



# *Corporate Position on Climate Change*

*January 27, 2021*

# Introduction

INPEX has revised its “Corporate Position on Climate Change<sup>\*1</sup>”, based on its “Business Development Strategy: Towards a Net Zero Carbon Society by 2050<sup>\*2</sup>” which was released on January 27<sup>th</sup>, 2021.

This paper outlines INPEX’s position and initiatives concerning below key themes, so that our stakeholders may better understand the manner in which the company is responding to the challenges of climate change.

## 1. Basic Policy on Management Towards a Net Zero Carbon Society by 2050

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## 2. Climate Change Goals

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## 3. Five Business Pillars Towards a Net Zero Carbon Society

3-1. Upstream CO<sub>2</sub> Reduction  
(Promotion of CCUS<sup>\*3</sup>)

3-2. Hydrogen Business

3-3. Enhance and Emphasize Renewable  
Energy Initiatives

3-4. Promote Carbon Recycling and Cultivate New  
Business Opportunities

3-5. CO<sub>2</sub> Absorption through Forest Conservation

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## 4. Towards a More Resilient & Cleaner Upstream Business

**For more information on the company’s initiatives relating to sustainability including Climate Change response, please refer to our Sustainability Report<sup>\*4</sup>.**

<sup>\*1</sup> : This document is a provisional English translation of the “Corporate Position on Climate Change”.

If any ambiguity of interpretation is found in this provisional translation, the Japanese text shall prevail.

<sup>\*2</sup> : [https://www.inpex.co.jp/english/company/pdf/business\\_development\\_strategy.pdf](https://www.inpex.co.jp/english/company/pdf/business_development_strategy.pdf)

<sup>\*3</sup> : Carbon dioxide Capture, Utilization and Storage

<sup>\*4</sup> : <https://www.inpex.co.jp/english/csr/csr/>

# Basic Policy on Management Towards a Net Zero Carbon Society by 2050

1

INPEX will proactively engage in energy structure reforms towards the realization of a net zero carbon society by 2050, while responding to the growing energy demands of Japan and the world and fulfilling its responsibility for the development and stable supply of energy over the long-term.

2

The company will set climate change response goals to achieve its own net zero carbon emissions by 2050, to contribute to the realization of the Paris Agreement objectives in relation to climate change.

3

INPEX will actively promote five business pillars through the following three initiatives, in order to offer solutions responding to the needs of society in an age of transformation towards a net zero carbon society.

## 1. Leverage the company's strengths (knowledge and experience)

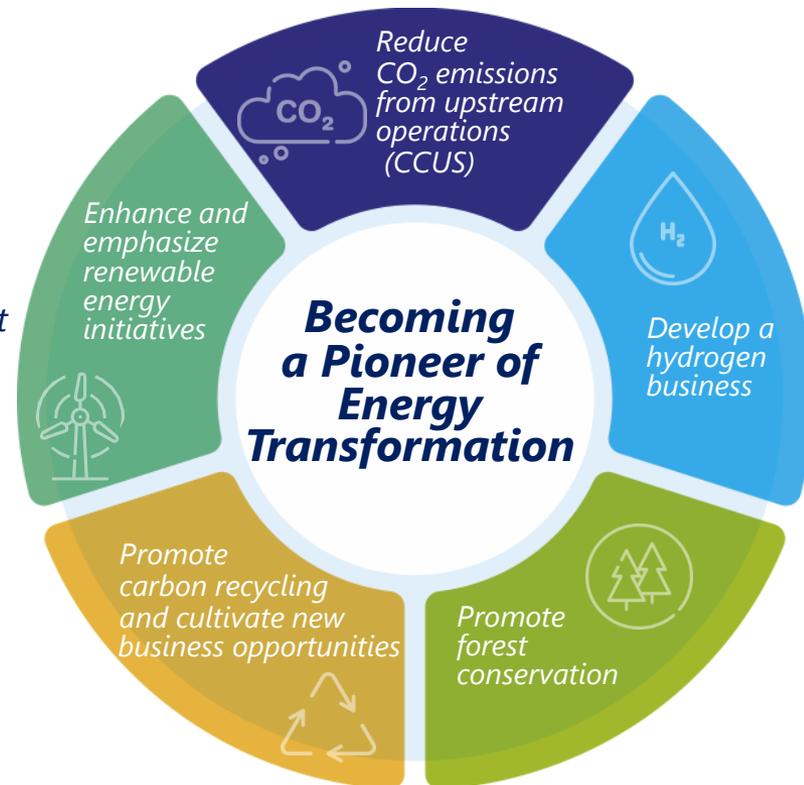
- ▶ INPEX will make the most of its strengths such as its management, technical and operational experience gained in Japan and around the world to select business targets and apply its management resources including human resources, finances and business knowledge.

