

**FIRST DEDICATED LONDON LISTED COMPANY TARGETING
GREEN HYDROGEN & AMMONIA PRODUCTION***

ATOME

INVESTING IN THE SWISS ARMY KNIFE OF DECARBONISATION

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ATOME — AT A GLANCE

Intended to list on AIM by
end 2021



Brokers: finnCap & SP Angel

Intended to be the first UK public
company dedicated to green hydrogen and
ammonia production

To be spun off from President
Energy Plc supported by
leading shareholders



President's 600+ institutional and private
shareholder base will become ATOME holders
through dividend in specie at float

Focused on Iceland and Paraguay both with
100% green hydro/geothermal electricity now
available 24/7, ready to use

Both Iceland and Paraguay well suited
for readily available local and regional
offtake markets (EU, Mercosur)

Surging natural gas prices means green
hydrogen is for the time being the
cheapest form of hydrogen to produce[†]

**TARGET RAISE OF
£ 9 MILLION***

Experienced green focused Board with
local management already in place

*Exchange rate (£/\$): 1GBP=1.33USD

†Based on increased prices of natural gas from October 2021

EXPERT, EXPERIENCED MANAGEMENT TO DELIVER



Peter Levine (Chairman)

Peter MA (Oxon) is the Chairman CEO and principal shareholder of ATOME's parent company, President Energy. As Chairman and single largest shareholder of Imperial Energy, he oversaw the growth of the Company from 25p at flotation to 1250p until its \$2.4 billion sale in January 2009. Between 1993 and 2008, Peter Levine was Deputy Chairman and then Chairman of the then FTSE 250 listed steel construction company, Severfield-Rowen (now Severfield), during its period of significant growth and was also Chairman of Keltbray Plc.



Olivier Mussat (CEO)

Olivier BA, MS, has joined ATOME from being the Chief Investment Officer of Global Energy at the IFC, part of the World Bank Group. After starting his career as a field engineer in energy, he is a recognised expert in funding and managing infrastructure assets for Oil & Gas, Power & Renewables, leading over \$500M of equity investments in early stage companies and over \$30bn of corporate and structured debt finance transactions.



James Spalding (Director)

James BA, MA, was the Paraguayan General Director of the jointly owned Paraguay-Brazil hydroelectric dam Itaipu Binacional between 2013-2018, the second largest hydroelectric dam in the world. Prior to that he was for six years the Ambassador of Paraguay in the US, serving in 2009 as Dean of the Latin American Ambassadors Group (GRULA). He has also served as Paraguay Minister of Finance and as the Governor of Paraguay to the IDB and World Bank group.



Mary-Rose de Valladares (Director)

Mary-Rose MA, MBA, was the longstanding General Manager of IEA Hydrogen. An expert in renewables and hydrogen, she was formerly at the U.S. DOE National Renewable Energy Laboratory (NREL). She served on the National Hydrogen Association Board of Directors and founded New Mexico Solar Energy Industry Association.

ATOME'S MARKET ADVANTAGES

- ✔ Plentiful reliable “green” low-cost baseload electricity geothermal and hydro on tap 24/7 to access 350 MW to apply to 2 phased hydrogen and ammonia projects in Iceland and Paraguay, so not dependent on “variable” power like wind or solar
- ✔ Low-cost baseload electricity makes ATOME's hydrogen and ammonia production highly competitive compared with low carbon (grey/blue) hydrogen and other green hydrogen sources
- ✔ MOUs and Co-operation Agreements signed with key players including national power companies
- ✔ Projects located next to existing sources of power generation means no need to build expensive infrastructure (e.g. solar or wind farms) and low transmissions losses. Available nearby land, water and transport links all materially reduces capex and opex, project risk and lead times
- ✔ Available domestic and regional H2 and NH3 product end markets in each project location, with significant export potential
- ✔ Technologically “agnostic” approach applied to a “phased” project development plan, so able to source best equipment at best prices in future
- ✔ Supportive governments, positive fiscal environments and skilled and available workforce in each location with each country in cross-border trade organisation (EU and Mercosur)
- ✔ Assembled an experienced and relevant Board and already have in place local management teams in Iceland and Paraguay

