

A SHELL CATALYSTS & TECHNOLOGIES AND PTES  
COLLABORATIVE EVENT

17, 19, 21 Jan 2022  
14:00–17:00 Thailand Time

Webinar

# AN INNOVATION CONFERENCE

Transforming Energy Together

## Webinar overview

Energy transition has become a global priority, with decarbonisation of hydrocarbon producers and users becoming a business necessity. Shell Catalysts & Technologies and PTT Energy Solutions will be hosting a webinar with the theme of the Energy Transition. This webinar will be focused on the drivers of this transition, as well as how Shell, PTES and other forward-thinking companies can take this journey together. Technologies and strategies for decarbonisation of energy will be discussed as well as how decarbonisation and energy transition can be applied in Thailand. Through this webinar, we aim to have an open dialogue on how to tackle the challenges facing our industry in view of climate change pressure, new legislation and evolving consumer and market requirements.

## Proposed webinar topics

- **Overview of Thailand's energy transition**
- **Keynote speech** – This keynote speech will share the Shell Energy Transition Strategy and highlight examples of what Shell is doing now to implement the strategy (Shell)
- **Blue and green hydrogen** – The future of hydrogen (Shell)
- **Decarbonisation approach and pathways** – Moving from concept to practical approach (Shell)
- **Renewable fuels** – Profitably taking advantage of global biofuels mandates (Shell)
- **GHG emissions** - Incentives and Penalties (PTES)
- **Further topics** - To be added in accordance with the overall webinar theme.

## Who should attend

This symposium is relevant for all staff in any organisation, from senior management through to design, engineering, operations and maintenance personnel.

## Registration and further details

Please contact Benchawan P. at [benchawan.p@pttes.com](mailto:benchawan.p@pttes.com) · Tel: +66 (0)87 9120390





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### Three Days Agenda

#### Day One

Monday, 17<sup>th</sup> January 2022

#### Thai Time

#### Detail

#### Company (Language)

14:00-14:10	<b>Welcome Speech</b> Dr. Pichairat Jiranunrat, President PTES	PTES (English)
14:10-14:20	<b>Opening Speech</b> Mr. Loh Seng Yee, Vice President Sales Asia Pac, Shell Catalysts and Technologies (SC&T)	Shell (English)
14:20-15:05	<b>Keynote Speech:</b> <b>Leveraging BCG economy model of Thailand in energy sector</b> Dr. Nathasith Chiarawatchai, Manager, Safety, Security, Occupation Health and Environment Management Department	PTT (Thai)
15:15-16:00	<b>Keynote Speech:</b> <b>Shell's Powering Progress Strategy and Pernis refinery's moves towards net-zero emissions</b> Mr. Jonathan Forbes-Lane Vice President Technology Deployment, Shell Catalysts and Technologies (SC&T)	Shell (English)
16:00-16:15	<b>Wrap up</b>	

#### Day Two

Wednesday, 19<sup>th</sup> January 2022

14:00-14:45	<b>Keynote Speech:</b> <b>Enhancing Ambition for Climate Action Post-COP26</b> Mr. Kiatchai Maitriwong, Executive Director	TGO (Thai)
15:00-15:45	<b>Renewable Fuels</b> Mr. Bart Suijkerbuijk Senior Business Development Manager	Shell (English)
16:00-16:45	<b>Decarbonization Approach and Pathways</b> Mr. Andrew Brodrick, Senior Consultancy Services Manager	Shell (English)

16:00-16:15

**Wrap up**





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### Three Days Agenda

Day Three

Friday, 21<sup>st</sup> January 2022

Thai Time

Detail

Company  
(Language)

14:00-14:45	<b>GHG Emission - Incentives and Penalties</b> Mr. Jason Peebles, Lead Consultant	<b>PTES</b> (English)
15:00-15:45	<b>Energy Transition Journey for Heat Transfer Equipment – An overview</b> Mr. Sumitra Ghosh and Mr. Srikanth Kummari Senior Heat Transfer Engineer	<b>Shell</b> (English)
16:00-16:45	<b>Blue and Green Hydrogen</b> Mr. Wilfredo Blas Senior Licensing Technology Manager Gas Processing	<b>Shell</b> (English)
16:45-17:00	<b>Closing</b>	