## 2. Strengthen collaboration with industry, academia and government

- ▶ Responding to changing times requires innovation and the realization of new business models. INPEX will promote long-term ties and collaboration with industry, academia and government in a broad spectrum of business fields.

## 3. Utilize policy support measures

- ▶ The company will collaborate on the improvement of policy frameworks and promote rapid and efficient initiatives making use of policy incentives.



## Climate Change Goals

- INPEX has set its own goals to contribute to realizing a net zero carbon society as outlined in the Paris Agreement.<sup>\*1</sup> <sup>\*1:</sup> International treaty with the goal of keeping average global warming to well below 2 degrees Celsius

<h3 style="font-size: 2em; margin: 0;">2050</h3> <hr style="border: 0; border-top: 1px solid white; margin: 10px 0;"/> <p style="font-size: 1.5em; margin: 0;"><b>NET ZERO<sup>*2</sup></b></p> <p style="margin: 5px 0;"><i>in absolute emissions (Scope 1+2)</i></p> <p style="font-size: 0.8em; margin: 0;"><sup>*2:</sup> on INPEX equity share basis</p>	<h3 style="font-size: 2em; margin: 0;">2030</h3> <hr style="border: 0; border-top: 1px solid white; margin: 10px 0;"/> <p style="font-size: 1.5em; margin: 0;"><b>30% OR MORE<sup>*3</sup></b></p> <p style="margin: 5px 0;"><i>reduction of net carbon intensity (Scope 1+2)</i></p> <p style="font-size: 0.8em; margin: 0;"><sup>*3:</sup> in comparison with 2019</p>	<h3 style="font-size: 2em; margin: 0;">Scope 3</h3> <hr style="border: 0; border-top: 1px solid white; margin: 10px 0;"/> <p style="font-size: 1.5em; margin: 0;"><b>REDUCTION</b></p> <p style="margin: 5px 0;"><i>work together with all relevant stakeholders to address challenges across the value chains</i></p>
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### TO ACHIEVE THESE GOALS INPEX WILL...



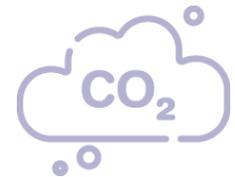
- ▶ Promote CCUS;
- ▶ Strengthen renewable energy initiatives;
- ▶ Promote forest conservation for CO<sub>2</sub> absorption;
- ▶ Maintain current low methane emissions intensity of approximately 0.1%<sup>\*4</sup> (calculated by methane emissions / natural gas production); and
- ▶ Aim to eliminate routine flaring by 2030.<sup>\*4</sup>

<sup>\*4:</sup> in INPEX-operated projects

**PROMOTE THE ONGOING DISCLOSURE OF CLIMATE-RELATED INFORMATION IN LINE WITH TCFD RECOMMENDATIONS.**

### 3-1. Upstream CO<sub>2</sub> Reduction (Promotion of CCUS)

- Taking advantage of its track record and technical expertise in CCUS (Japan's first CCUS project commenced at INPEX's Kubiki Oil field in Niigata in 1988), INPEX seeks to apply CCUS to achieve safe storage and efficient utilization of CO<sub>2</sub> in Japan and overseas including the Ichthys LNG Project in Australia.
- INPEX promotes a shift to natural gas and carbon neutral LNG in conjunction with efficient use of energy and implementation of energy saving measures across its entire business including exploration, development and production.