Raising £9 million to deliver the projects to FID. Targeting first “green” hydrogen revenues within 2 years of FID with significant cash generation potential when in full development*

ATOME SUMMARY – SIGNIFICANT PROGRESS TO DATE

Board and Management

- Board of Directors with extensive experience and contacts in the international energy business
- Experienced management teams in place for both Iceland and Paraguay

Paraguay Agreements

- Memorandum of Understanding with ANDE (national power & distribution company) for the supply of 250 MW of power
- Letter of Understanding and Co-Operation Agreement with ITAIPU – through Parque Tecnológico Itaipu – for the provision of land and water

Iceland Agreements

- Memorandum of Understanding with LANDSVIRKJUN (national power company) for provision of electricity a 30MW and then 100MW plant
- Memorandum of Understanding with HALDOR TOPSOE (latest SOEC technology provider) for supply of electrolyzer and equipment
- Letter of Interest from Husavík Municipality for operations at Bakki Industrial Site

Government Support

- Meetings and support provided to both Paraguay and Iceland projects
- ATOME Iceland already received initial government grant of US\$50k

Offtake

- Ongoing discussions with offtakers for both locations



Iceland –site location for ATOME’s green hydrogen and ammonia production facility



Paraguay – ATOME’S production in Paraguay to be powered by energy generated from Itaipu Dam, the second largest dam in the world by installed power

HYDROGEN – A US\$10 TRILLION GREEN OPPORTUNITY

source: [1] Goldman Sachs - Estimates of possible future scenarios; [2] IEA – Estimates based on Net Zero Emissions Scenario, not Announced Pledges Scenario
*Based on increased prices of natural gas from October 2021

Green hydrogen is estimated to supply up to 25% of the world's energy by 2050 and become a US\$ 10 trillion addressable market opportunity¹

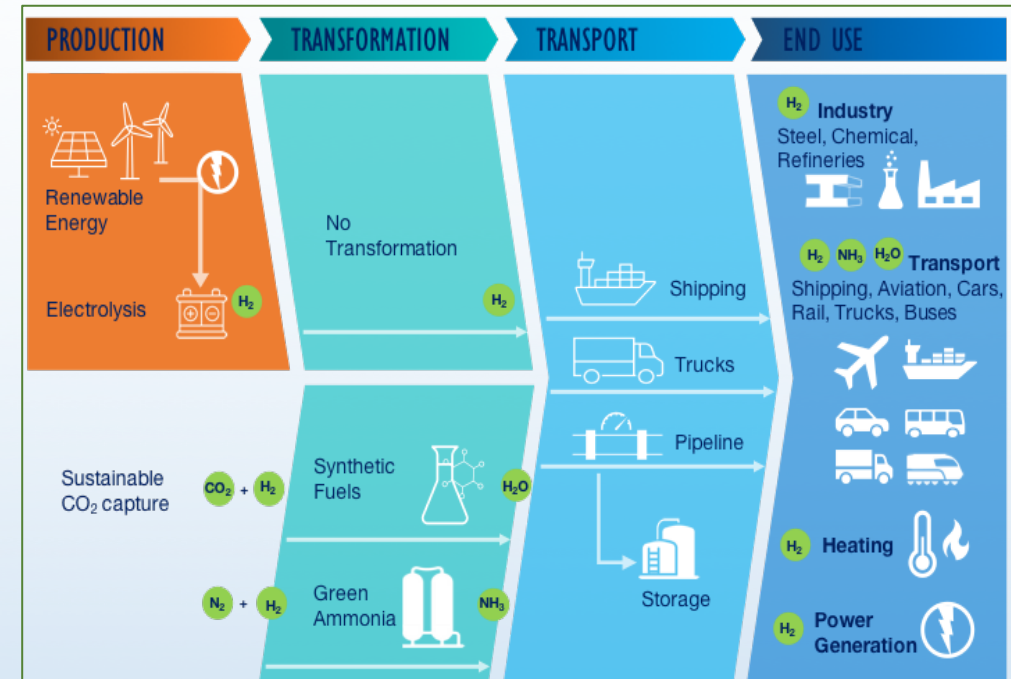
Hydrogen demand multiplies sixfold to reach 530 million tonnes by 2050²

