

Russian Atlas of Low-Carbon and Carbon-Free Hydrogen and Ammonia Production Projects



Kaliningrad Region

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2. Rosatom: Green Hydrogen

Republic of Crimea

3. H2: Green Hydrogen

Krasnodar Territory

4. Lukoil: Green Hydrogen

Saratov Region

5. Special Project Company Gornyy: Blue Ammonia

Moscow Region

6. Research and Test Center of Rocket and Space Industry: Green Hydrogen

Leningrad Region

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8. Agency for Economic Development of the Leningrad Region: Green Hydrogen
9. Agency for Economic Development of the Leningrad Region: Blue Hydrogen / Ammonia
10. En+ Group: Green Hydrogen / Ammonia
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31. Unigreen Energy: Green Hydrogen

Amur Region

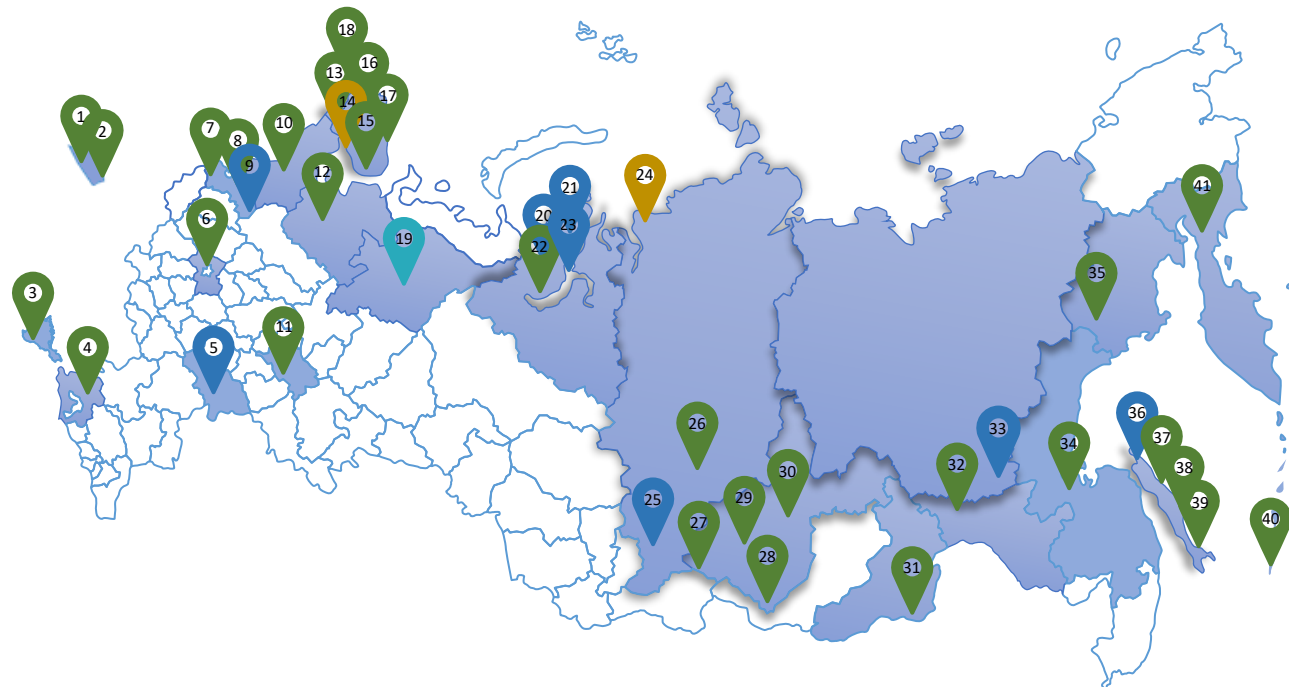
32. Agency of the Amur Region for Attracting Investment: Green Hydrogen
33. NORTH-EAST ALLIANCE: Blue Ammonia
34. JSFC Sistema: Green Hydrogen

Magadan Region

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Sakhalin Region

36. Rosatom: Blue Hydrogen / Ammonia
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39. H4Energy: Green Hydrogen / Ammonia
40. H2: Green Hydrogen
41. H2 Clean Energy: Green Hydrogen



Denis Manturov

Minister of Industry and Trade of the
Russian Federation

«The Ministry of Industry and Trade of the Russian Federation in cooperation with industrial and energy organizations have systematized more than 40 projects to produce low-carbon and carbon-free hydrogen and ammonia from various raw materials.

On this basis we created Russian Atlas, which serves as a reference point for investors and mechanical engineers.

Russian hydrogen projects will contribute to the decarbonization of industry, energy and the entire economy».

The Kronshtadt Group: Green Hydrogen

Project description:

Green hydrogen production via hydro power plant electrolysis

Implementation period: 2023

Location: Kaliningrad Region, the city of Svetly

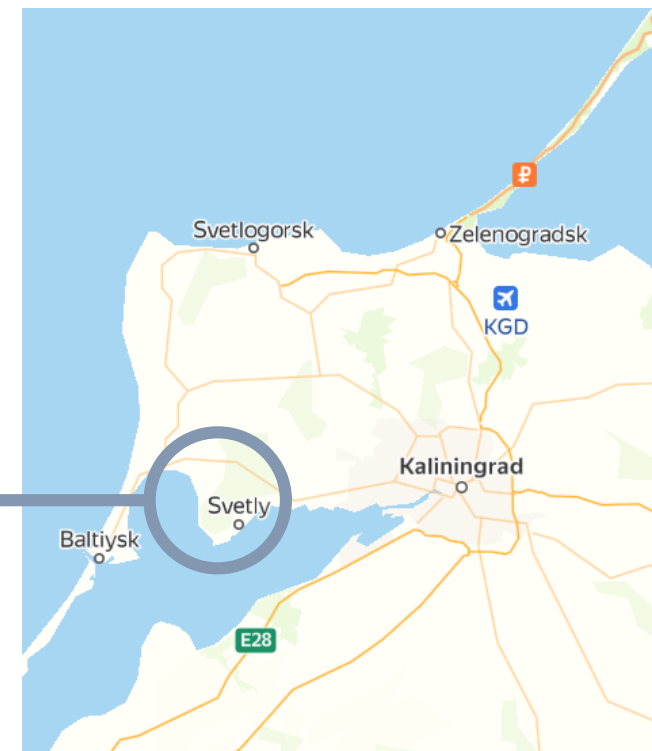
Target markets: domestic market of Russia, European countries

Production capacity forecast: 2 700 tons of hydrogen per year

Participants:

- Kronshtadt
- Sodrugestvo
- Atomenergomash
- Others

Svetly (city), Kaliningrad Region



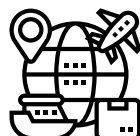
Project scheme:



Hydro power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and European countries



Consumption
Long-term contracts with Russian and European customers

Rosatom: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Pilot production launch: 2024

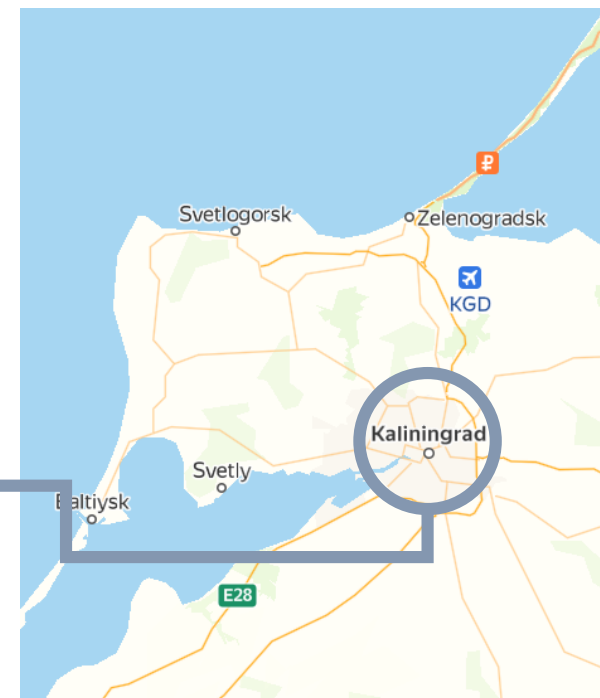
Location: Kaliningrad Region

Target markets: domestic market of Russia, European countries

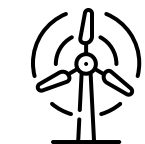
Participants:

- Rosatom
- Others

Kaliningrad Region



Project scheme:



Wind power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and European countries



Consumption
Long-term contracts with Russian and European customers

H2: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Pilot production launch: 2023

Location: Republic of Crimea

Target markets: domestic market of Russia

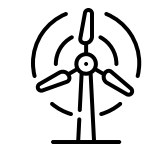
Production capacity forecast: 10 000 tons of hydrogen per year

Participants:

- H2
- Others

Republic of Crimea

Project scheme:



Wind power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia



Consumption
Long-term contracts with Russian customers



Lukoil: Green Hydrogen

Project description:

Green hydrogen production via solar power plant electrolysis

Implementation period: 2023

Location: Krasnodar Territory, the city of Krasnodar

Target markets: domestic market of Russia, European countries

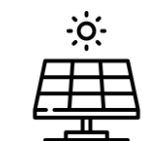
Production capacity forecast: 13 tons of hydrogen per year

Participants:

- Lukoil
- Others

Krasnodar (city), Krasnodar Territory

Project scheme:



Solar power
plant
Electricity
generation



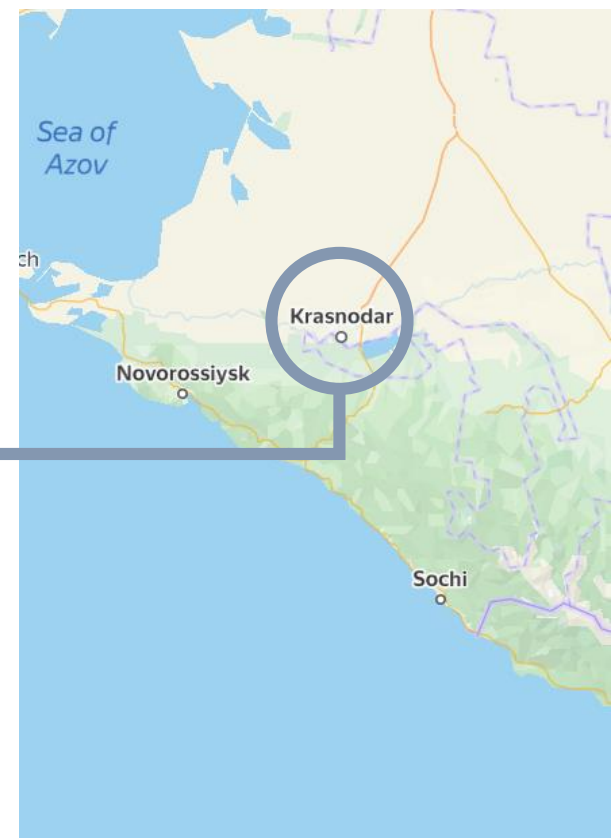
Electrolysis
Green hydrogen
production



Logistics
Hydrogen
transportation to
customers within Russia
and European countries



Consumption
Long-term contracts with
Russian and European
customers



MINISTRY OF INDUSTRY
AND TRADE OF RUSSIA

Special Project Company Gornyj: Blue Ammonia

Project description:

Blue ammonia production by steam conversion of methane with CO2 capture

Implementation period: 2026

Location: Saratov Region, Mikhailovsky village

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

Production capacity forecast by 2026: 20 000 tons of ammonia per year

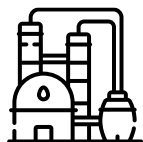
Production capacity forecast by 2030: 170 000 tons of ammonia per year