### 3-2. Hydrogen Business

- Envisioning the advent of a hydrogen era, INPEX aims to expand its energy business to include the production and supply of hydrogen.
  - ▶ Utilize natural gas from INPEX assets to produce "carbon-free hydrogen" through a natural gas reforming process and conducting CCUS with the CO<sub>2</sub> emitted from this reforming process.
  - ▶ Enhance R&D activities to establish a hydrogen value chain in collaboration with external companies and organizations.
  - ▶ Aim to create a hydrogen society at an early stage through collaborative cross-sector projects on the social implementation of hydrogen as a member of the Japan Hydrogen Association.
  - ▶ INPEX is evaluating ammonia production and liquified hydrogen business opportunities as ways to transport and import hydrogen produced at INPEX upstream assets overseas to Japan.
  - ▶ These opportunities are expected to eventually lead to a carbon-free energy business leveraging INPEX's natural gas assets outside of Japan.



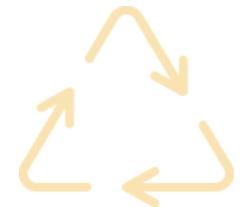
### 3-3. Enhance and Emphasize Renewable Energy Initiatives

- INPEX will accelerate its initiatives both in Japan and around the world relating to geothermal power generation applying oil and gas development technologies, as well as offshore wind leveraging experience in the construction and operation of offshore floating facilities gained at operations sites overseas.



### 3-4. Promote Carbon Recycling and Cultivate New Business Opportunities

- INPEX will promote carbon recycling with the aim of setting up business operations at an early stage, leveraging synergies with its oil and gas business operations.
- INPEX will swiftly pursue initiatives in new business fields showing signs of growth.
  - ▶ The company will accelerate the startup of businesses in new fields through proactive tie-ups with external R&D ventures and research institutions, etc., in addition to internal ventures leveraging in-house resources to the maximum extent.



### 3-5. CO<sub>2</sub> Absorption through Forest Conservation

- INPEX will promote CO<sub>2</sub> absorption through forest conservation.
  - ▶ The company will contribute to forest conservation activities in Indonesia and other countries, mainly by supporting distinguished REDD+\* projects, which contribute to climate change response, biodiversity conservation and improved living standards of the local communities.



\* **R**educing **E**missions from **D**eforestation and forest **D**egradation – a concept defined in the Cancun Agreements (2010) aiming at reduction of CO<sub>2</sub> emissions by controlling deforestation and deterioration through forest management and actively increasing carbon stock through afforestation.

## 4. Towards a More Resilient & Cleaner Upstream Business

- *INPEX continues to position crude oil and natural gas as important sources of energy, for which demand is expected to remain strong over the medium- to long-term. Meanwhile, it is possible that pressure from the net zero carbon movement to curtail this demand may grow.*
- *INPEX will continue to position its upstream business as a core business and will work to fulfill its two social responsibilities of providing a stable supply of energy and responding to climate change by strengthening its upstream business and making it cleaner.*

