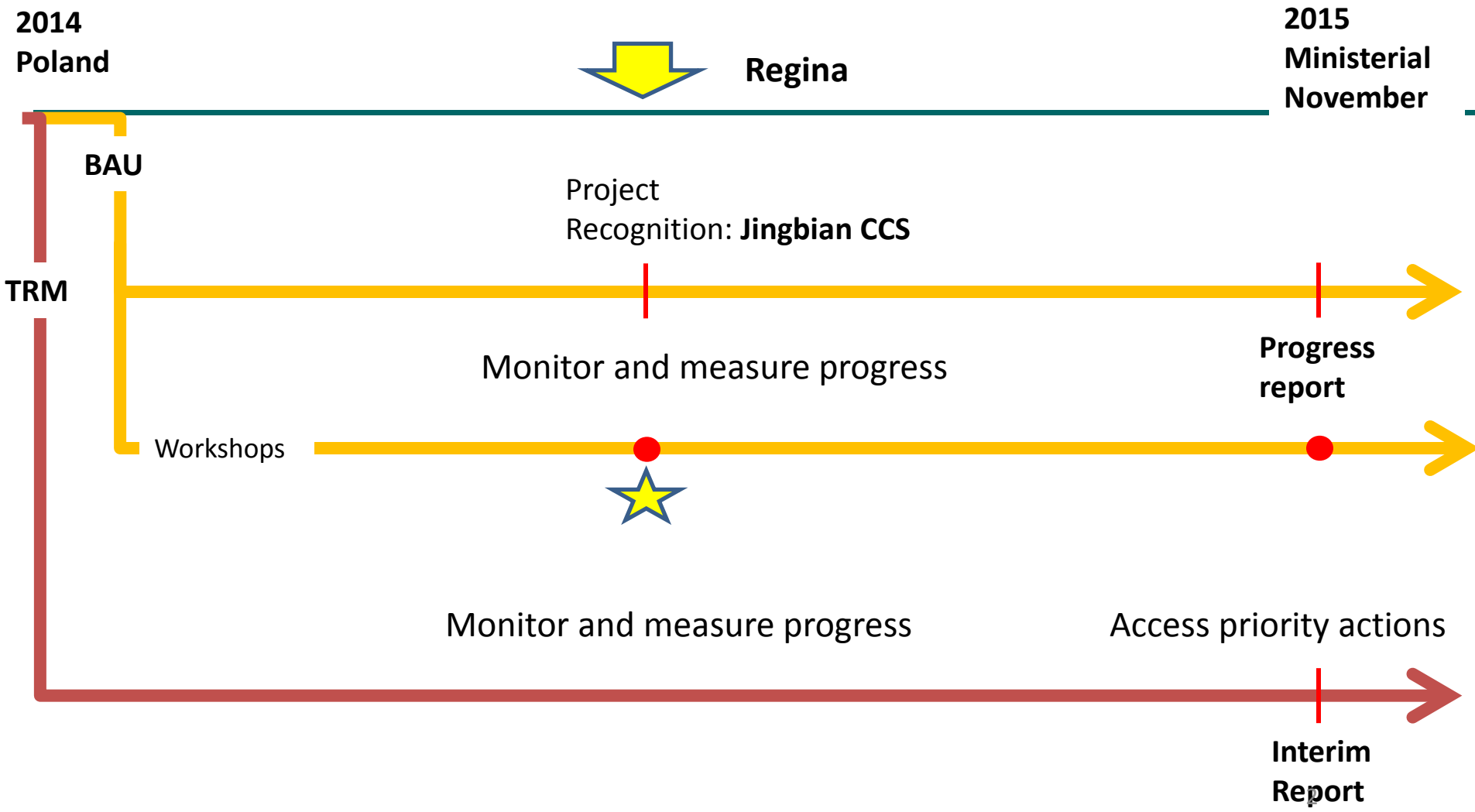
Technical Group Meeting
16 June 2015
Regina, Saskatchewan, Canada
Agenda Items 12 and 13

Report from Projects Interaction and Review Team

Clinton Foster
Chair

PIRT Action Time Line - detail



Recommendation and outcomes

New project review (BAU of PIRT)

- The Technical Group recommend to the Policy Group that the *Jingbian CCS Project* is recognised by the CSLF **[Agenda item 14].**

Technology Road Map – Interim Report (CSLF T-2015-02)

- Agreed modified interim document should form basis of Progress Report for Ministerial meeting
- Discussed concept of TRM versus Road Map/ holistic Progress Report on global application of CCS

TRM Interim Report: background 1

- 2013 Technology Roadmap (TRM) released 5th CSLF Ministerial Meeting November 2013.
- 2013 TRM addressed three key questions:
  A. Current status of CCS technology and deployment, particularly in CSLF member countries?
  B. Where should CCS be by 2020 and beyond?
  C. What is needed to get from Point A to Point B, while also addressing the different circumstances of developed and developing countries?