Participants:

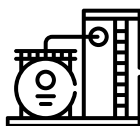
- Special Project Company Gornyj
- Others

Mikhailovsky village,
Saratov Region

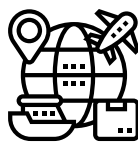
Project scheme:



Steam methane
conversion
Blue ammonia
production



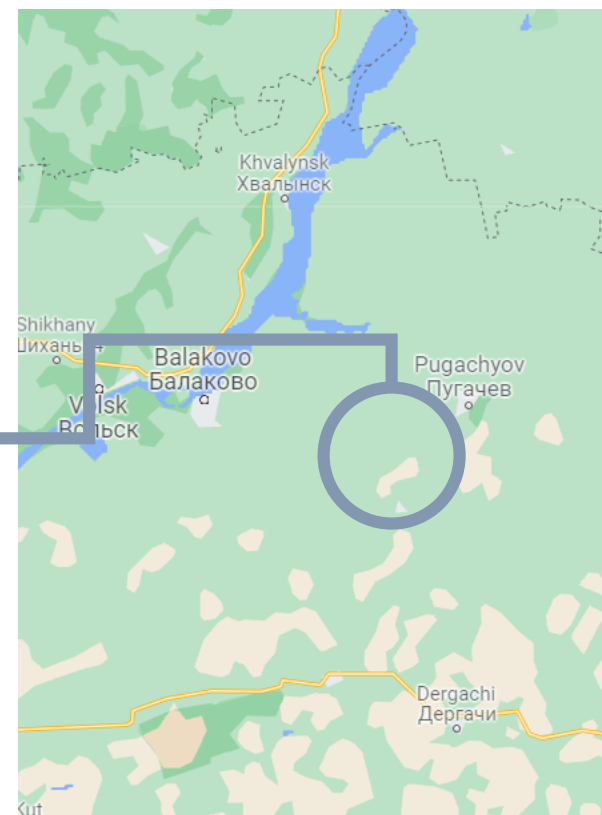
CO2 capture and
utilisation with
microalgae



Logistics
Hydrogen transportation
to customers within
Russia, European countries
and the Asia-Pacific region



Consumption
Long-term contracts with
Russian, European and
Asia-Pacific customers



Pilot projects

Research and Test Center of Rocket and Space Industry: Green Hydrogen

Project description:

Green hydrogen production via the Uglichsk HPP and the Zagorsk HPP electrolysis

Implementation period: 2021

Location: Moscow Region, the city of Peresvet

Target markets: domestic market of Russia

Production capacity: 400 tons of hydrogen per year

Production capacity forecast by 2024: 800 tons of hydrogen per year

Participants:

- Research and Test Center of Rocket and Space Industry
- Others

Peresvet (city), Moscow Region

Project scheme:



Hydro power
plant
Electricity
generation



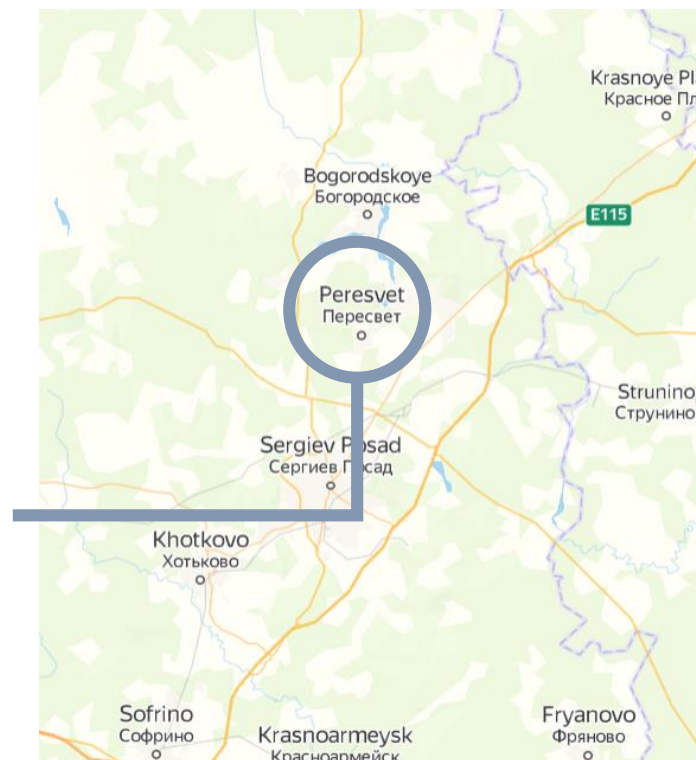
Electrolysis
Green hydrogen
production



Logistics
Hydrogen
transportation to
customers within Russia



Consumption
Long-term contracts with
Russian customers



Agency for Economic Development of the Leningrad Region: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Implementation period: 2023

Location: Leningrad Region

Target markets: domestic market of Russia, European countries

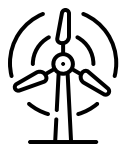
Production capacity forecast: 3 500 tons of hydrogen per year

Participants:

- Agency for Economic Development of the Leningrad Region
- Others

Leningrad Region

Project scheme:



Wind power plant
Electricity generation



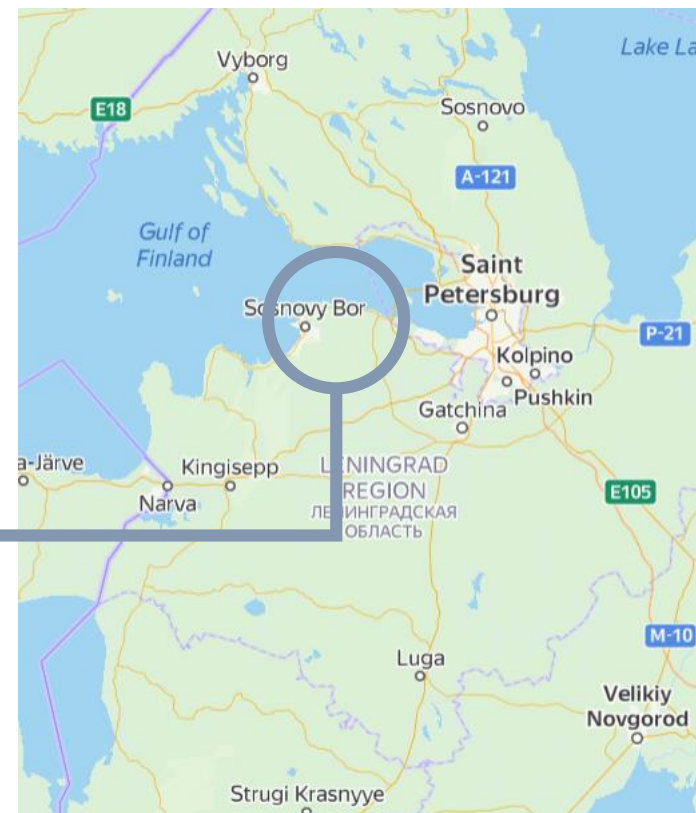
Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and European countries



Consumption
Long-term contracts with Russian and European customers



Agency for Economic Development of the Leningrad Region: Green Hydrogen

Project description:

Green hydrogen production via small hydro power plant electrolysis

Implementation period: 2023

Location: Leningrad Region

Target markets: domestic market of Russia, European countries

Production capacity forecast: 1 000 tons of hydrogen per year

Participants:

- Agency for Economic Development of the Leningrad Region
- Others

Leningrad Region

Project scheme:



Hydro power plant
Electricity
generation



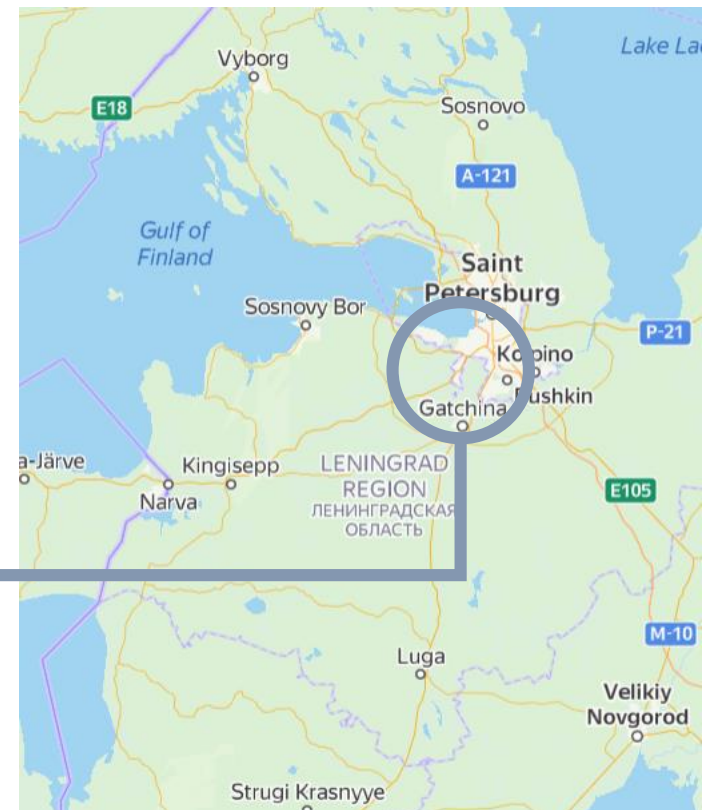
Electrolysis
Green hydrogen
production



Logistics
Hydrogen
transportation to
customers within Russia
and European countries



Consumption
Long-term contracts with
Russian and European
customers



Agency for Economic Development of the Leningrad Region: Blue Hydrogen / Ammonia

Project description:

Blue hydrogen / ammonia production by steam conversion of methane with CO₂ capture at Gas Chemical Enterprises in Leningrad Region

Implementation period: 2023

Location: Leningrad Region

Target markets: domestic market of Russia, European countries

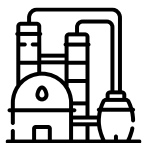
Production capacity forecast: 1 000 tons of hydrogen per year

Participants:

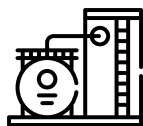
- Agency for Economic Development of the Leningrad Region
- Others

Leningrad Region

Project scheme:



Steam methane
conversion
Blue hydrogen /
ammonia
production



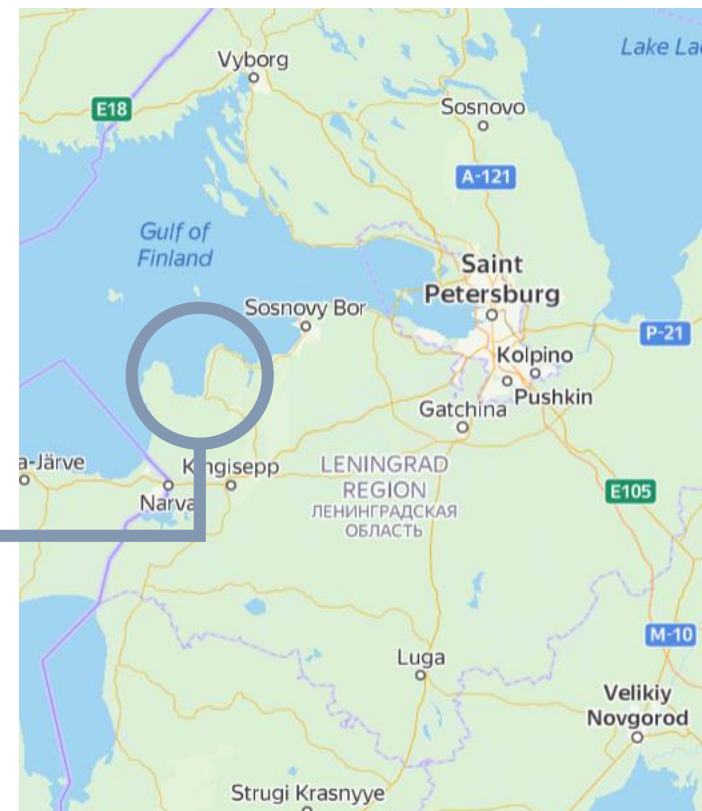
Carbon capture



Logistics
Hydrogen
transportation to
customers within Russia
and European countries