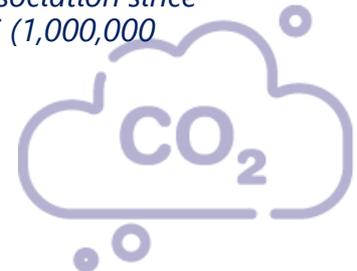


# *INPEX's Current Initiatives*

*February 16, 2021*

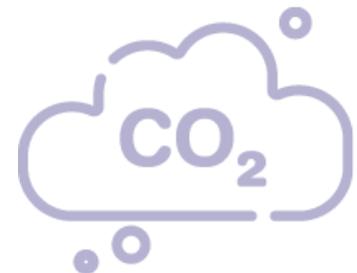
### INPEX's current initiatives

- *Taking advantage of INPEX's track record and technical expertise in CCUS (Japan's first CCUS project commenced at INPEX's Kubiki Oil Field in Niigata in 1988)*
  - ▶ *CCUS Initiatives in oil and gas development*
    - *Plans to conduct CCUS (CO<sub>2</sub>-EOR) demonstration tests at one of its onshore oil fields in Niigata, Japan, applying EOR recovery improvement technology (CO<sub>2</sub> foam technology) being developed by the company*
    - *Evaluate the feasibility of sequestration of CO<sub>2</sub> captured at the INPEX-operated Ichthys LNG plant in Darwin, Australia*
  - ▶ *Participation in CCUS research and development activities*
    - *Japan: Participation in the CCS verification tests conducted by the Research Institute of Innovative Technology for the Earth (RITE) since 2000, and allowing utilization of the Iwanohara well site at the Minami-Nagaoka Gas Field as a location for storage and monitoring of 10,000 tons of CO<sub>2</sub>*
    - *Japan: Investment in the Japan CCS Co., Ltd. in 2008 and participation in an initiative targeting the practical application of CCS technology by 2020. The initiative had successfully stored its target amount of CO<sub>2</sub> (300,000 tons) by November 2019. The company continues to monitor the behavior of stored CO<sub>2</sub>*
    - *Japan: Participation in Geological Carbon dioxide Storage Technology Research Association since 2016, which promotes the development of technologies relating to large-scale CCS (1,000,000 tons/year) at suitable storage sites in Japan as well as the improvement of social awareness and acceptance of CCS*
  - ▶ *CCUS standardization and information gathering for CCUS*
    - *Contribution to global CCS standardization working groups, ISO TC265 ; WG3 (Storage) and WG6 (CCS-EOR)*
    - *Membership of the Global CCS institute*



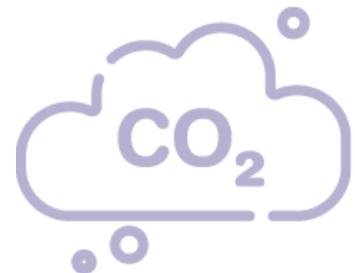
### INPEX's current initiatives

- *Efficient use of energy and implementation of energy saving measures across INPEX's entire business, including exploration, development and production*
  - *Energy efficient plant design aimed at process optimization and rigorously planned facility maintenance procedures and daily improvement practices*
  - *Power supply through gas turbine cogeneration systems that use natural gas, and effective utilization of waste heat*
  - *Monitoring the efficiency of equipment at oil and gas fields as well as in pipeline networks*



## INPEX's current initiatives

- **Promoting a shift to natural gas and carbon neutral LNG**
  - ▶ *Promotion of natural gas development and enhancement of natural gas portfolio*
    - *Continued stable production and operation of the Ichthys LNG Project in Australia*
    - *Received approval from Indonesian government authorities for the revised Plan of Development for the onshore Abadi LNG project as well as the extension of a Production Sharing Contract (PSC) until 2055*
    - *Continued stable long-term operation of the Minami-Nagaoka Gas Field, one of the largest gas fields in Japan*
  - ▶ *Development of a gas value chain connecting gas fields globally and in Japan to the Japanese natural gas network*
    - *Continued operation of the Naoetsu LNG Terminal and a network of high-pressure gas pipelines in Japan*
    - *Supply natural gas to more than thirty gas companies as well as directly to manufacturing and other facilities*
    - *Promote fuel-switching to natural gas among regional communities located along our pipelines in Japan and provide energy-saving and energy resilience solutions such as gas cogeneration systems to customers*
    - *Consider potential projects, such as promoting natural gas and fuel-switching to natural gas (e.g., through gas delivery infrastructure, construction of gas-fired power plants and fuel-switching in the transportation industry) in other Asian countries and elsewhere globally*
  - ▶ *Promoting sales of carbon neutral LNG and natural gas*



### INPEX's current initiatives

- *As the use of hydrogen in the economy continues to increase, INPEX aims to expand its energy business to include the production and supply of hydrogen*
  - ▶ *Utilize natural gas from INPEX assets to produce "carbon-free hydrogen" through a natural gas reforming process that integrates CCUS for the CO<sub>2</sub> emissions*
    - *Develop concept for integrated hydrogen business test project in Kashiwazaki, Niigata, Japan that applies CO<sub>2</sub>-EOR and Direct Air Capture*
  - ▶ *Enhance R&D activities to establish a hydrogen value chain in collaboration with external companies and organizations*
  - ▶ *Aim to create a hydrogen society at an early stage through collaborative cross-sector projects on the social implementation of hydrogen as a member of the Japan Hydrogen Association*
  - ▶ *Evaluate ammonia production and liquified hydrogen business opportunities as ways to transport and import hydrogen produced at INPEX upstream assets overseas to Japan*
    - *Evaluate opportunities to produce hydrogen and ammonia from natural gas produced in Abu Dhabi; CO<sub>2</sub> from the gas reforming process will be utilized in CCUS / EOR at an onshore Abu Dhabi oil field in which INPEX has a participating interest, with the objective of realizing clean ammonia*
  - ▶ *These opportunities are expected to eventually lead to a carbon-free energy business leveraging INPEX's natural gas assets outside of Japan*
    - *Examine ways to participate in a hydrogen liquefaction and offloading business to develop INPEX's own overseas hydrogen business*



