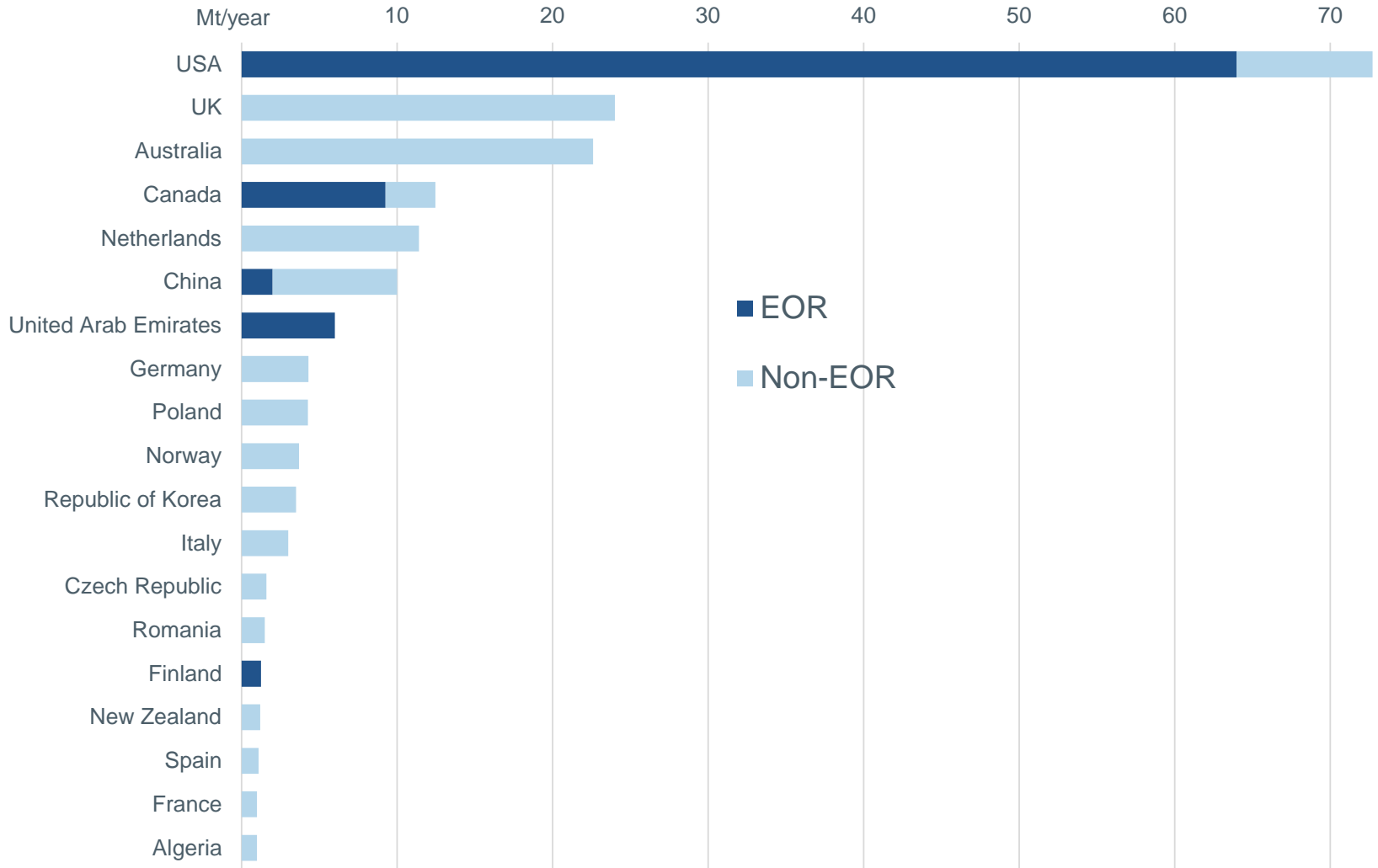


REGION	IDENTIFY	EVALUATE	DEFINE	EXECUTE	OPERATE	TOTAL
Africa					1	1
Australia & New Zealand	1	5	1	1		8
Canada		3	4		1	8
China	2	1	2			5
East Asia	1	1				2
Eastern Europe	1	2	1			4
Europe Area	3	6	12		2	23
Middle East			2			2
USA	2	12	12	2	4	32
TOTAL (2010)	10	30	34	3	8	85
TOTAL (2009)	20	21	14	3	9	67