Consumption
Long-term contracts with
Russian and European
customers



En+ Group: Green Hydrogen / Ammonia

Project description:

Green hydrogen / ammonia production via the Ondsk hydro power plant electrolysis

Implementation period: 2024

Location: Republic of Karelia, the village of Kamenny Bor

Target markets: domestic market of Russia, European countries

Production capacity forecast: 5 200 tons of hydrogen per year

Participants:

- En+ Group
- Others

The village of Kamenny Bor, Republic of Karelia

Project scheme:



Hydro power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Selection of storage and transportation technology



Consumption
Long-term contracts with Russian and European customers



Tatenergo: Green Hydrogen

Project description:

Green hydrogen production via the Nizhnekamsk hydro power plant electrolysis

Implementation period: 2024

Location: Republic of Tatarstan

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

Production capacity forecast: 2 500 tons of hydrogen per year

Participants:

- Tatenergo
- Others

Republic of Tatarstan

Project scheme:



Hydro power plant
Electricity generation



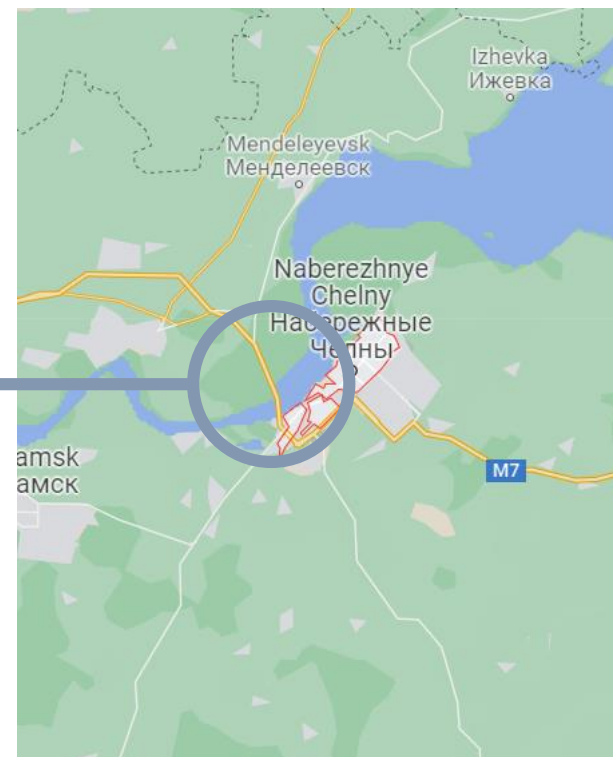
Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia, European countries and the Asia-Pacific region



Consumption
Long-term contracts with Russian, European and Asia-Pacific customers



Regional Development Agency of the Arkhangelsk Region: Green Hydrogen

Project description:

Green hydrogen production via the Mezensk tidal power plant electrolysis

Pilot production launch: 2030

Location: Archangel Region, Mezensky Area, Mezensky Bay

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

Production capacity forecast by 2030: 500 000 tons of hydrogen per year

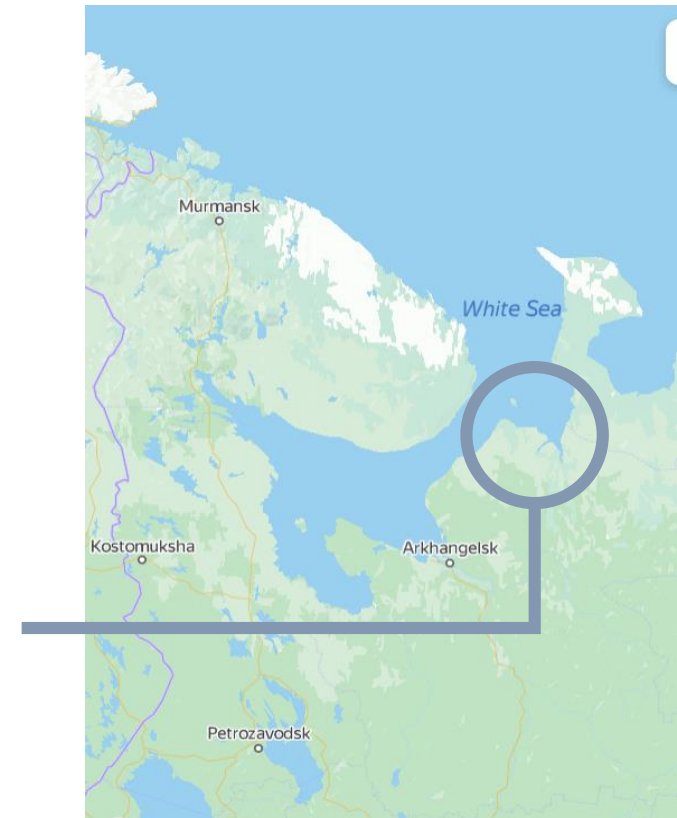
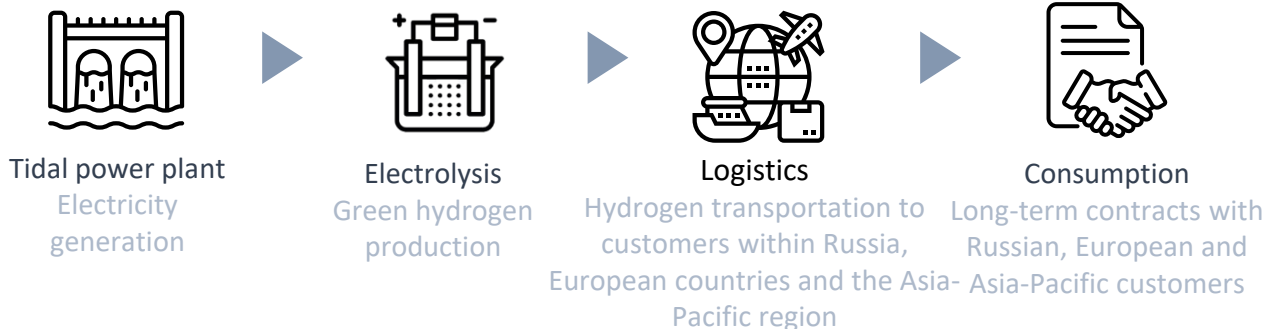
Production capacity forecast by 2033: 1 million tons of hydrogen per year

Participants:

- Regional Development Agency of the Arkhangelsk Region
- NordEnergogroup
- Others

Mezensky Area, Mezensky Bay, Archangel Region

Project scheme:



Rusnano: Green Hydrogen

Project description:

Green hydrogen production via the Kolsk wind power plant electrolysis

Implementation period: 2024

Location: Murmansk Region

Target markets: domestic market of Russia, European countries

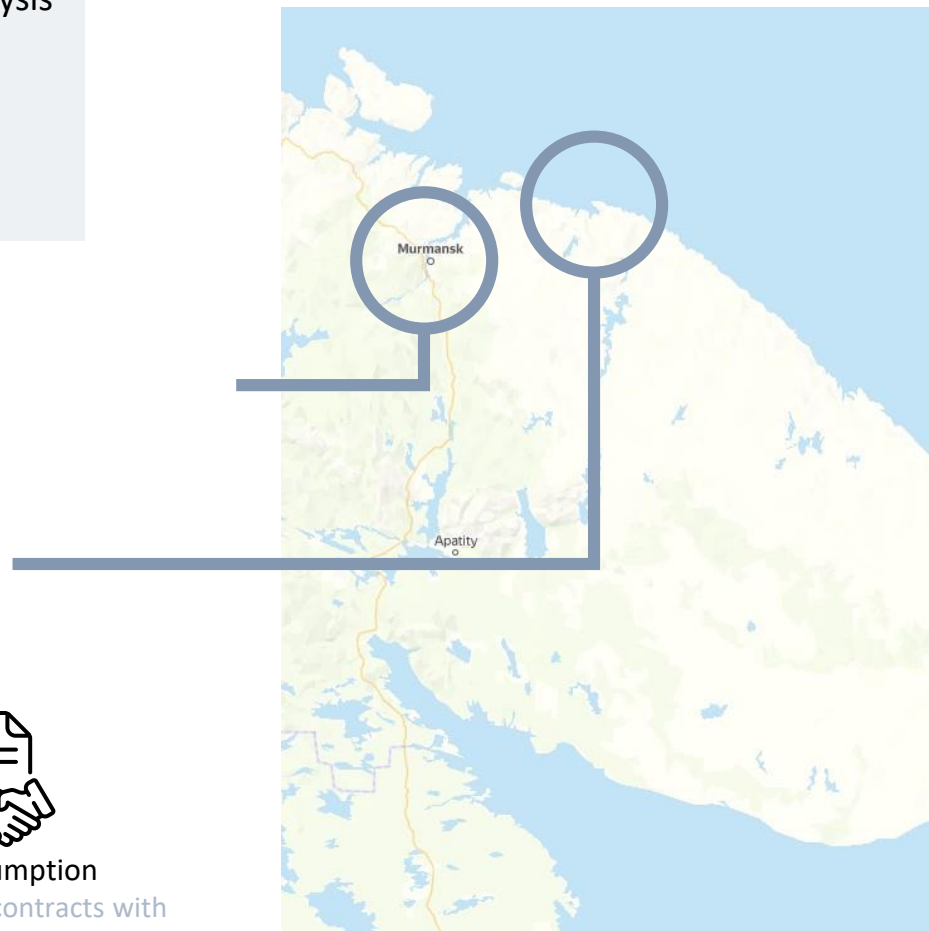
Production capacity forecast: 12 000 tons of hydrogen per year

Participants:

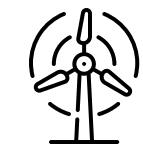
- Rusnano
- Enel
- Others

The Port of Murmansk,
Electrolysis production,
Murmansk Region

The Kolskaya WPP,
Murmansk Region



Project scheme:



Wind power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Selection of storage and transportation technology



Consumption
Long-term contracts with Russian and European customers

Rosatom: Low Carbon Hydrogen

Project description:

Low carbon hydrogen production via the Kolsk nuclear power plant electrolysis

Pilot production launch: 2024

Achieving industrial production capacity: 2030

Location: Murmansk Region

Target markets: domestic market of Russia, European countries

Production capacity forecast by 2024: 150 tons of hydrogen per year

Participants:

- Rosatom
- Others

Project scheme:



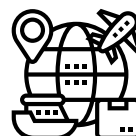
Nuclear power
plant
Electricity
generation



Electrolysis
Hydrogen
production



Liquefaction
and storage



Logistics
Hydrogen
transportation to
customers within Russia
and European countries



Consumption
Long-term contracts
with Russian and
European customers

The Kolskaya NPP, Murmansk Region



MINISTRY OF INDUSTRY
AND TRADE OF RUSSIA

H4Energy: Green Hydrogen / Ammonia

Project description:

Green hydrogen / ammonia production via hydro power plant electrolysis

Pilot production launch: 2024

Location: Murmansk Region

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

Production capacity forecast by 2024: 17 000 tons of hydrogen per year

Production capacity forecast by 2030: 170 000 tons of hydrogen per year

Participants:

- H4Energy
- H2Transition Capital
- Eurasia Mining
- Others

Murmansk Region

Project scheme:



Hydro power
plant
Electricity
generation



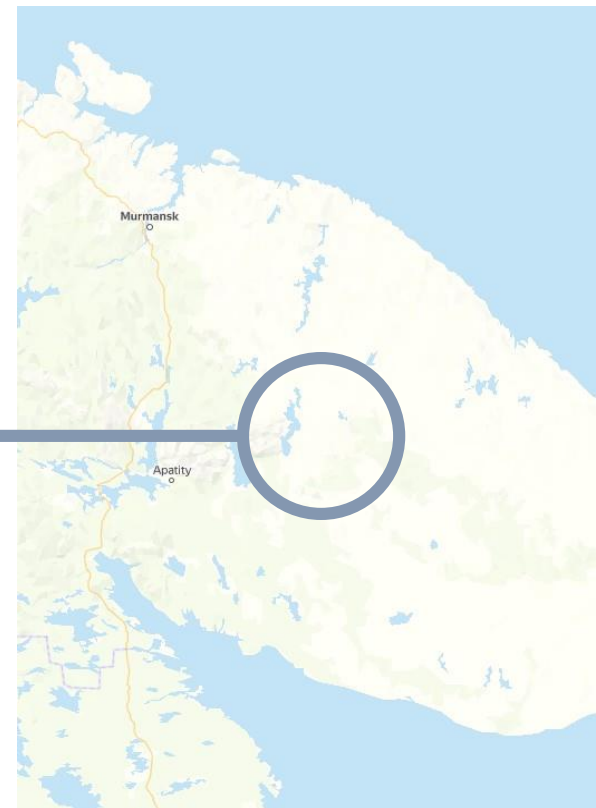
Electrolysis
Green hydrogen
production



Logistics
Hydrogen transportation
to customers within
Russia, European countries
and the Asia-Pacific region



Consumption
Long-term contracts with
Russian, European and
Asia-Pacific customers



MINISTRY OF INDUSTRY
AND TRADE OF RUSSIA

H2 Clean Energy: Green Hydrogen

Project description:

Green hydrogen production via hydro power plant electrolysis

Implementation period: 2025

Location: Murmansk Region

Target markets: domestic market of Russia, European countries

Production capacity forecast: 16 000 tons of hydrogen per year

Participants:

- H2 Clean Energy
- TGC-1
- Others

Murmansk Region

Project scheme:



Hydro plant
power
Electricity
generation



Electrolysis
Green hydrogen
production



Logistics
Hydrogen
transportation to
customers within Russia
and European countries



Consumption
Long-term contracts with
Russian and European
customers



H2: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Implementation period: 2024

Location: Murmansk Region

Target markets: domestic market of Russia, European countries

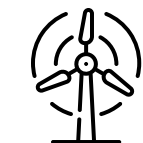
Production capacity forecast: 10 000 tons of hydrogen per year

Participants:

- H2
- Others

Murmansk Region

Project scheme:



Wind power plant
Electricity generation



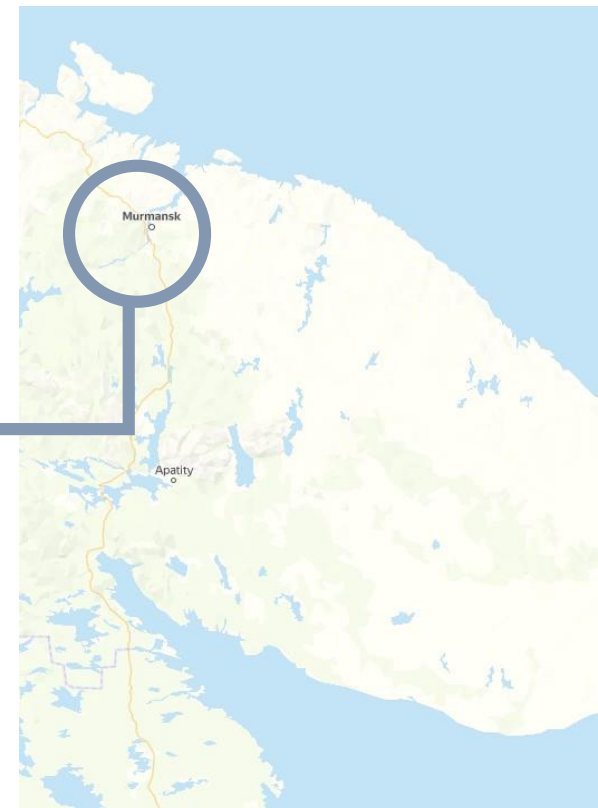
Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and European countries



Consumption
Long-term contracts with Russian and European customers



Gazprom Energoholding Group: Green Hydrogen / Ammonia

Project description:

Green hydrogen / ammonia production via hydro power plant electrolysis

Implementation period: 2024

Location: Murmansk Region

Target markets: domestic market of Russia, European countries

Production capacity forecast by 2024: 2 000 tons of hydrogen per year

Production capacity forecast by 2030: 20 000 tons of hydrogen per year

Participants:

- Gazprom Energoholding Group
- TGC-1
- Others

Murmansk Region

Project scheme:



Hydro power
plant
Electricity
generation



Electrolysis
Green hydrogen
production



Logistics
Hydrogen
transportation to
customers within Russia
and European countries



Consumption
Long-term contracts with
Russian and European
customers



Komi Center for Entrepreneurship Development: Turquoise Hydrogen

Project description:

Turquoise hydrogen production by methane pyrolysis at the Sosnogorsk GPP

Pilot production launch: 2024

Location: Komi Republic, the city of Sosnogorsk

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

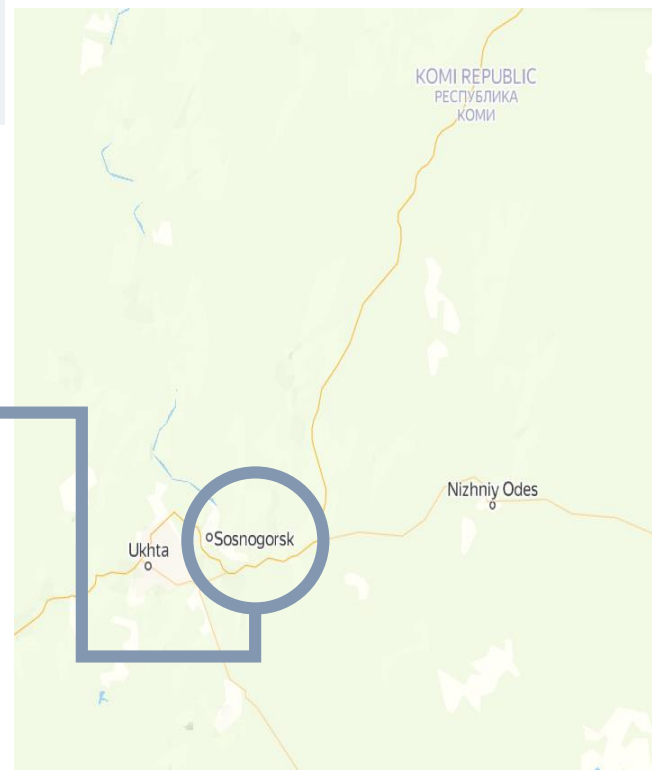
Production capacity forecast: 2 000 tons of hydrogen per year

Participants:

- Komi Center for Entrepreneurship Development
- Others

Sosnogorsk (city), Komi Republic

Project scheme:



NOVATEK: Blue Hydrogen / Ammonia

Project description:

Natural gas processing complex with production of hydrogen, ammonia and other low-carbon products using CO2 capture and long-term underground storage technologies

Implementation period: 2027

Location: Yamalo-Nenets Autonomous Area, Yamal Peninsula (Sabetta)

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

Production capacity forecast: 2.2 million tons of ammonia per year

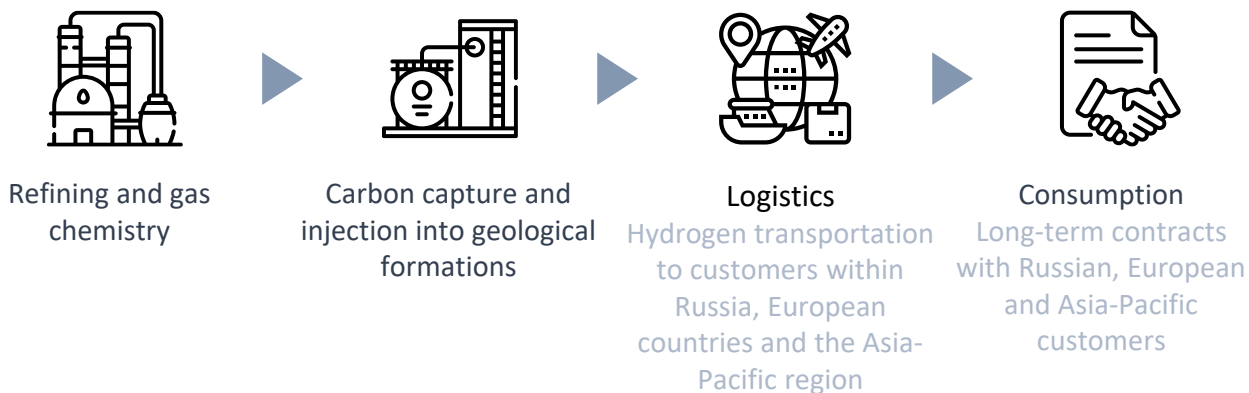
Participants:

- NOVATEK
- Others

The Obsky Gas Chemical Complex, Yamalo-Nenets Autonomous Area



Project scheme:



Corporation Energy: Blue Ammonia / Hydrogen

Project description:

Blue ammonia production by steam conversion of methane with CO2 capture technologies and long-term underground storage

Implementation period: 2025

Location: Yamalo-Nenets Autonomous Area, Baidaratskaya Bay

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

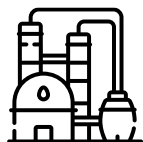
Production capacity forecast: 2.2 million tonnes of ammonia per year

Participants:

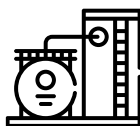
- Corporation Energy
- TOYO Engineering Corporation
- ITOCHU Plantech Inc
- Others

Baidaratskaya Bay,
Yamalo-Nenets Autonomous Area

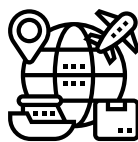
Project scheme:



Steam methane
conversion
Blue ammonia
production



CO2 capture and
long-term
underground
storage



Logistics
Hydrogen transportation to
customers within Russia,
European countries and the
Asia-Pacific region



Consumption
Long-term contracts with
Russian, European and
Asia-Pacific customers



Corporation Energy: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Implementation period: 2025

Location: Yamalo-Nenets Autonomous Area, Baidaratskaya Bay

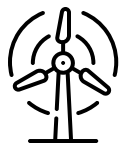
Target markets: domestic market of Russia, European countries and the Asia-Pacific region

Participants:

- Corporation Energy
- Others

Baidaratskaya Bay, Yamalo-Nenets Autonomous Area

Project scheme:



Wind power plant
Electricity generation



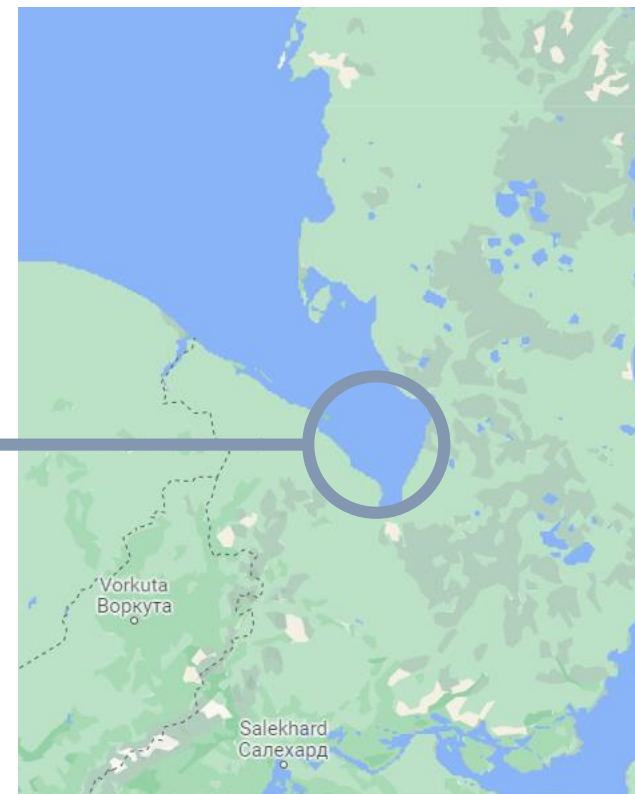
Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia, European countries and the Asia-Pacific region



Consumption
Long-term contracts with Russian, European and Asia-Pacific customers



Corporation Energy: Blue Ammonia / Hydrogen

Project description:

Blue ammonia production by steam conversion of methane with CO2 capture technologies and long-term underground storage

Implementation period: 2026

Location: Yamalo-Nenets Autonomous Area, Seyakha (settlement)

Target markets: domestic market of Russia, European countries and the Asia-Pacific region

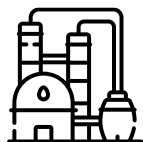
Production capacity forecast: 2.2 million tonnes of ammonia per year

Participants:

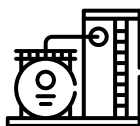
- Corporation Energy
- TOYO Engineering Corporation
- ITOCHU Plantech Inc
- Others

Seyakha, Yamalo-Nenets Autonomous Area

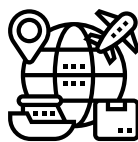
Project scheme:



Steam methane
conversion
Blue ammonia
production



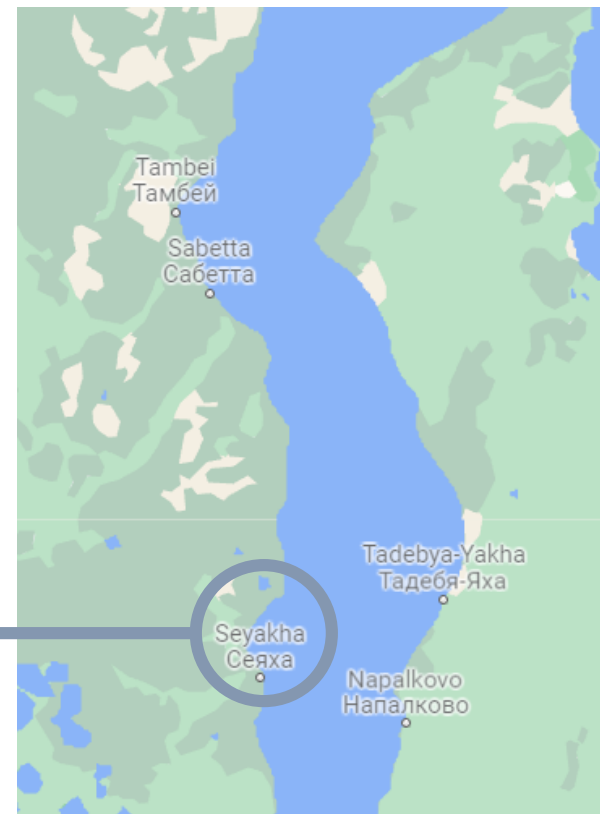
CO2 capture and
long-term
underground
storage



Logistics
Hydrogen transportation to
customers within Russia,
European countries and the
Asia-Pacific region



Consumption
Long-term contracts with
Russian, European and
Asia-Pacific customers



North Star: Low Carbon Hydrogen

Project description:

Low carbon hydrogen production via pulverized coal power plant electrolysis

Pilot production launch: 2024

Location: Krasnoyarsk Territory, Taimyr Peninsula, Syrdasaysk Reservoir

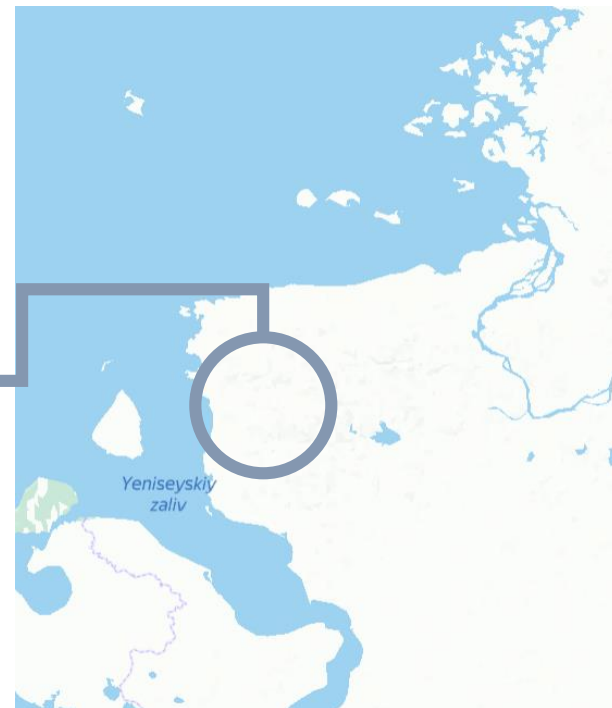
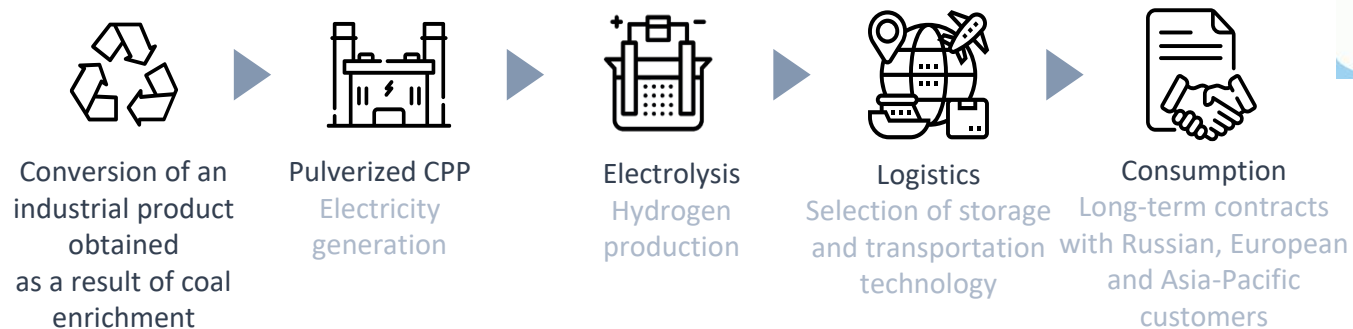
Target markets: domestic market of Russia, European countries and the Asia-Pacific region

Participants:

- North Star
- Others

Syrdasaysk Reservoir, Krasnoyarsk Territory

Project scheme:



SUEK: Blue Ammonia

Project description:

Blue ammonia production by lignite gasification using CO2 capture and injection into oil reservoirs

Implementation period: 2027

Location: Krasnoyarsk Territory

Target markets: domestic market of Russia, the Asia-Pacific region

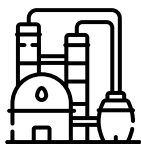
Production capacity forecast: 800 000 tons of ammonia per year

Participants:

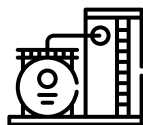
- SUEK
- Others

Borodinsky Razrez, Krasnoyarsk Territory

Project scheme:



Coal gasification
Blue ammonia
production



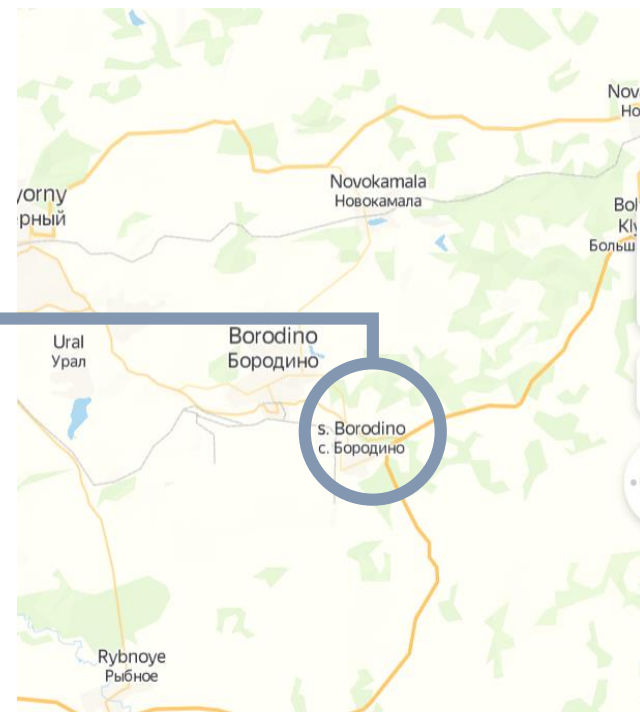
Carbon capture
CO2 injection into
oil reservoirs



Logistics
Transportation to
customers within
Russia and the Asia-
Pacific region



Consumption
Long-term contracts
with Russian and Asia-
Pacific customers



En+ Group: Green Hydrogen / Ammonia

Project description:

Green hydrogen / ammonia production via the Motyginsk hydro power plant electrolysis

Implementation period: 2030

Location: Krasnoyarsk Territory, Motygino Settlement

Target markets: domestic market of Russia, the Asia-Pacific region

Production capacity forecast: 115 600 tons of hydrogen per year

Participants:

- En+ Group
- Others

Motygino Settlement, Krasnoyarsk Territory

Project scheme:



Hydro power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Selection of storage and transportation technology



Consumption
Long-term contracts with Russian and Asia-Pacific customers



En+ Group: Green Hydrogen / Ammonia

Project description:

Green hydrogen / ammonia production via the Bratsk hydro power plant electrolysis

Implementation period: 2024

Location: Irkutsk region, the city of Bratsk

Target markets: domestic market of Russia, the Asia-Pacific region

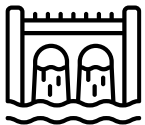
Production capacity forecast: 3 000 tons of hydrogen per year

Participants:

- En+ Group
- Others

Bratsk (city), Irkutsk Region

Project scheme:



Hydro power
plant
Electricity
generation



Electrolysis
Green hydrogen
production



Logistics
Selection of storage
and transportation
technology



Consumption
Long-term contracts
with Russian and Asia-
Pacific customers



En+ Group: Green Hydrogen / Ammonia

Project description:

Green hydrogen / ammonia production via the Ust-Ilimsk hydro power plant electrolysis

Implementation period: 2024

Location: Irkutsk region, the city of Ust-Ilimsk

Target markets: domestic market of Russia, the Asia-Pacific region

Production capacity forecast: 5 400 tons of hydrogen per year

Participants:

- En+ Group
- Others

Ust-Ilimsk (city), Irkutsk Region



Project scheme:



Hydro power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Selection of storage and transportation technology



Consumption
Long-term contracts with Russian and Asia-Pacific customers

En+ Group: Green Hydrogen / Ammonia

Project description:

Green hydrogen / ammonia production via the Irkutsk hydro power plant electrolysis

Implementation period: 2024

Location: Irkutsk region, the city of Irkutsk

Target markets: domestic market of Russia, the Asia-Pacific region

Production capacity forecast: 4 200 tons of hydrogen per year

Participants:

- En+ Group
- Others

Irkutsk (city), Irkutsk region

Project scheme:



Hydro power plant
Electricity generation



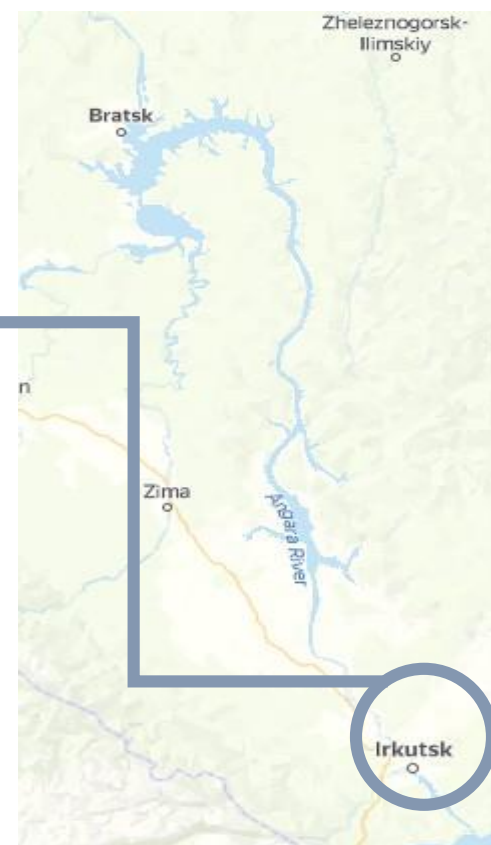
Electrolysis
Green hydrogen production



Logistics
Selection of storage and transportation technology



Consumption
Long-term contracts with Russian and Asia-Pacific customers



MINISTRY OF INDUSTRY
AND TRADE OF RUSSIA

H2 Clean Energy: Green Hydrogen

Project description:

Green hydrogen production via the Mamakansk hydro power plant electrolysis

Implementation period: 2025

Location: Irkutsk Region, Bodaybo Area

Target markets: domestic market of Russia

Production capacity forecast: 6 000 tons of hydrogen per year

Stockholders:

- H2 Clean Energy
- Polyus
- Others

Bodaybo Area, Irkutsk Region

Project scheme:



Hydro power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia



Consumption
Long-term contracts with Russian customers



Unigreen Energy: Green Hydrogen

Project description:

Green hydrogen production via solar power plant electrolysis

Pilot production launch: 2023

Location: Trans-Baikal Territory

Target markets: domestic market of Russia, the Asia-Pacific region

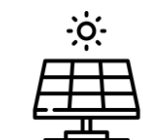
Production capacity forecast: 3 200 tons of hydrogen per year

Participants:

- Unigreen Energy
- Special Design Engineering Bureau in Electrochemistry with Experimental Factory
- Others

Trans-Baikal Territory

Project scheme:



Solar power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and the Asia-Pacific region



Consumption
Long-term contracts with Russian and Asia-Pacific customers



Agency of the Amur Region for Attracting Investment: Green Hydrogen

Project description:

Green hydrogen production via hydro power plant electrolysis

Implementation period: 2027

Location: Amur Region

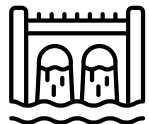
Target markets: domestic market of Russia, the Asia-Pacific region

Production capacity forecast: 110 000 tons of hydrogen per year

Participants:

- Agency of the Amur Region for Attracting Investment
- Others

Project scheme:



Hydro power
plant
Electricity
generation



Electrolysis
Green hydrogen
production

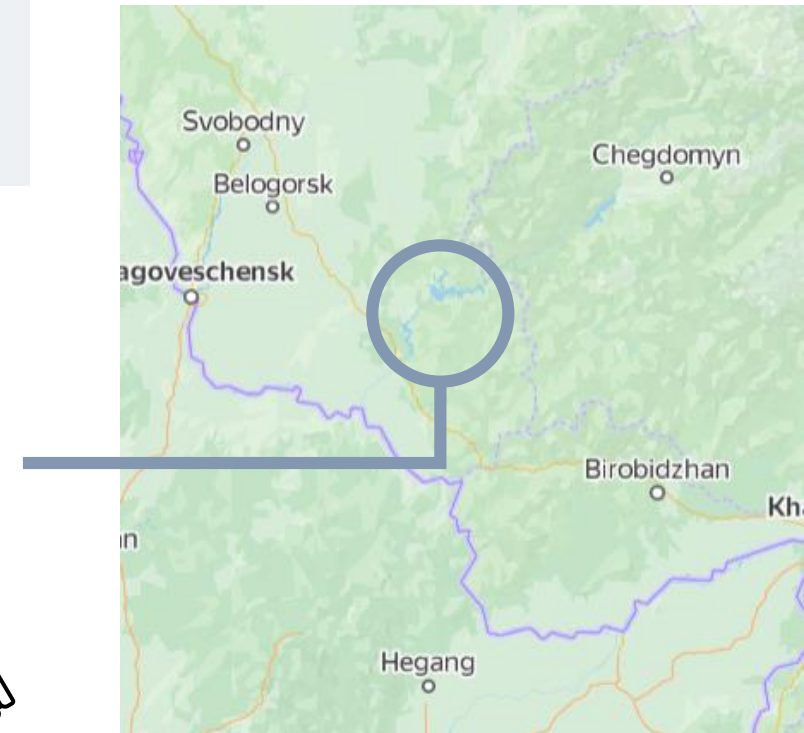


Logistics
Hydrogen transportation
to customers
within Russia
and the Asia-Pacific region



Consumption
Long-term contracts with
Russian and Asia-Pacific
customers

Amur Region



NORTH-EAST ALLIANCE: Blue Ammonia

Project description:

Blue ammonia production based on gas fields with CO2 capture technologies

1st stage implementation: 2026

2nd stage implementation: 2030

Location: Republic of Sakha (Yakutia)

Target markets: domestic market of Russia, the Asia-Pacific region

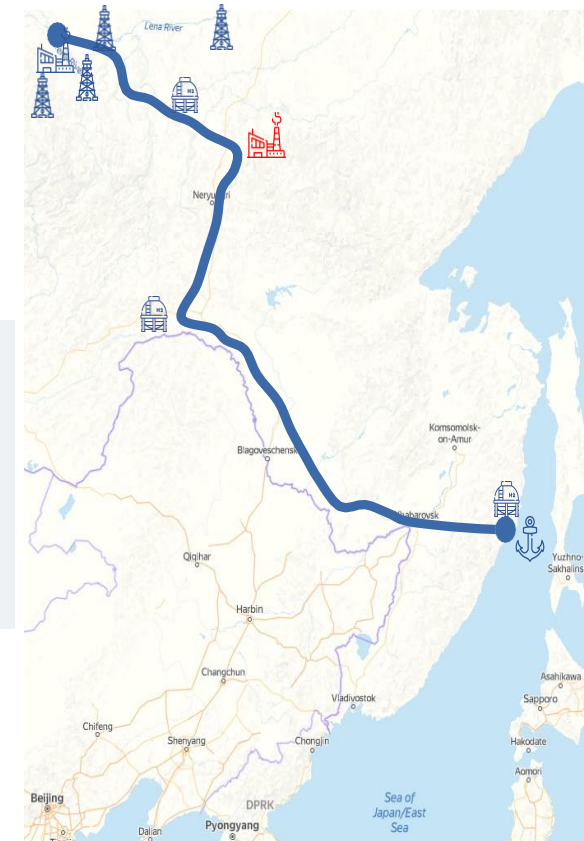
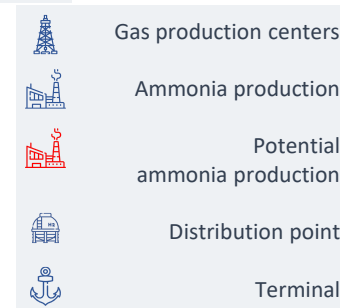
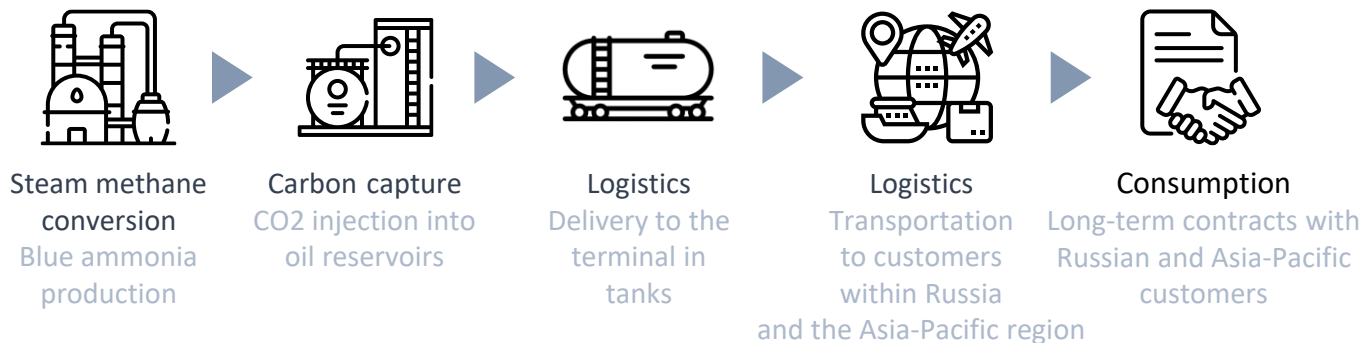
Production capacity forecast by 2026: 3 million tons of ammonia per year

Production capacity forecast by 2030: 6 million tons of ammonia per year

Participants:

- NORTH-EAST ALLIANCE
- Gas production companies in Western Yakutia
- Others

Project scheme:



JSFC Sistema: Green Hydrogen

Project description:

Green hydrogen production via the Tugur tidal power plant electrolysis

Implementation period: 2035

Location: Khabarovsk Territory, Tugur Bay

Target markets: domestic market of Russia and the Asia-Pacific region

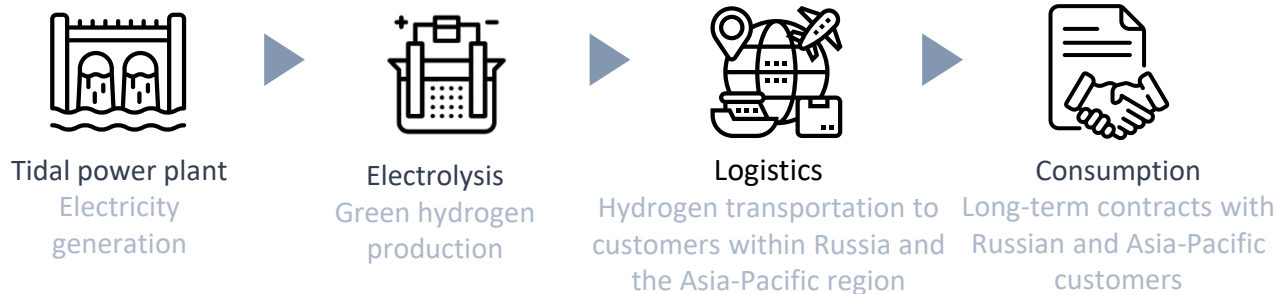
Production capacity forecast: 350 000 tons of hydrogen per year