TRM Interim Report: background 2

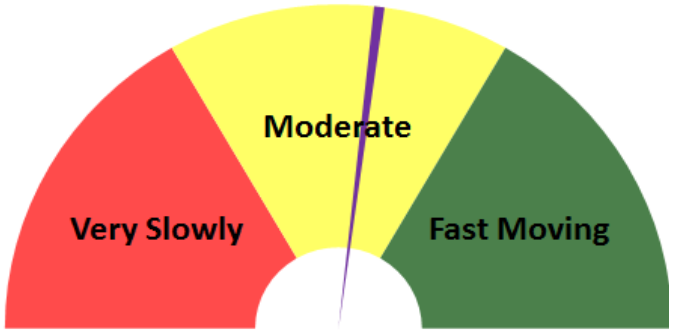
10 Technology Needs Areas identified in TRM:

1. CO_2 capture in power generation
2. CO_2 capture in the industrial sector
3. CO_2 transport
4. Large-scale CO_2 storage
5. Monitoring stored CO_2
6. Mitigation / remediation procedures
7. Understanding storage reservoirs
8. Infrastructure and the integrated CCS chain (capture to storage)
9. CO_2 utilization, non-EOR
10. CO_2 utilization, EOR

TRM Interim Report: background 3

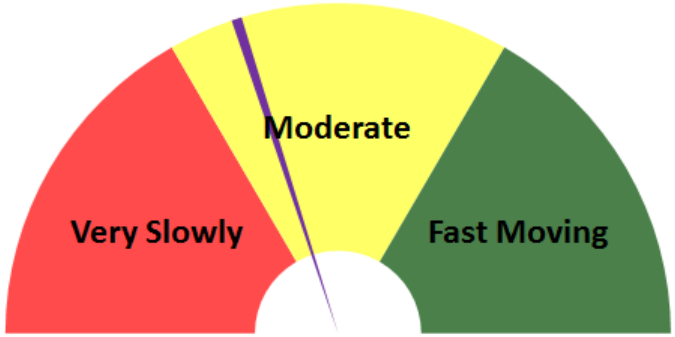
- Survey to all Delegates - 24 respondents from 12 countries, 4 continents
- Data used for draft TRM Interim Report

  CSLF Room Document T-2015-02
- Sections written by PIRT members.
- Revised version of interim report proposed as a deliverable at 6th CSLF Ministerial (November)