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### Company Profiles



**PTT Energy Solutions Company Limited (PTTES)**, a PTT Group Company, was established in 2011 through four shareholding companies within the PTT Group, including PTT Public Company Limited (PTT) at 40%, PTT Global Chemical Public Company Limited (GC) at 20%, IRPC Public Company Limited (IRPC) at 20%, and Thai Oil Public Company Limited (TOP) at 20%

Through our strong background as a major technical consultancy for the PTT Group, we commit to deliver an extensive range of consulting services with multi-discipline expertise, such as:

- Engineering Project Management (EPM)
- Process & Value Chain Enhancement (PVE)
- Reliability & Asset Integrity Excellence (RAI)
- Sustainability & Safety Improvement (SSI)
- Green & Sustainable Solutions (GSS)

as well as a focus on the use of technology and innovation to increase competitiveness for our customers' businesses, both within the PTT group and in other industries.

PTTES aims to be the leader in technical/engineering consultancy while seeking opportunities to be a major driving force of sustainable growth for clients across a broad spectrum of industries. In addition, we aim to create intelligent solutions to improve clients' businesses in the most effective and efficient ways.







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### Company Profiles



#### Shell Catalysts & Technologies

##### WHO WE ARE

Shell Catalysts & Technologies is home to the brightest minds and most innovative products in catalyst development, technology licensing and service solutions designed to serve the energy and petrochemical industries. Our specialists and areas of expertise all center on a shared, singular purpose – to solve the industry’s most complex challenges. At Shell Catalysts & Technologies, we channel years of experience providing value adding solutions, technologies and services that drive the industry – and the world – forward.

##### WHAT WE DO

At Shell Catalysts & Technologies, innovation lies at our core. We empower the industry with leading technology, catalysts, comprehensive solutions — and proven expertise. In doing so, we’re transforming energy through progressive upstream and downstream technologies, extensive and collaborative services and support, and trusted, reliable and unrivaled expertise.

##### OUR SOLUTIONS

- Advanced catalysts for refining and petrochemicals
- Progressive upstream and downstream technologies
- Extensive and collaborative services and support





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**Abstracts : Speaker Biographies : Company Profiles**

**Keynote Speaker**



**Leveraging BCG economy model of Thailand in energy sector**



**Speaker Name:** Mr. Nathasith Chiarawatchai  
**Current Position:** Manager; Safety, Security, Occupation Health and Environment Management Department  
**Company:** PTT Public company Limited  
**E-mail:** nathasith.c@pttplc.com

### Work Experience:

- Sustainability/environmental manager with 10+ years experiences at leading public and private organization.
- Expertise includes developing strategies and planning as well as a running the projects to improve corporate sustainability performances.
- Currently responsible for a team of environmental professionals under SSHE Department managing issues on all aspects concerning environment at a corporate level such as greenhouse gas emission, circular economy, water, air emission, and so on.





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**Keynote Speaker**

**Abstract:**

This session will focus on the overview of Thai government's BCG (Bio-,Circular,Green) economy model and opportunities for energy companies. Current practices of PTT Group to support and leverage BCG model such as the implementation of Circular Economy concept will be shared.

**Company Profile:**

PTT Public Company Limited or simply PTT is a Thai state-owned SET-listed energy company. The Company operates its petroleum and petrochemical complex through its subsidiaries and affiliated companies covering the full spectrum of natural gas businesses i.e. exploration and production from both domestic and oversea sources, transportation of natural gas via pipeline system, gas separation as well as marketing of natural gas, international business operations for the oil and petrochemical products, and investment in refining and petrochemical industries and other related businesses both domestic and abroad.





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**Abstracts : Speaker Biographies : Company Profiles**

**Presentation No.**



### Keynote Speech



**Speaker Name:** Mr. Jonathan Forbes-Lane  
**Current Position:** Vice President Technology Deployment  
**Company:** Shell Catalysts & Technologies  
**E-mail:** [J.Forbes-Lane@shell.com](mailto:J.Forbes-Lane@shell.com)

**Work Experience:** Jonathan is VP for Technology Deployment in Shell Catalysts & Technologies, based in Bangalore. He is responsible for a team of 120 technical professionals delivering differentiated technical solutions to customers in the area of refining, petrochemicals and decarbonisation. The team provides technology, catalysts, and technical insights to help customers improve their business performance and reduce their carbon footprint.