THE MARKET

- Hydrogen is a vital component in the world's toolkit to achieve net zero by 2050 with particular reference to heavy transport and marine
- Over 95% of current global hydrogen production is directly or indirectly made from fossil fuels and therefore emits CO₂
- Surging natural gas prices means that green hydrogen is currently the cheapest form to produce versus all fossil fuel derived hydrogen*
- UK and EU committed to support the green energy transition through grants and funding programmes which further maximise investor and project returns
- EU sets a long-term budget of €1,824.3 billion of which approximately €600 billion (30%) will be made available for the green transition (European Commission, 2020)
- By displacing polluting fuels, ATOME may potentially be eligible to apply, obtain and trade carbon credits on the voluntary market
- Carbon credits recently hit a high of €81/ton and may continue to maintain such levels

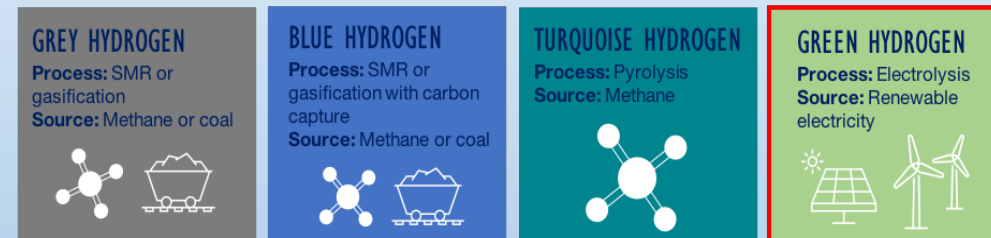
PRODUCTION

- Electrolysis of water powered by renewable energy produces green hydrogen with sellable commercial oxygen as a by-product at eight times the volume. There are no harmful emissions by process of electrolysis
- Currently the following types of electrolyzers are marketed:
 - Alkaline
 - PEM (Polymer Electrolyte Membrane)
 - Solid Oxide Electrolyzer Cells (SOEC)
- As the technology is matured, market and scale grows, costs are expected to follow the same decline curves experienced in solar panels, wind farms and battery storage
- Electrolyzer costs could decline 40% in the short-term and 80% in the long-term*. Production costs are expected to decline rapidly and could go below US\$2 per kilogram, cheaper than current higher carbon alternatives



(Source: IRENA)

ATOME



SMR = Steam Methane Reforming

AMMONIA – FLEXIBLE AND SCALEABLE

Ammonia is not just a product in its own right but it is an efficient carrier of green hydrogen

THE MARKET TODAY

- Ammonia (NH₃) is conventionally produced from fossil fuels, which accounts for the majority of global hydrogen production
- In 2019, the total global production of ammonia reached 150 million MT per year
- Approximately 70% of all ammonia worldwide is used for fertilisers and agriculture and land-use accounts for around 25% of global GHG emissions – so green alternatives are imperative

FUTURE ROLE OF GREEN AMMONIA MARKET

- Green ammonia will help decarbonise key industries, including the fertiliser, chemical, refining and shipping fuel industries
- Ammonia is a highly efficient energy vector and is much easier to store and transport than hydrogen. Ammonia therefore enables energy transport to help satisfy clean energy demand in countries such as Japan and Germany which plan to be great importers of hydrogen
- Market potentially to grow to 350 million MT per year by 2050 due to the increasing usage of ammonia as a future fuel medium

PRODUCTION

- Green ammonia production utilises green hydrogen generated by electrolysis which is then subject to the Haber-Bosch process, reacting green hydrogen and nitrogen from the air with an iron catalyst
- Electrolysers currently constitute 50-60% of capital costs. Nitrogen production and the Haber-Bosch process, together with construction costs, contribute to the remaining balance
- It can be produced on a modular, expendable basis and is economically scalable
- Efficient energy carrier with nine times the energy density of lithium batteries, providing a low-cost method for hydrogen transportation and export