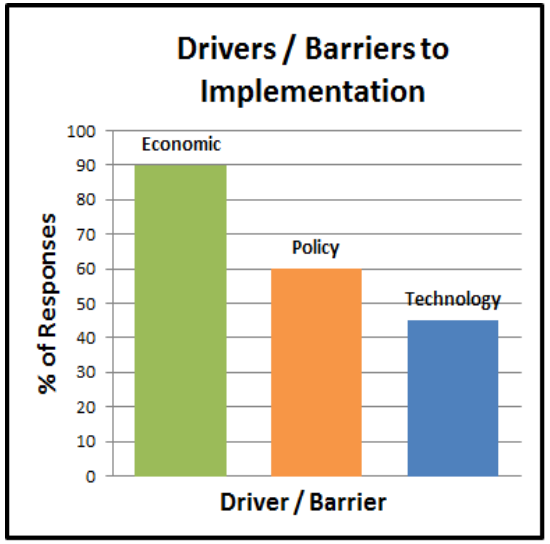
CO_2 Capture in Power Generation

1st Generation Technologies:
Progress toward 2020

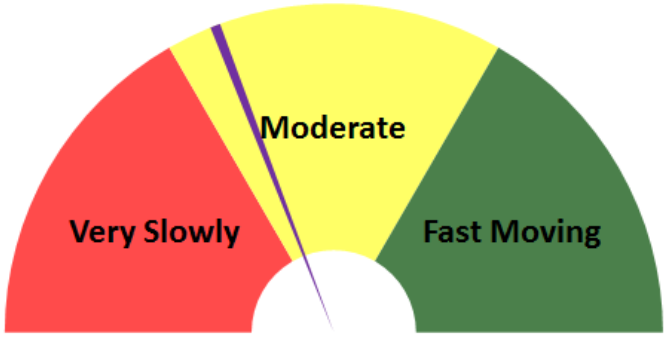


CO_2 Capture in Power Generation

2nd-3rd Generation Technologies:
Progress toward 2020

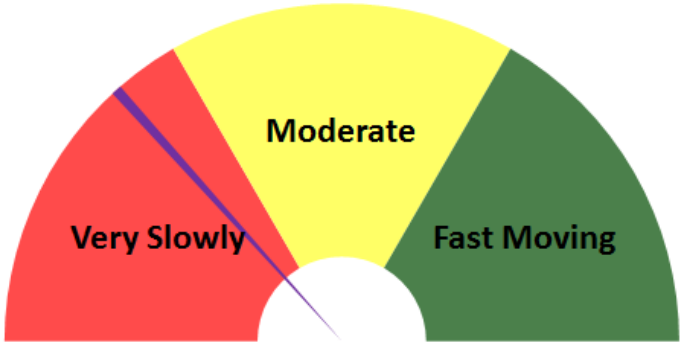


1. CAPTURE – POWER GENERATION



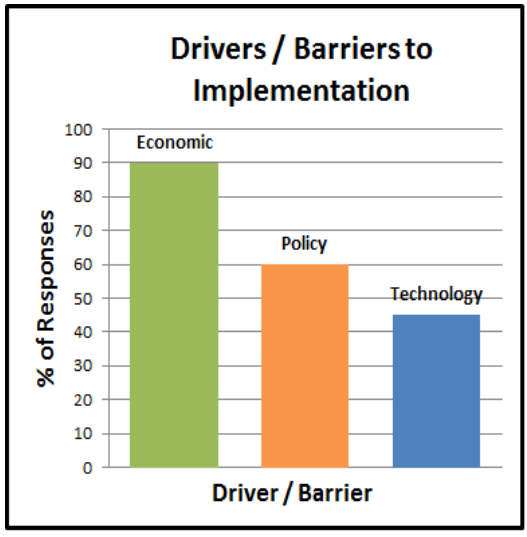
CO_2 Capture in Industrial Sector

1st Generation Technologies:
Progress toward 2020

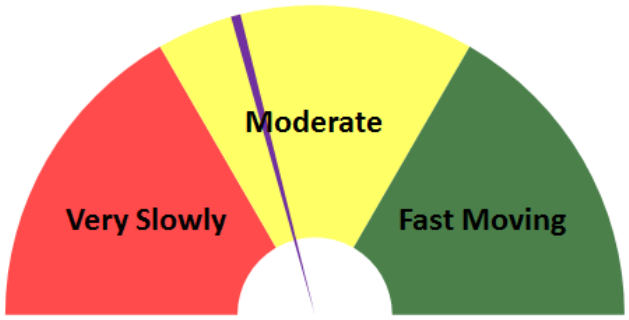