Jonathan graduated with First Class honours in Chemistry from Oxford University in 1987 and joined Shell Chemicals as a Solvents sales representative in the North West of England. Over the next 20 years he held positions in Shell's Chemicals businesses in sales, marketing and corporate strategy in the UK, the Netherlands and the US, before joining Shell's Catalyst business in 2010. Since then he has led the Catalyst business in Europe, Middle East and India before taking on his current role earlier this year.







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### Keynote speech

Keynote speech

**Abstract:**

Tackling climate change is an urgent challenge. Shell will contribute to a net-zero world, where society stops adding to the total amount of greenhouse gas emissions in the atmosphere.

That is why Shell has set a target to become a net-zero emissions energy business by 2050, in step with society and our customers. This supports the more ambitious goal to tackle climate change laid out in the UN Paris Agreement: to limit the rise in average global temperature to 1.5° Celsius.

This keynote speech will share the Shell Energy Transition Strategy, highlighting three roles that Shell will play in the journey, first as an energy provider, as an energy user, lastly as a partner for change

This session will also highlight examples of what Shell is doing now to implement the strategy in making low-carbon energy products in one of Shell's Energy and Chemical Parks, capturing and storing emission and enabling green hydrogen.





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**Abstracts : Speaker Biographies : Company Profiles**

**Keynote Speaker**



**Enhancing Ambition for Climate Action Post-COP26**



**Speaker Name:** Mr. Kiatchai Maitriwong  
**Current Position:** Executive Director  
**Company:** Thailand Greenhouse Gas Management  
Organization (Public Organization)  
**E-mail:** kiatchai@tgo.or.th

**Work Experience:** Mr. Kiatchai Maitriwong serves as the Executive Director of Thailand Greenhouse Gas Management Organization or TGO, a public organization under the supervision of the Minister of Natural Resources and Environment. Prior to taking this role, he worked in the energy industry with more than 38 years of experiences, including working with PTT Public Company Limited and Bangchak Corporation Public Company Limited where he dedicated himself to promoting green energy and contributing to extensive growth of, among others, biofuel and solar power in Thailand.





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**Keynote Speaker**

**Abstract:**

**Enhancing Ambition for Climate Action Post-COP26**

COP 26 (November, 2021 in Glasgow) was concluded with the adoption of Glasgow Climate Pact calling for strengthened climate ambition and conclusion of operating rules for international carbon market. Thailand pledged to reach carbon neutral by 2050 and net zero emissions by 2065. This requires transformational change in the Thai economy in all sectors which can only be achieved through collaborative action between the government, private sector, as well as local communities. TGO, as the key support agency driving greenhouse gas mitigation in Thailand, works in collaboration with partners, including FTI and the UNFCCC secretariat, to support companies and other organizations to build capacity, set net-zero emissions pathway, and optimize mitigation potential through various initiatives and programmes, including Thailand Carbon Neutral Network (TCNN) and strengthening of voluntary carbon market to support Thailand's ambition towards sustainable and long-term climate goal.

**Company Profile:**

TGO is a public organization under the supervision of the Minister of Natural Resources and Environment with the mission to promote and support climate action in Thailand towards low carbon society and economy. TGO's service platform includes greenhouse gas certification of carbon credits from greenhouse gas reduction projects; carbon footprints for organizations, products, events and individuals; carbon offsetting platform; as well as supporting area-based local carbon footprint and action plan formulation. TGO also establishes TGO Climate Action Academy and promote climate action literacy and communication through various online and physical channels.





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Abstracts : Speaker Biographies : Company Profiles

Presentation No. 1



### Renewable Fuels



**Speaker Name:** Dr. Bart Suijkerbuijk  
**Current Position:** Senior Global Business Development Manager  
**Company:** Shell  
**E-mail:** Bart.suijkerbuijk@shell.com

#### Work Experience:

- MSc and PhD in Organic Chemistry and Catalysis
- Lead anti-cancer drug developer (1 API in phase II clinical trials)
- Working for Shell since 2009
  - Team lead oil recovery R&D
  - Global deployment leader waterflooding
  - Snr process/concept engineer chemicals EOR
  - Business advisor to the Shell Chief Technology Officer
  - Licensing Development Manager and deal lead, Chemicals, Renewables & Energy Solutions
  - Senior Business Development Manager and deal lead Chemicals, Renewables & Energy Solutions







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Presentation No. 1

Abstract:

### Renewable Fuels

Post Paris Agreement, significant parts of society are now seeking to meet that higher ambition level, to limit the temperature increase to 1.5° Celsius, including multinational companies, countries, industrial sectors, individuals, and Shell supports this push too. Specifically for Shell, this means becoming a net zero emissions energy business by 2050.

