PTTEP – JOGMEC Collaboration

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PTT Exploration and Production Public Company Limited listed on Dow Jones Sustainability Indices (DJSI) for 5th consecutive year
**Vision:** Leading Asian E&P company driven by competitive performance, advanced technology and green practices

**Mission:** PTTEP operates globally to provide reliable energy supply and sustainable value to all stakeholders
40 Projects in 11 countries
Production: 350,000 BOED
Technology Development Portfolio

4 Technology Platforms

Increase Exploration Success
Enhance Production
Green Practice
Technology for New Business

Enhance Production
Increase Recovery
Maximize Production
CO2 Management
Corrosion & Erosion Management
Sand Management
Smart Maintenance
Well Engineering

Green Practices
GHG Reduction
Waste Management
Water Management
Energy Efficiency

Technology for New Business
Robotics
Renewable Energy
Energy Storage

Proof of Concept Development

Phase 1
Preliminary Study

Phase 2
Lab Testing

Phase 3
Prototype

Phase 4
Pilot

Phase 5
Deployment

16 Technology Programs

Increase Exploration Success
• Basin Analysis
• Advanced Imaging

Enhance Production
• Increase Recovery
• Maximize Production
• CO2 Management
• Corrosion & Erosion Management
• Sand Management
• Smart Maintenance
• Well Engineering

Green Practices
• GHG Reduction
• Waste Management
• Water Management
• Energy Efficiency

Technology for New Business
• Robotics
• Renewable Energy
• Energy Storage
Technology Portfolio

Status as of May 2018

Maturity

*Cumulative benefit till 2024
Collaboration is a key to success

Two heads are better than one
What makes Collaboration Difficult

- People and Organization are all different
  - Think in different ways about different things
  - Have different goals or strategy

https://www.purina.co.uk/dogs
What makes Collaboration Powerful

- It requires a learning attitude
  - Open to the ideas, goals of others
  - Honesty about your own assumptions
  - Willingness to change your thinking

https://www.google.com
Simple Ways for Collaboration

- Set clear objective and expectations
- Think of your own ideas as input, not outcome
- Listen to learn, rather than judge
- Identify your strengths and weaknesses
- Define your role explicitly
- Communicate regularly
- Put things in writing
- Support one another
Working together is success

Coming together is a beginning, staying together is progress, and working together is success.

- Henry Ford
PTTEP-JOGMEC MOU

8 March 2017
Prior to MOU

- Volcanic Reservoir Study
- PTTEP-MOECO-JOGMEC
- From 2015-2017

M3 Gas Prospect
PTTEP-JOGMEC MOU

- Verify the Utilization of EM for deep oil reservoir observations
- Monitor the conductive body in water flooding and EOR
- Deploy the technology in monitoring Oil production and other alike applications
- Form a new Business in the future
Sirikit Oil Field

- 375 km from Bangkok
- Discovered 1982
- Light Crude: 30+ API
- Current Production: 28,000 BPD
- WF and EOR have been applied
Electromagnetic Field Trial, Sirikit Oil Field
Survey: 1-15 November 2017

Transmitter Site

Arrangement of the transmitter

Signals for operating the generator

confirmation of transmission waveform

Receiver Site

Sugarcane

Rice field

Moving the receiver
Surveys were carried out during the dry season in November.
- Promising Outcome
- 2nd Survey is planned
- Extend to 3D model
- Conclusion by Q2 ’19
- Deploy in both parties fields
- Aim for Commercialization

Resistivity Map of SQUITEM 1D inversion

Legend
- Well
- SQUITEM St.
A success case of partnerships and collaboration
Everyone work towards common goal
Share each other strengths
Emphasize on clear communication between partners