CO_2 Capture in Industrial Sector

2nd-3rd Generation Technologies:
Progress toward 2020

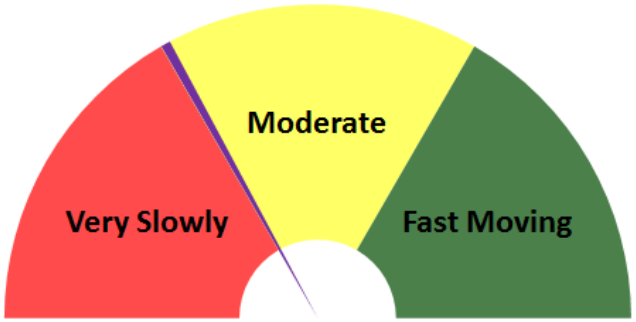


2. CAPTURE – INDUSTRIAL



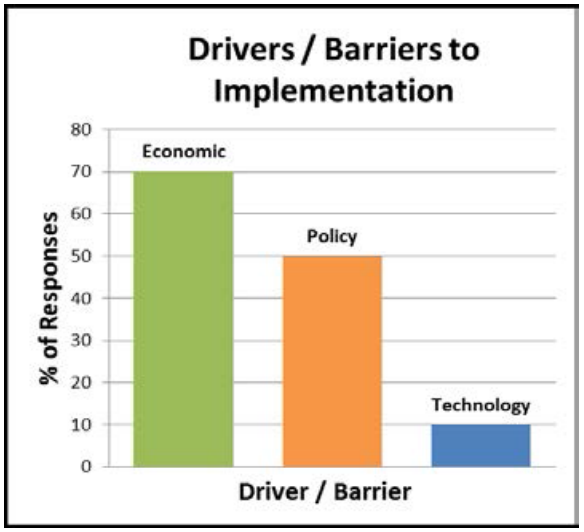
CO_2 Transport

1st Generation Technologies:
Progress toward 2020

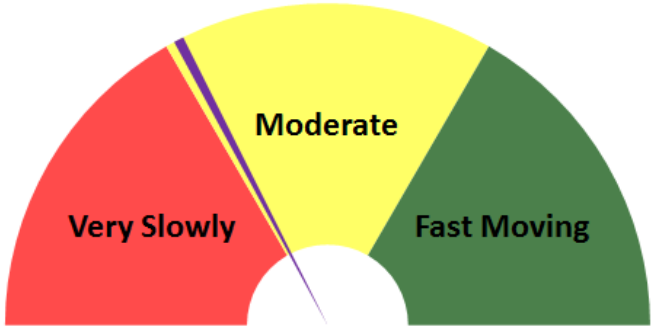


CO_2 Transport

2nd-3rd Generation Technologies:
Progress toward 2020

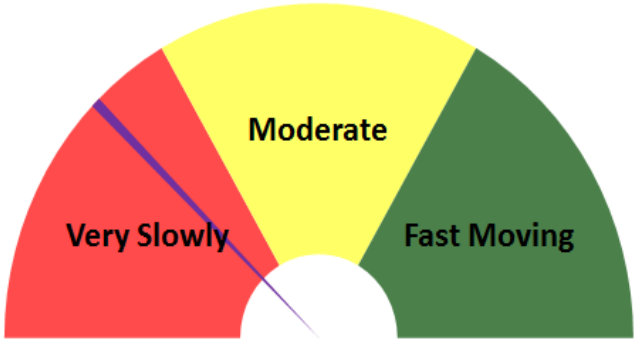


3. CO2 TRANSPORT



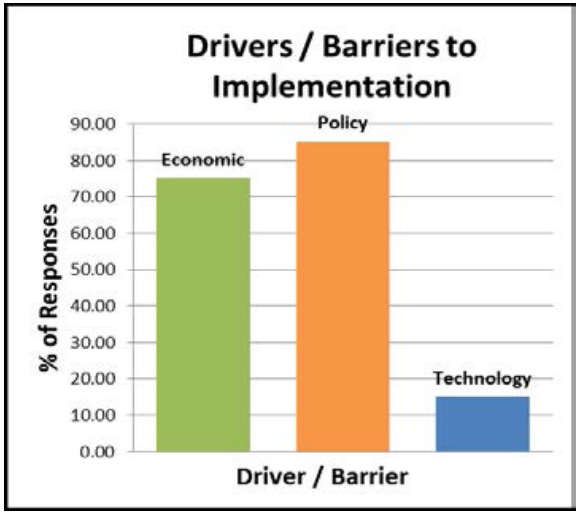