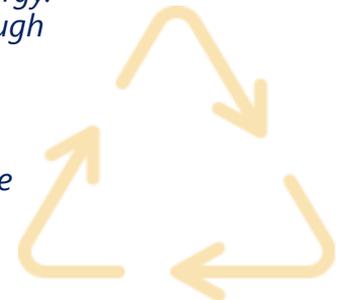
### INPEX's current initiatives

- *Acceleration of initiatives both in Japan and around the world relating to geothermal power generation applying oil and gas development technologies*
  - *Participation in the Sarulla Geothermal Project in Indonesia, currently operating with a maximum generating capacity of 330MW- with further development planned*
  - *Domestic track record of conducting development studies, exploratory drilling and flow tests in the Oyasu area of Akita Prefecture and the Amemasu area of Hokkaido, Japan*
- *Acceleration of initiatives relating to offshore wind leveraging experience in the construction and operation of offshore floating facilities gained at operation sites overseas*
  - *Development of onshore and offshore wind-power projects in Japan. Plans to realize fixed-bottom wind project offshore Noshiro, Mitane and Oga in Akita Prefecture, Japan*
  - *Investment in ELIY Power Co., Ltd., a company which aims to store electricity for stable power supply through mass production of large-scale lithium-ion batteries*



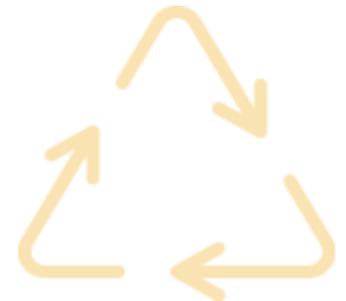
### INPEX's current initiatives

- *Promotion of carbon recycling with the aim of setting up business operations at an early stage, leveraging synergies with its oil and gas business operations*
  - ▶ *Acceleration of Methanation Business < towards the supply of carbon free methane >*
    - *Participation in the technology development of CO<sub>2</sub>-methanation, an industry-academia collaboration that is researching sustainable carbon recycling systems that may one day convert CO<sub>2</sub> to methane for use as an energy source; basic technical development planned for completion in 2021, to be followed by scaling up of the test facility in stages while implementing cost reduction measures, with the aim of achieving commercialization beyond 2030*
    - *Commenced joint studies with the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO) in July 2020 towards practical application in Australia, based on the Japan-Australia Carbon Recycling Cooperation Memorandum*
  - ▶ *Artificial Photosynthesis < towards the supply of hydrogen derived from renewables >*
    - *Participation in the Japan Technological Research Association of Artificial Photosynthetic Chemical Process (ARPCChem) overseen by Japan's New Energy and Industrial Technology Development Organization (NEDO), aimed at producing chemical products from CO<sub>2</sub> utilizing hydrogen generated from water via a photocatalysis process using solar energy. INPEX is in charge of technology development for production of solar hydrogen through catalytic reaction*
    - *Steady implementation of R&D with aims to ultimately achieve 10% solar energy conversion efficiency; plans to evaluate practical application*
    - *Installation of artificial photosynthesis panels in Darwin, Australia, the location of the Ichthys onshore plant*