Participants:

- Joint Stock Financial Corporation «Sistema»
- Tyazhmash
- Khabarovsk Krai Investment and Innovation Promotion Agency
- Others

Tugur Bay, Khabarovsk Territory

Project scheme:



H2 Clean Energy: Green Hydrogen

Project description:

Green hydrogen production via the Ust-Srednekansk hydro power plant electrolysis

Implementation period: 2025

Location: Magadan Region

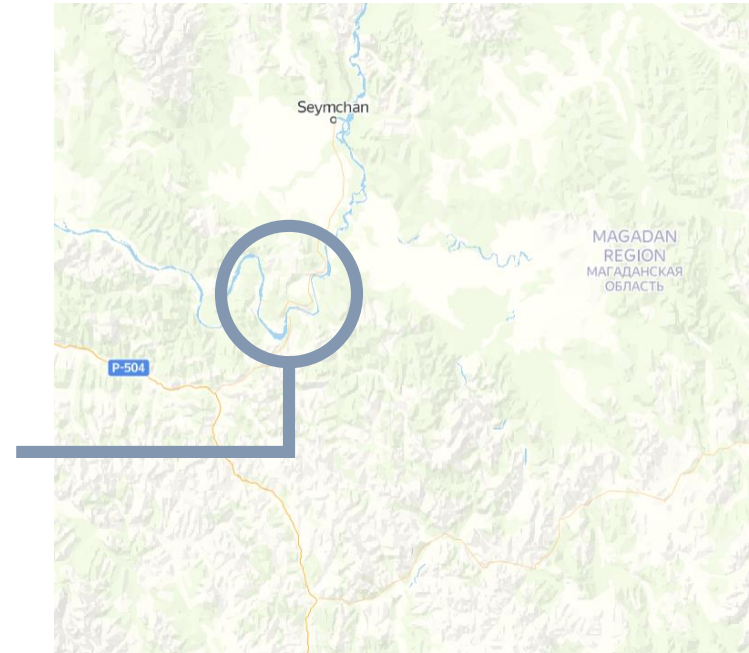
Target markets: domestic market of Russia, the Asia-Pacific region

Production capacity forecast: 16 000 tons of hydrogen per year

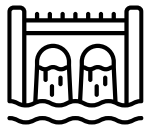
Participants:

- H2 Clean Energy
- RusHydro
- Others

Magadan Region



Project scheme:



Hydro power plant
Electricity generation



Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and the Asia-Pacific region



Consumption
Long-term contracts with Russian and Asia-Pacific customers

Rosatom: Blue Hydrogen / Ammonia

Project description:

Blue hydrogen / ammonia production by methane steam conversion with CO2 capture

Pilot production launch: 2024

Location: Sakhalin Region, Sakhalin Island

Target markets: domestic market of Russia, the Asia-Pacific region

Production capacity forecast by 2024: 30 000 tons of hydrogen per year

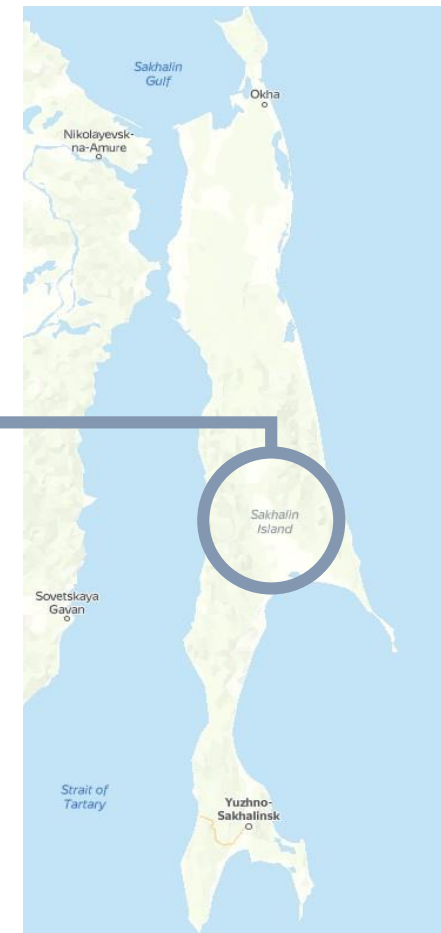
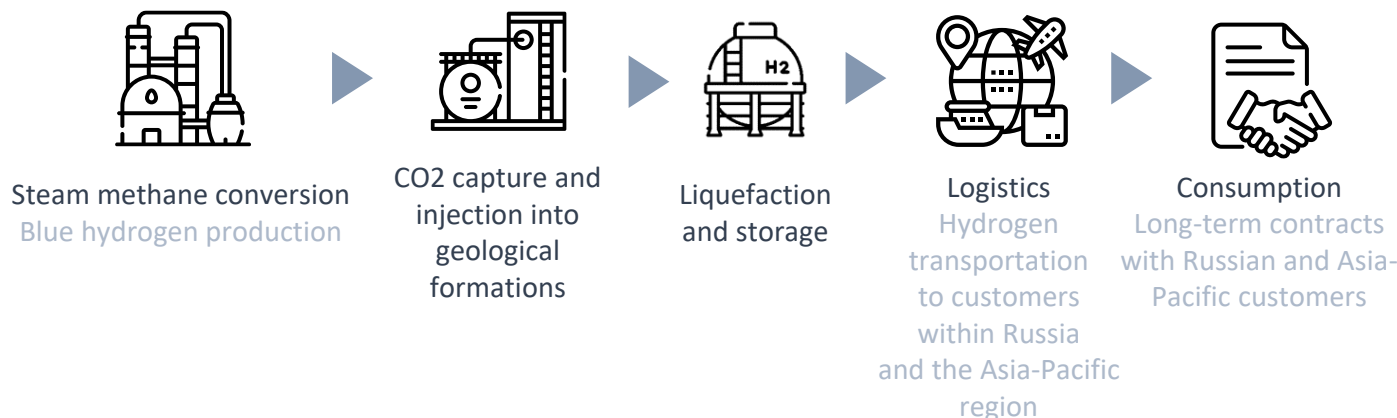
Production capacity forecast by 2030: 100 000 tons of hydrogen per year

Participants:

- Rosatom
- Air Liquide
- Others

Sakhalin Island, Sakhalin Region

Project scheme:



Rosatom: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Pilot production launch: 2025

Location: Sakhalin Region, Sakhalin Island

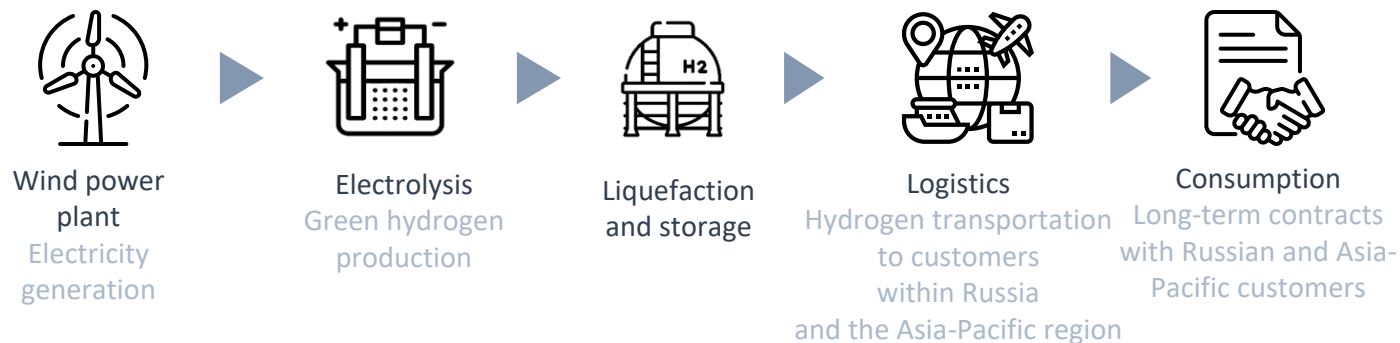
Target markets: domestic market of Russia, the Asia-Pacific region

Participants:

- Rosatom
- Others

Sakhalin Island, Sakhalin Region

Project scheme:



H2 Clean Energy: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Implementation period: 2025

Location: Sakhalin Region, Sakhalin Island

Target markets: domestic market of Russia, the Asia-Pacific region

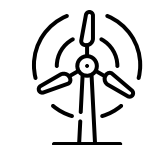
Production capacity forecast: 50 000 tons of hydrogen per year

Participants:

- H2 Clean Energy
- Others

Sakhalin Island, Sakhalin Region

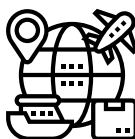
Project scheme:



Wind power plant
Electricity generation



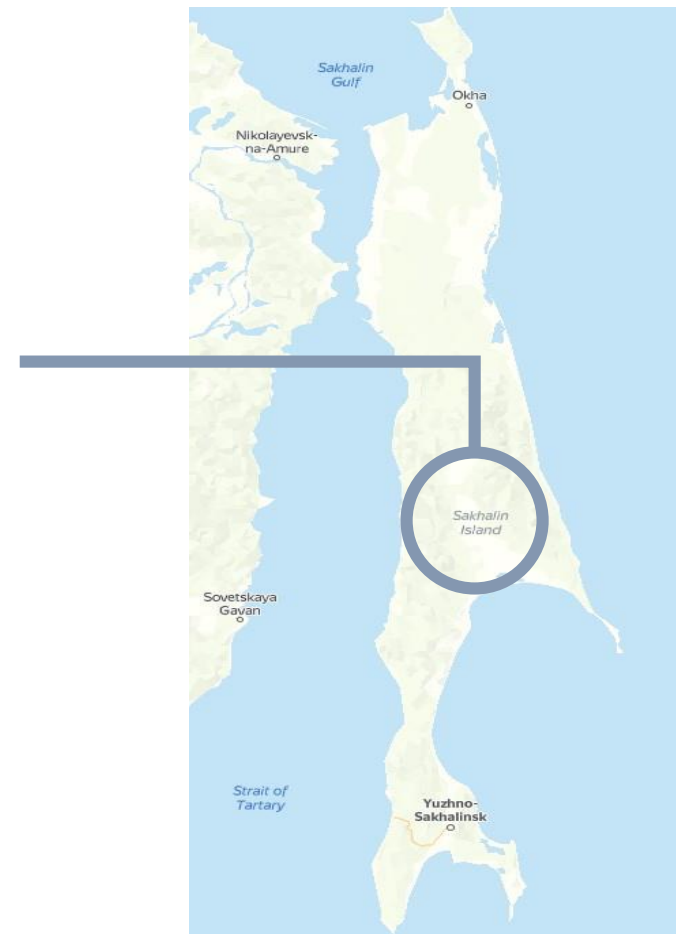
Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and the Asia-Pacific region



Consumption
Long-term contracts with Russian and Asia-Pacific customers



MINISTRY OF INDUSTRY
AND TRADE OF RUSSIA

H4Energy: Green Hydrogen / Ammonia

Project description:

Green hydrogen production via wind power plant electrolysis

Pilot production launch: 2024

Location: Sakhalin Region, Sakhalin Island

Target markets: domestic market of Russia and the Asia-Pacific region

Production capacity forecast by 2024: 16 000 tons of hydrogen per year

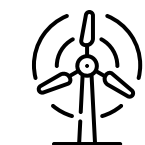
Production capacity forecast by 2030: 150 000 tons of hydrogen per year