Large-Scale CO_2 Storage

1st Generation Technologies:
Progress toward 2020

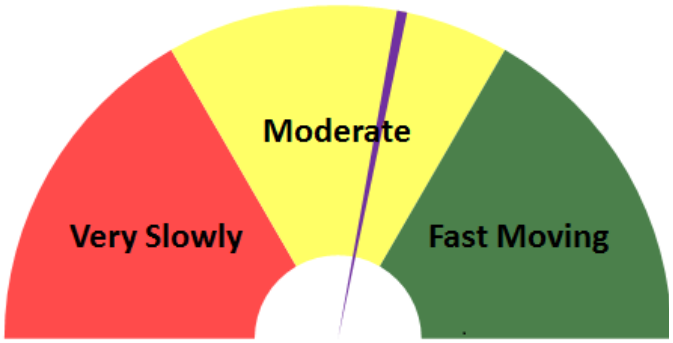


Large-Scale CO_2 Storage

2nd-3rd Generation Technologies:
Progress toward 2020

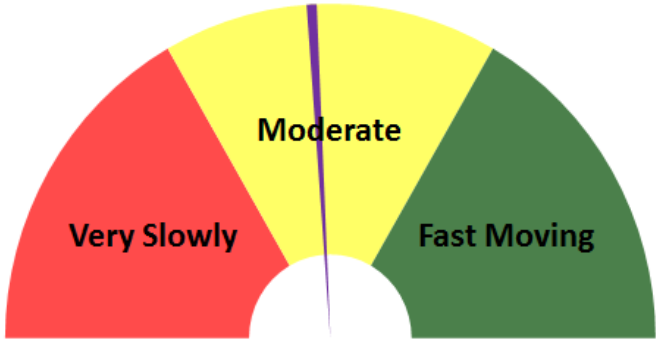


4. LARGE SCALE STORAGE *[WHAT DOES THIS MEAN?]*



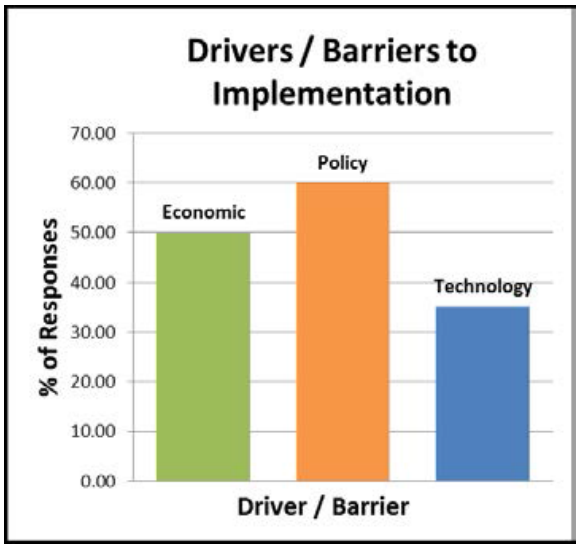
Monitoring Stored CO_2

1st Generation Technologies:
Progress toward 2020

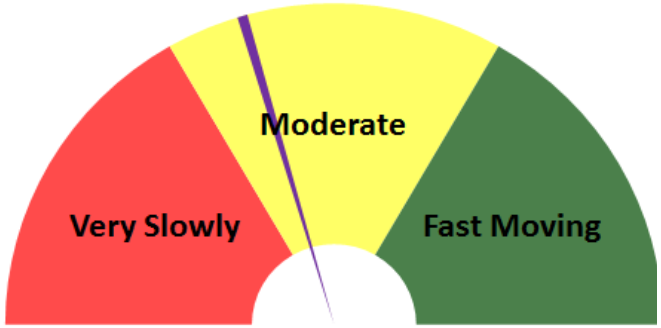


Monitoring Stored CO_2