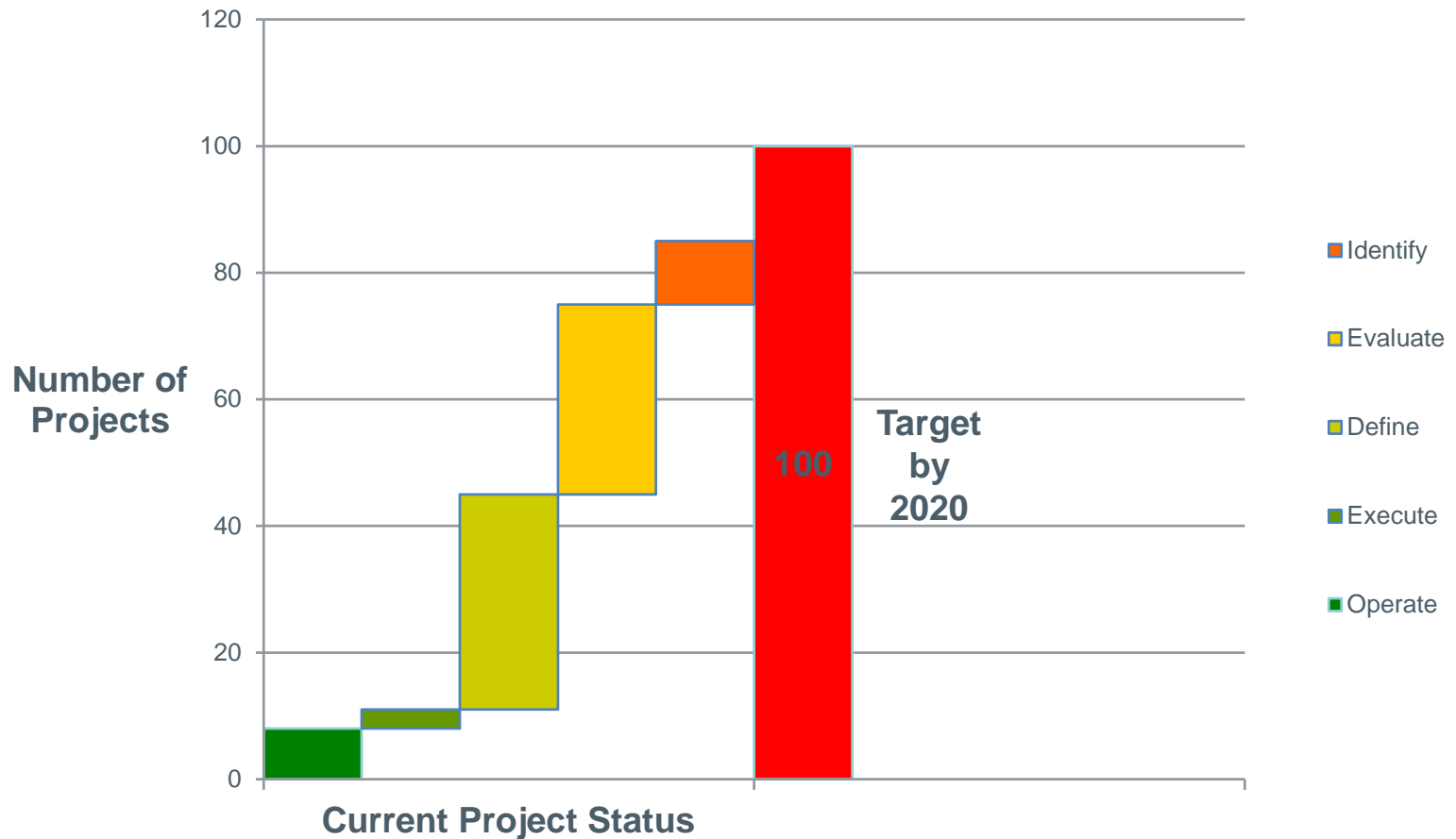
LSIPs BY REGION (CO₂ STORED)