The energy mix of the future could look very different from today, varies between regions and countries because of their different starting points, levels of development, types of economy, and energy resources available locally. Fossil fuels could still be a substantial part of the energy mix. Solar and Wind could be massive energy providers, potentially powering the Green Hydrogen economy; possibly using Blue Hydrogen in the interim. Biofuels and biomass, including waste could see substantial growth, especially in transportation fuel.

This session will focus on how we can make renewable fuels profitable by taking advantage of global biofuels mandates.





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Presentation No. 2



### Decarbonisation approach and pathways



**Speaker Name:** Mr. Andrew Brodrick  
**Current Position:** Decarbonisation Consultancy Manager  
**Company:** Shell Catalysts and Technologies  
**E-mail:** [Andrew.Brodrick@shell.com](mailto:Andrew.Brodrick@shell.com)

#### Work Experience:

Andrew regards the role of the engineer is to help build a better world and society by implementing solutions requiring us to apply scientific knowledge in practical ways. He holds degrees in Chemical Engineering and Business Economics, and has 38 years experiencing working in the Oil Industry, mostly in downstream Refining, Supply and Distribution. He has lived in the Netherlands for the last 20 years, while being involved with customers in all parts of the world. His roles have been to achieve solutions through leading diverse specialists, integrating their skills in different technologies and with the organisations they are working with. In his current role Andrew is focused on the complex challenges of migrating our energy needs from traditional fossil fuels toward net zero emissions.





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Presentation No. 2

Abstract:

### Decarbonisation approach and pathways

While some may dismiss the commitments to transform our energy systems as ‘blah, blah, blah’ - as engineers and business leaders we know the challenges and dilemmas of delivering the practical results. Each refinery or chemical facility will have its own steps along the path. That path travels through an uncertain environment. In this session we will look at how we develop pathways that can help a facility to progress, and discuss how the first steps are taken in a certain examples.





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## AN INNOVATION CONFERENCE

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**Abstracts : Speaker Biographies : Company Profiles**

**Presentation No. 3**



### GHG Emission - Incentives and Penalties



**Speaker Name:** Mr. Jason Peebles,  
**Current Position:** Lead Consultant  
**Company:** PTT Energy Solutions Company Limited (PTTES)  
**E-mail:** [jason.p@pttes.com](mailto:jason.p@pttes.com)

#### Work Experience:

Jason Peebles is a Lead Consultant – Process Performance Improvement for PTES. Jason is a gas processing specialist in the energy industry, with ≈25 years experience in project execution for oil and gas facilities, feasibility studies, FEED, process simulations, process optimization, detailed process design, project management and execution, cost estimating, proposal preparation and management. He is also involved in researching and evaluating new gas technologies for energy transition, deep heat recovery, and process efficiency improvement. Jason has a Bachelors and Masters in Chemical Engineering.

#### Abstract:

#### GHG Emission - Incentives and Penalties

There is a concerted global effort to mitigate greenhouse gases, as well as adapt to environmental conditions which are expected to worsen. At the CoP26 Glasgow climate conference completed in November 2021, participants gave updates on their efforts to reduce GHG emissions. Negotiations were carried out over a 2 week period as part of this conference, with the purpose of determining “who does what and when”.







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#### Presentation No. 3

**Abstract:**

While it is universally agreed by participants of the Paris accord that there is a climate crisis that must be addressed, there is less agreement when it comes to the incentives and penalties in order to bring about the required changes. Incentives (“carrots”) and Penalties (“sticks”) are being adopted, with different countries having different approaches and targets, depending on their national circumstances.

This webinar is meant to provide an update on the evolving carrots and sticks of greenhouse gas reductions in a changed world. The current global status of some of the incentives and penalties which are being put in place are discussed, as well as how they may be effect Thailand.