2nd-3rd Generation Technologies:
Progress toward 2020

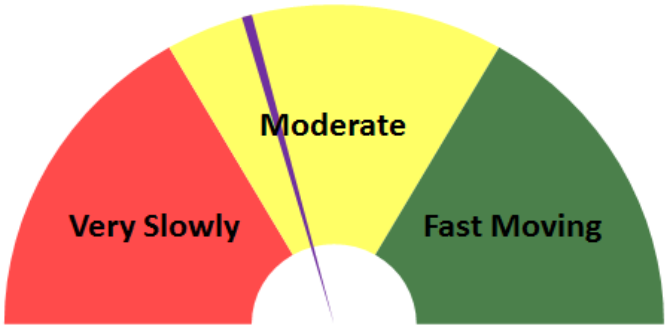


5. MONITORING STORED CO2



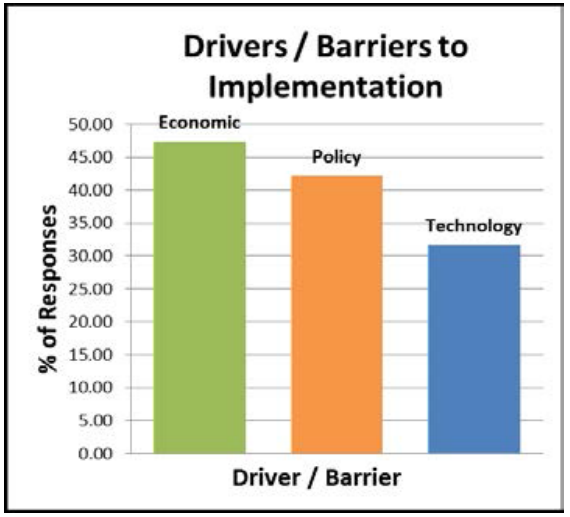
Mitigation / Remediation Procedures

1st Generation Technologies:
Progress toward 2020

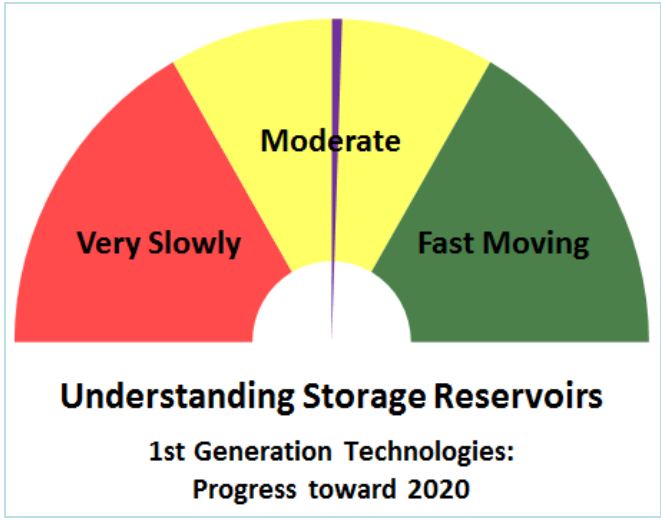


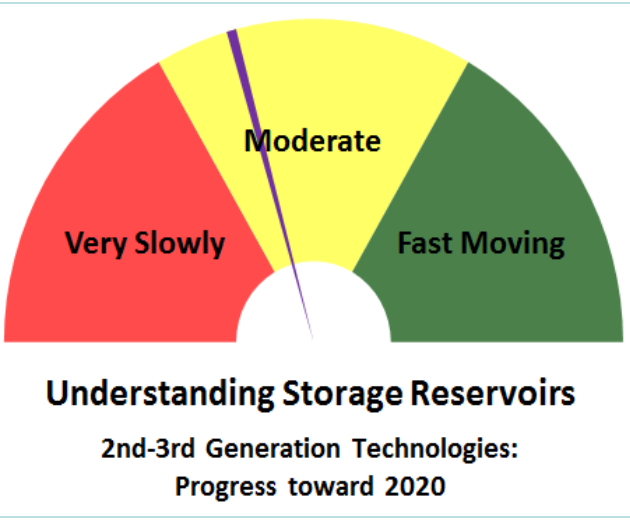
Mitigation / Remediation Procedures

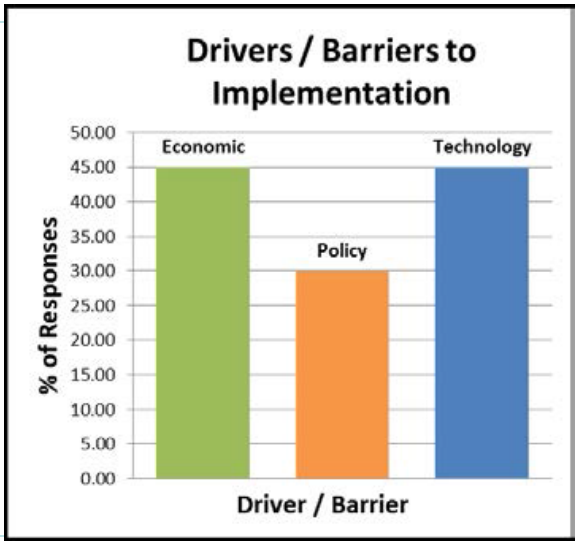
2nd-3rd Generation Technologies:
Progress toward 2020