## INPEX's current initiatives

- *Swiftly pursuing initiatives in new business fields that show signs of growth*
  - ▶ *Acceleration of the startup of businesses in new fields through proactive tie-ups with external R&D ventures and research institutions, etc., in addition to internal ventures that leverage in-house resources to the maximum extent*
    - *Improvement in operational stability and security through pipeline management utilizing drones*
    - *Introduction of DX relating to energy businesses*
    - *Development of direct methane cracking technologies; Technologies for directly cracking methane into hydrogen and carbon*
    - *Carbon materials business: Effective use of carbon extracted from direct CO<sub>2</sub> cracking*
    - *Development of CO<sub>2</sub> extraction, processing and utilization technologies*
    - *Accessing new resources through technological development focusing on open innovation with universities and other industries, and field-based innovation utilizing proprietary sites in Japan*



### INPEX's current initiatives

- *Promotion of CO<sub>2</sub> absorption through forest conservation projects*
  - *Japan: Conservation of forests near the Minami-Nagaoka Gas Field in Niigata Prefecture through forestation programs in coordination with local communities*
  - *Australia: The Ichthys LNG Project where INPEX is taking an operator's role is planting and ongoing management of 1.4 million eucalyptus trees in southwestern Australia (generates Australian Carbon Credit Units)*
  - *Australia: The Ichthys LNG Project where INPEX is taking an operator's role is operating at a Savannah Fire Management Program in the Northern Territory (generates Australian Carbon Credit Units)*
- ▶ *Contribution to forest conservation activities in Indonesia and other countries, mainly by supporting distinguished REDD+ projects, which contribute to climate change response, biodiversity conservation and improved living standards for local communities*
  - *Execution of carbon credit purchase agreements generated from forest conservation projects; purchase and management of the credits*
  - *Research on the potential for development of forest conservation projects with the aim of generating carbon credits from those projects*



## INPEX's current initiatives

### ● Ensuring a stable supply of energy and responding to climate change

#### ▶ Development and stable supply of energy over the long term

- In Q3 2020, maintained stable supply of approximately 556,000 boe/d of oil and natural gas
- Continue stable production and operation of the Ichthys LNG Project in Australia
- Received approval from Indonesian government authorities for the revised Plan of Development for the onshore Abadi LNG project as well as the extension of a Production Sharing Contract (PSC) until 2055
- Strengthen portfolio of existing assets in Abu Dhabi
- Continue stable long-term operation of the Minami-Nagaoka Gas Field, one of the largest gas fields in Japan

#### ▶ Response to climate change

- Application of an internal carbon price for economic evaluation of projects; currently set at US\$40/t CO<sub>2</sub>-e
- Assessment of the financial impact of climate change across INPEX's portfolio in relation to oil price and carbon price based on the IEA's Sustainable Development Scenario (well below 2 °C) as published in the World Energy Outlook
- Establishment and implementation of guidelines for evaluation and management of climate change-related risks and opportunities
- Disclosure of greenhouse gas emissions on an equity share basis, including greenhouse gas emissions of non-operator projects, with third-party verification and assurance

## INPEX's current initiatives

- ▶ *Strengthening collaboration with industry, academia and government*
  - *In efforts for cleaner upstream business such as CCUS, promote cooperation with related private companies, government agencies and universities through joint research and projects*
  - *Participation in industry organizations including the International Association of Oil & Gas Producers (IOGP) and IPIECA*
  
- ▶ *Utilizing policy support measures*
  - *Japan: Participation in the Japan Business Federation's (Keidanren's) Commitment to a Low Carbon Society through the Japan Petroleum Development Association, and establishment of GHG emissions reduction targets for 2030*
  - *Australia: Participation in the development of federal policy frameworks through consultation processes relating to policy changes and via the Australian Petroleum Production and Exploration Association (APPEA) when appropriate*
  - *Indonesia: Participation in GHG emissions and climate change discussions with the Government of Indonesia and research institutions; contribution to policy formulation on GHG emissions in Indonesia through the Indonesian Petroleum Association (IPA)*

# INPEX

## Revision History

<i>Corporate Position on Climate Change</i>	<i>INPEX's current initiatives</i>
<i>December 2015 Published</i>	<i>December 2015 Published</i>
<i>July 2018 Updated</i>	<i>February 2017 Updated</i>
<i>January 2021 Updated</i>	<i>July 2018 Updated</i>
	<i>February 2020 Updated</i>
	<i>February 2021 Updated</i>