Participants:

- H4Energy
- H2Transition Capital
- Eurasia Mining
- Sakhalin Oil Company
- Others

Sakhalin Island, Sakhalin Region

Project scheme:



Wind power plant
Electricity generation



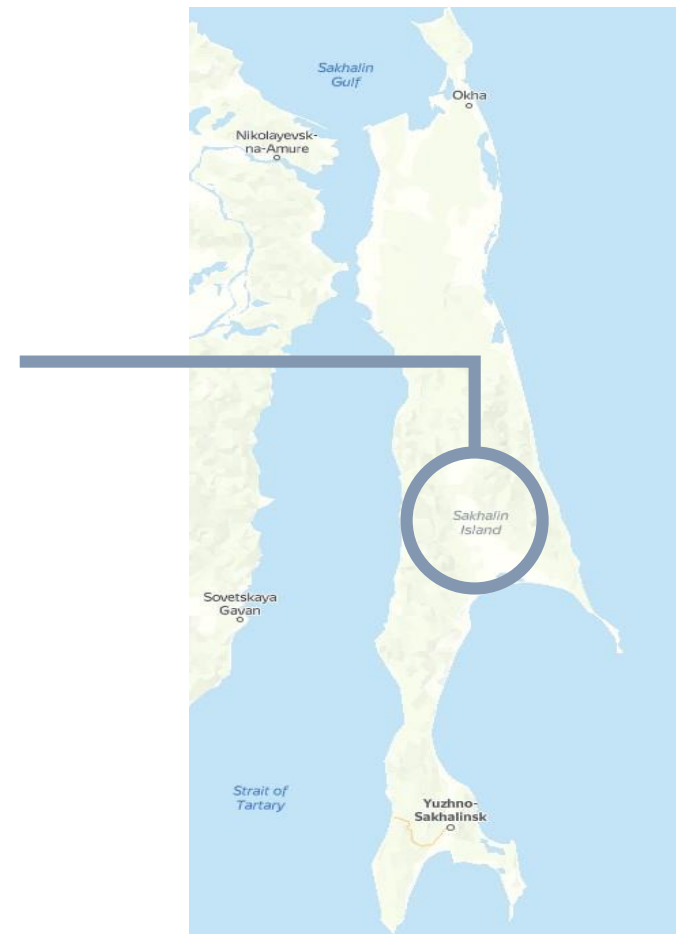
Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and the Asia-Pacific region



Consumption
Long-term contracts with Russian and Asia-Pacific customers



MINISTRY OF INDUSTRY
AND TRADE OF RUSSIA

H2: Green Hydrogen

Project description:

Green hydrogen production via wind power plant electrolysis

Implementation period: 2023

Location: Sakhalin Region, Kunashir Island

Target markets: domestic market of Russia, the Asia-Pacific region

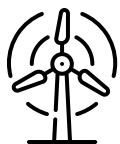
Production capacity forecast: 10 000 tons of hydrogen per year

Participants:

- H2
- Others

Kunashir Island, Sakhalin Region

Project scheme:



Wind power plant
Electricity generation



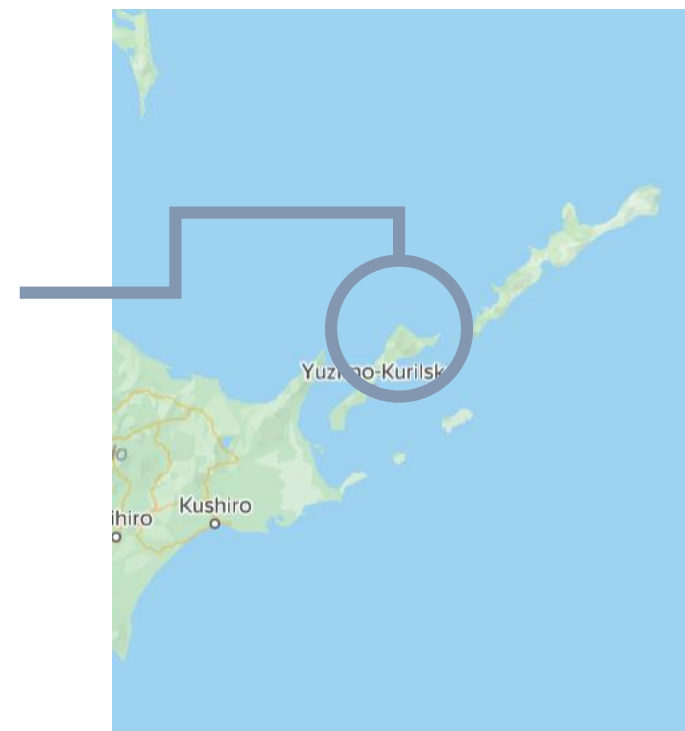
Electrolysis
Green hydrogen production



Logistics
Hydrogen transportation to customers within Russia and the Asia-Pacific region



Consumption
Long-term contracts with Russian and Asia-Pacific customers



H2 Clean Energy: Green Hydrogen

Project description:

Green hydrogen production via the Penzhinskaya tidal power plant electrolysis

Implementation period: 2031

Location: Kamchatka Territory, Penzhinskaya Bay

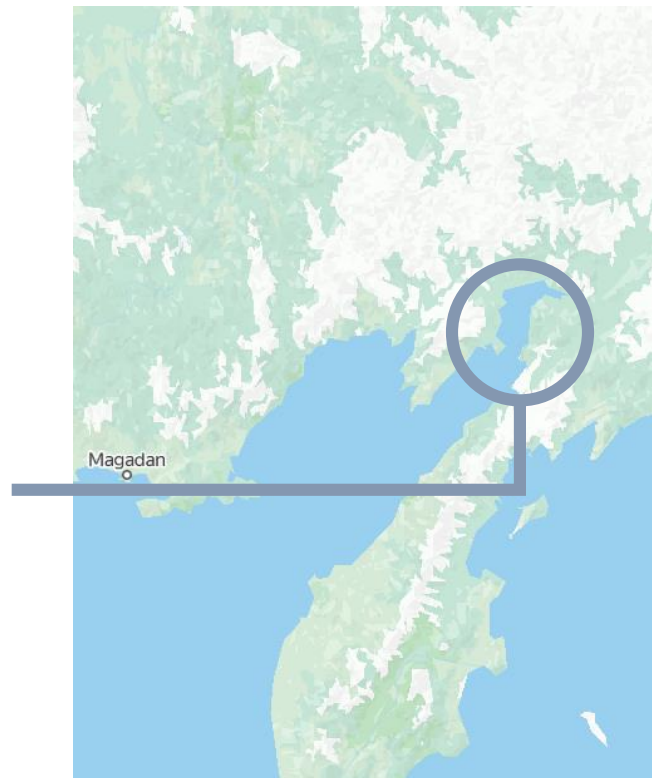
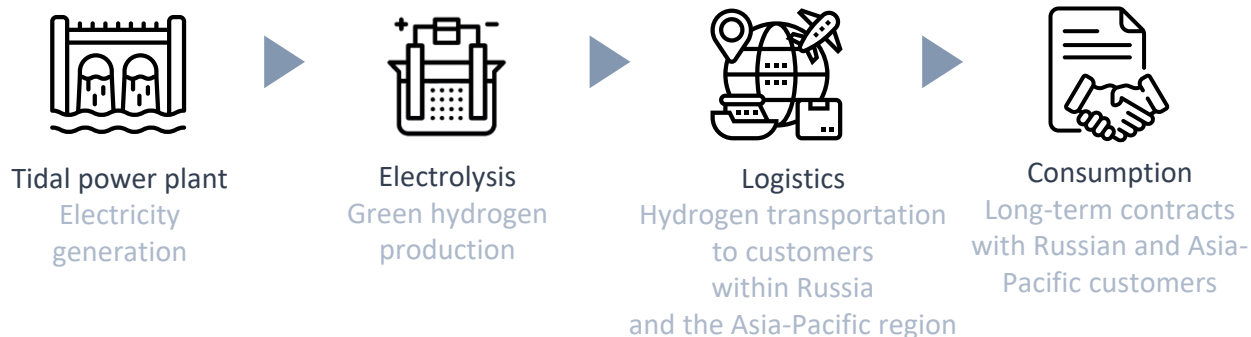
Target markets: domestic market of Russia, the Asia-Pacific region

Production capacity forecast: 5 million tons of hydrogen per year

Participants:

- H2 Clean Energy
- Development Corporation of Kamchatka
- Others

Project scheme:



Contact info

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Corporation Energy: info@corpenergy.ru

Research and Test Center of Rocket and Space Industry: mail@nic-rkp.ru

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Rusnano: info@rusnano.com

North Star: info@arctic-energy.com

SUEK: office@suek.ru

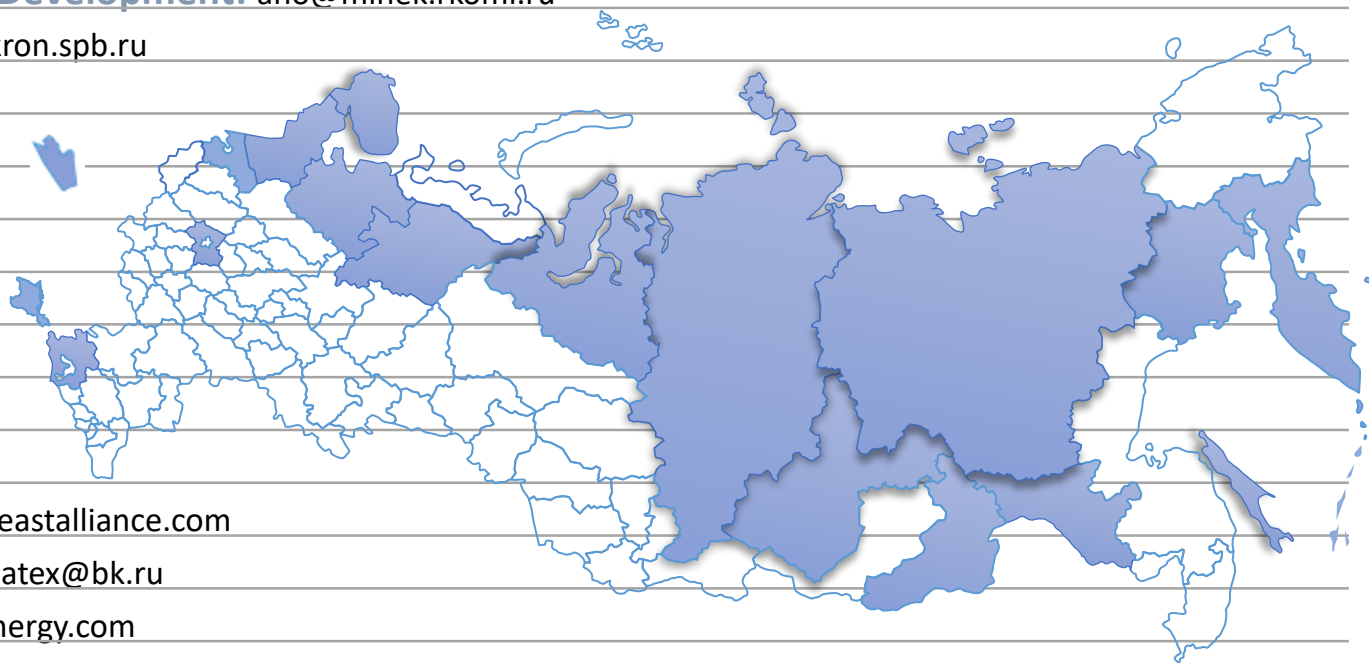
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JSFC Sistema: secr@erso.group



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