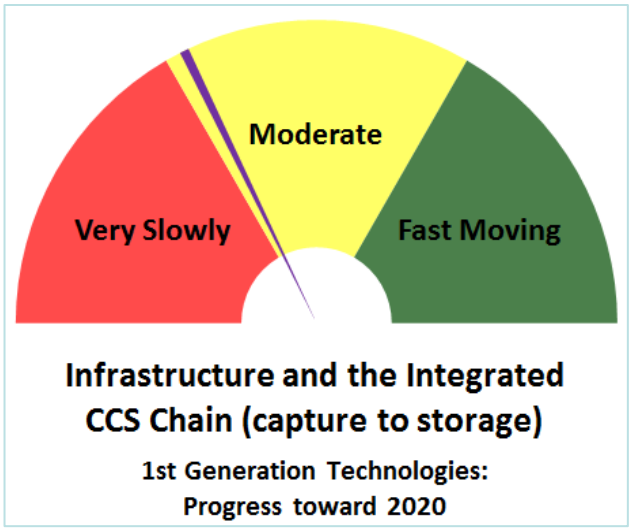
6. MITIGATION/REMEDIATION PROCEDURES

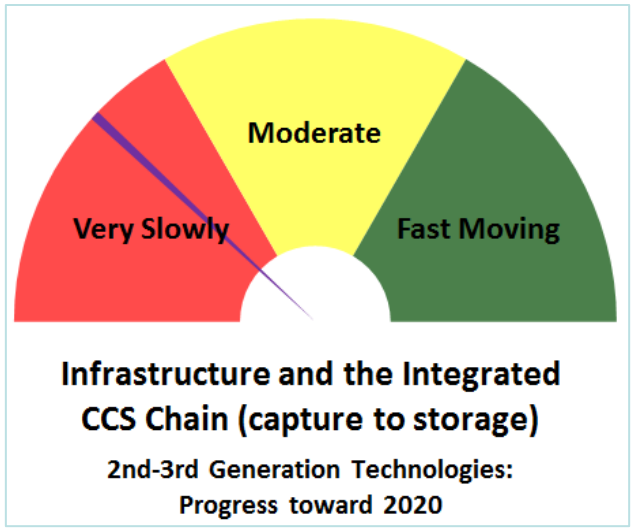


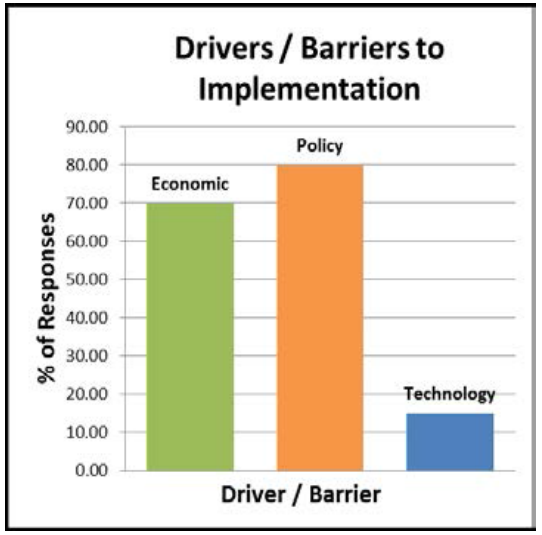




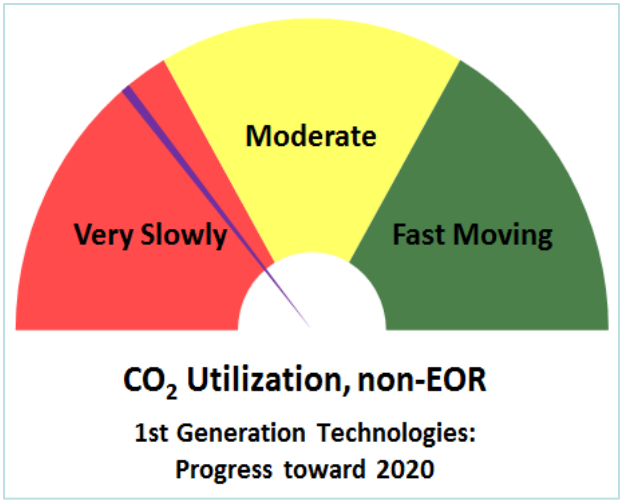
7. UNDERSTANDING STORAGE RESERVOIRS

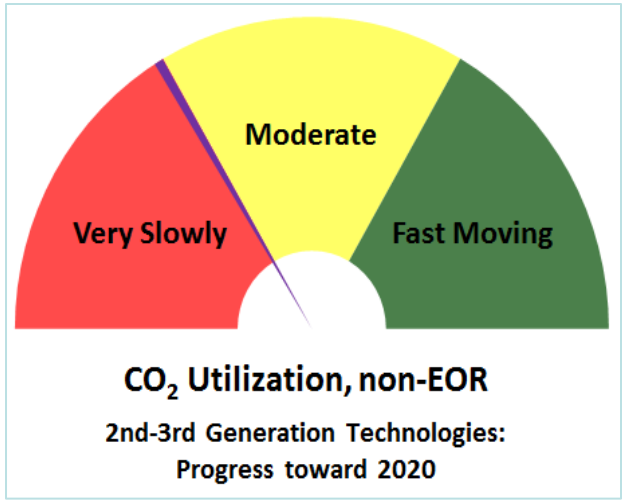


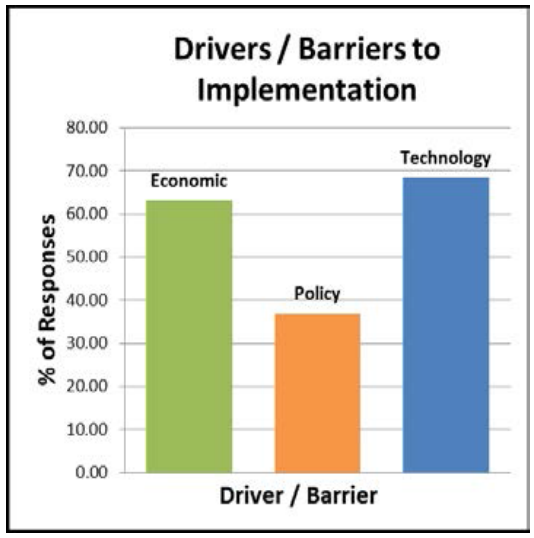




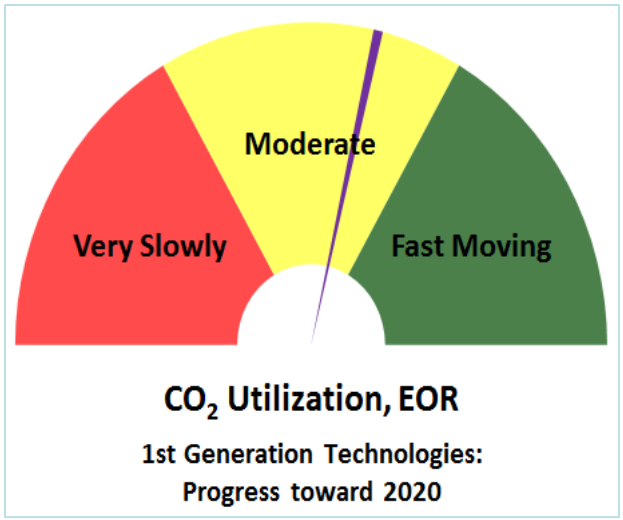
8. INFRASTRUCTURE AND INTEGRATED CCS CHAIN