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## AN INNOVATION CONFERENCE

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Abstracts : Speaker Biographies : Company Profiles

Presentation No. 4



### Energy Transition Journey for Heat Transfer Equipment – An overview



**Speaker Name:**  
**Current Position:**  
**Company:**  
**E-mail:**

Mr. **Sumitra Ghosh**, Senior Heat Transfer Engineer  
& Mr. **Srikanth Kummari**, Heat Transfer Engineer  
Shell Global Solutions  
[Sumitra.Ghosh@shell.com](mailto:Sumitra.Ghosh@shell.com);  
[Srikanth.Kummari@shell.com](mailto:Srikanth.Kummari@shell.com)

#### Work Experience:

##### Sumitra Ghosh:

A **Chartered IChemE engineer**, having **27 years** of post qualification experience in the field of Heat Transfer. Areas of expertise include furnace design, efficiency improvements, GHG emission reduction techniques, field troubleshoots, control and safeguarding of combustion processes. Actively involved in energy transition initiatives related to oil and gas, chemical process plants, use of alternate energy sources for process heating applications.

**Srikanth Kummari**, a postgraduate in Chemical Engineering with 15+ years of experience in the field of Heat Transfer Equipment design & Engineering. His strengths include Thermal & Hydraulic design and selection of shell & tube/air-cooled heat exchangers, Trouble shooting, performance improvement, fouling abatement & application of enhance heat transfer techniques for shell & tube heat exchangers, design of pilot scale skids, design of experiments, planning, data analysis. Involved in energy transition/electrification activities related to heat transfer.





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Presentation No. 4

Abstract:

### Energy Transition Journey for Heat Transfer Equipment – An overview

**Abstract:** Use of green and environment friendly energy sources for process heating applications are new way forward for operating a Chemical plant in foreseeable future. Efficient heating of process fluids using electric power and use of pure hydrogen as combustion fuel are envisaged as most feasible alternate to fossil fuel fired furnaces used widely till date.

Mitigation of techno-economic challenges and de-risking of available technologies for electrification and hydrogen burning are major focus areas for getting “future-ready”. Adopting fit for purpose solutions through selection of environment friendly technologies are often unique for applications, viz., brownfield retrofits or new complexes and plant locations.





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## AN INNOVATION CONFERENCE

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Abstracts : Speaker Biographies : Company Profiles

Presentation No. 5



### Blue & Green Hydrogen



**Speaker Name:** Mr. Wilfredo Limlingan Blas  
**Current Position:** Sr. Licensing Technology Manager  
**Company:** [Shell Catalysts & Technologies](#)  
**E-mail:** [wilfredo.blas@shell.com](mailto:wilfredo.blas@shell.com)

**Work Experience:** Wilfredo has a degree in Chemical Engineering and has been working with Royal Dutch Shell for ~25 years in various roles, locations and businesses.

He has worked in Upstream Production, Refining, Non-Operated Ventures Consultancy, R&D Support, HSE and Technology Licensing with assignments in the Philippines, New Zealand, Malaysia, USA, Kuwait, UK and India where is currently based at the Shell Technology Centre in Bangalore.

His area of expertise includes Gas Processing/Treating, Sulfur Recovery and CO<sub>2</sub> capture, which complement the production of both green and blue hydrogen.







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Presentation No. 5

Abstract:

### Blue & Green Hydrogen

Hydrogen plays a key role in Shell's Net Zero ambition and the goal of the Paris Agreement to limit global warming to below 2oC. It is seen as the most promising solution to decarbonize the hard-to-abate sectors. For hydrogen to fulfill its mission as part of the energy transition it will require collaboration between energy companies, industry players, vehicle manufacturers alongside the technology and infrastructure to make it happen.

Shell is advancing its efforts on both blue and green hydrogen, with blue hydrogen acting as the bridge towards a green hydrogen economy, given the scale of application available vs. the scale at which electrolyzers are currently at. Shell has used its partial oxidation (POx) gasification technology along with CO shift and CO<sub>2</sub> capture technologies to for the Shell Blue Hydrogen Process which has been compared and found to be competitive against more traditional technologies such as Steam Methane Reforming (SMR) with CO<sub>2</sub> capture and Auto-Thermal Reforming (ATR) with CO<sub>2</sub> capture.