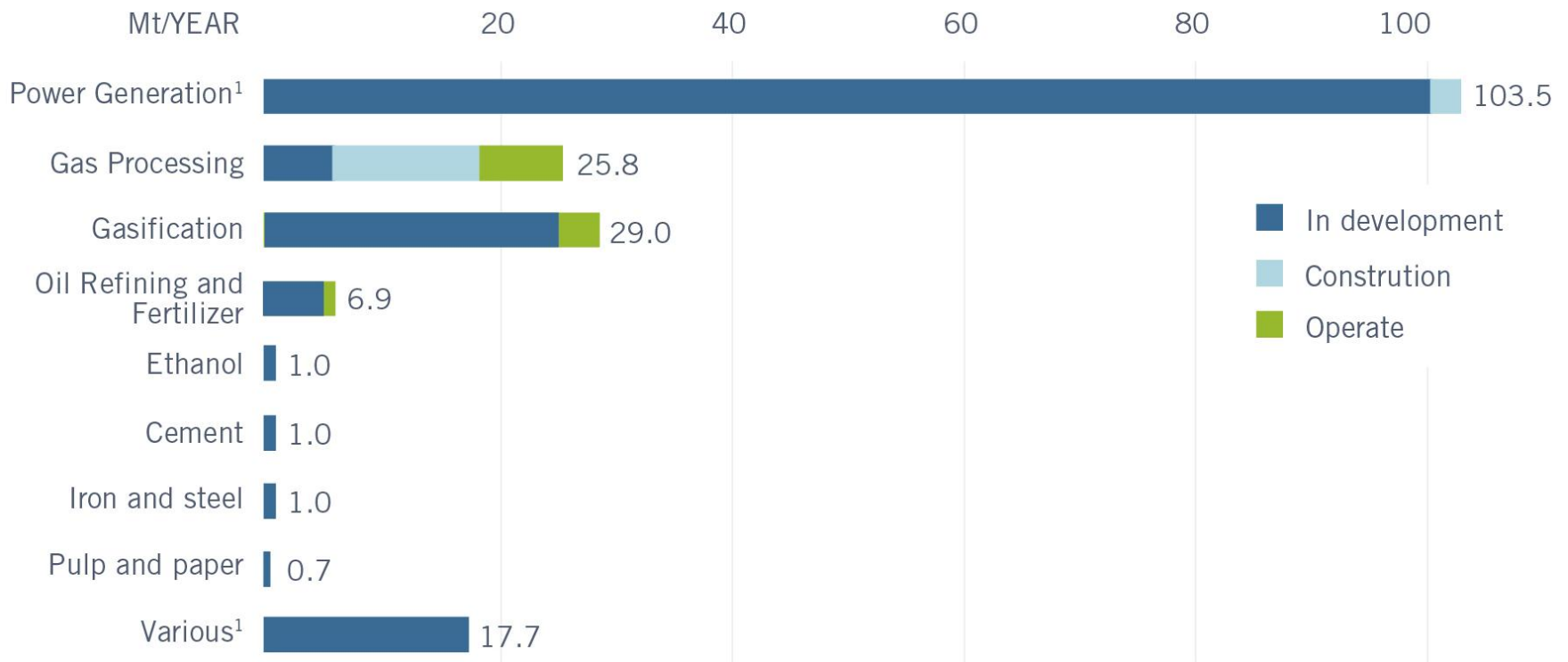
LSIPS BY STORAGE



LSIPS BY IEA TECHNOLOGY ROADMAP – BLUE MAP SCENARIO



LSIPs BY INDUSTRY SECTOR



CONCLUDING REMARKS - OBSERVATIONS

- Robust level of CCS project numbers.
- Currently 6 countries (USA, UK, Australia, Canada, Netherlands, China) account for bulk of CO₂ to be sequestered.
- EOR is a major enabler for action in the USA – revenue and storage expertise.
- Importance of public engagement is being recognised but quality is required

CONCLUDING REMARKS – CHALLENGES

- Key challenges still exist in
 - Timely storage characterisation
 - MMV of CO₂
 - Project finance
 - Legislative frameworks
- While robust development planning activity in the power generation sector much of the subsurface expertise rests in the oil and gas sector.



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