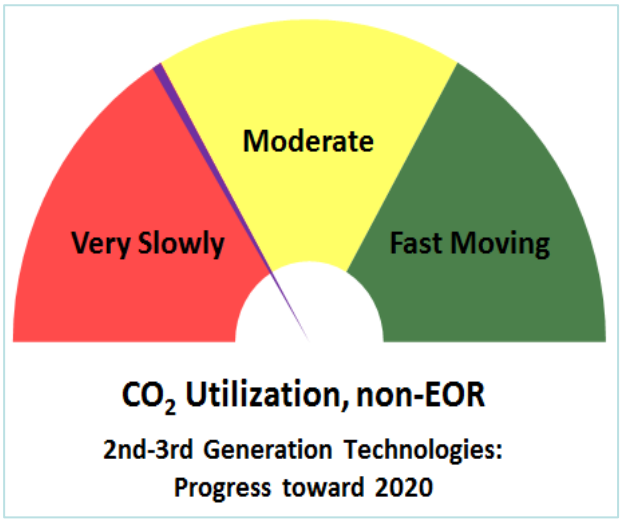


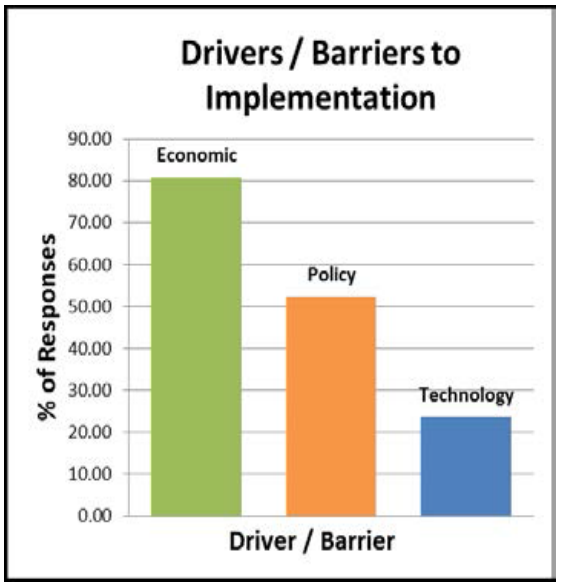




9. UTILIZATION NON-EOR







10. UTILIZATION - EOR

Conclusions (draft):

- Except for a very few niche industrial sector applications, for 1st generation technologies, none of the ten technology needs areas perceived as progress being ‘fast moving’.
- Progress for 2nd and 3rd generation technologies perceived as proceeding at an even slower rate.

Conclusions (draft):

- The 2013 TRM established the year 2020 as an achievable timeframe for demonstration of the 1st generation of CCS technologies and 2030 for demonstration of 2nd generation technologies.
- Two years later, barriers are still in place that inhibit the accomplishment of these goals.

POLICY

Recommendation 1 (draft)

Concerning economic barriers, governments should urgently consider methods to assist stakeholders to significantly drive down the cost of CCS deployment, since it is the stakeholders who will be making the majority of the financial investments.

POLICY

Recommendation 2 (draft)

Concerning policy barriers, governments should review institutional regulatory policies to identify how these barriers to CCS deployment may be reduced.

Techno-policy

Recommendation 3 (draft)

Concerning technology barriers, stakeholders should increase their mechanisms for sharing best practices, particularly regarding communications, regulation and cost reduction, and pledge to engage in public-private partnerships to encourage the development of additional demonstration projects and facilitate the development of CCS projects internationally.

Strategies: Technical meetings/Workshops

Highlights discussed by PIRT

- 2nd and 3rd generation concepts do not apply to all 10 technology needs areas
- Need to clarify language – e.g. progress in *Global trends in large scale storage* really reflect application rather than technology holdup
- Global trends in non-EOR usage look positive with 180 million tonnes of CO_2 pa already used.

ACTION TG: comments to Secretariat regarding Interim Report for rewrite

Future TRM (2017)
for which stakeholders?

GOVERNMENT

Any technical gaps
Progress
Business as usual
2030 1 Gtonne

INDUSTRY

Agrees same gaps
Active

PUBLIC

Confidence
in technique

- Is it still a TRM or does the document take on a new role

  - ***Technology status report update (TSR)***
  - ***Technology update to CCS/CCUS***
  - ***Technology progress to CCS/CCUS***

Storage or Disposal

Project Dashboard

Summary

- On target.
- Small resource issues

KPI Status

By Project Area

- Workstream 1 – on target
- Workstream 2 – on target
- Workstream 3 – Budget required
- Workstream 4 – Resource issue
- Workstream 5 – on target

RISKS	ASSUMPTIONS	ISSUES	DEPENDENCIES
• New Competitors [owner: Howard] • Supply chain [owner: Jane]	• Finance will continue to 2013	• Resource in Workstream 4 • Signoff needed for Widget plan	• Widget supplier is going out of business - must source new supplier

https://business-docs.co.uk/downloads/powerpoint-project-dashboard-with-status-template/

- The proposition is that the principle stakeholder is GOVERNMENT
- Both Industry and Public need to be informed – because Government will not proceed without the agreement/approval/knowledge of both other partners
- For CSLF it means new format – and other options

Thank you to

Technical Group

PIRT and Secretariat