GREEN AMMONIA VALUE CHAIN

Four key industries for ATOME to sell green ammonia into:



Fertiliser



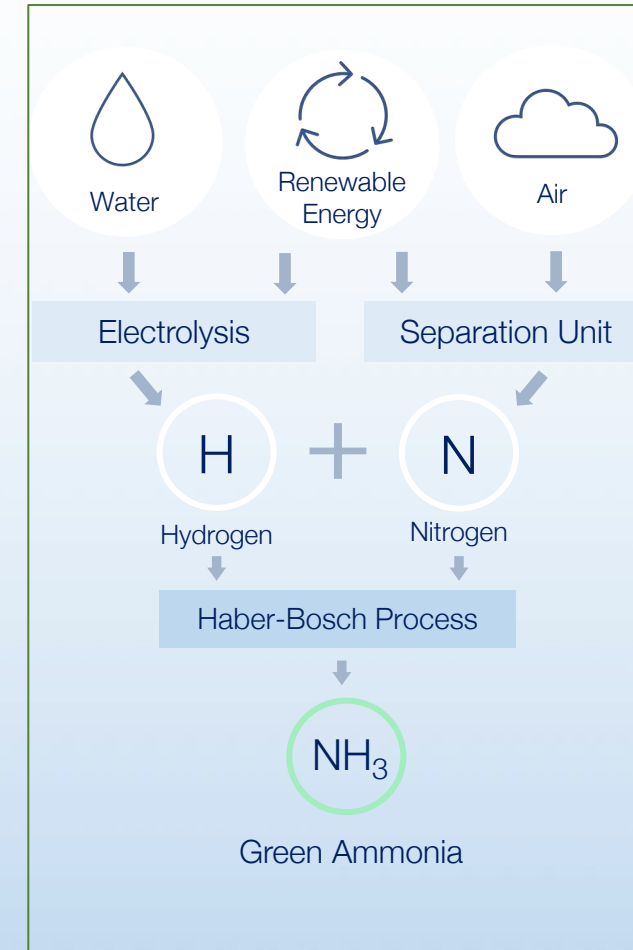
Shipping



Energy Storage



Chemical Feedstock



PARAGUAY — THE OPPORTUNITY

- ATOME's objective is to establish a world-scale green hydrogen and ammonia production business as well as an exporter
- The power is on tap 24/7 from Itaipu Dam, the second largest dam in the world in terms of installed power, run by Paraguay and Brazil jointly (Itaipu Binacional)
- Paraguay only uses 30% of its 50% share of power under its control from Itaipu
- Some of the cheapest production of green hydrogen in the world
- President, ATOME's largest shareholder, has a track record of major investment in Paraguay giving it gravitas and in country management infrastructure
- Significant domestic offtake markets for hydrogen and ammonia products for the agriculture, industry and transport sectors
- Paraguay is host to the world's third largest fleet of barges, behind China and US. No active railway system also indicates a substantial reliance on heavy goods vehicles which transport the majority of industrial production

PARAGUAY KEY FACTS

Corporate Tax Rate	10%
GDP	4.5% growth in 2021 (Fitch, 2021)
Energy Policy	Reduce dependency on hydrocarbons and capitalise on the country's hydroelectric capabilities
Fertiliser Consumption	396.37 kg/ha (twice the global average in 2017). 30,000MT of ammonia p/a enough to satisfy 90-100% of Paraguay's annual demand for fertilizer
Fertiliser Import	US\$446 million (2019)
Agricultural Sector	Ca. 20% share of all employment in Paraguay

PARAGUAY — SCALE AND DOMESTIC DEMAND

- The Project aims to service the local and regional agricultural and fertiliser, transport and industry markets with high export potential
- Other target markets:
 - Heavy goods road transport
 - Other transport – material handling/forklifts (market ready); heavy duty vehicles (trucks) for numerous applications in development (market ready ~2023/2024); buses.
 - Fuelling stations – Existing nationwide network of fueling stations can provide clean fuel
 - Marine transport – With 2,500 barges + and 300 tugboats, the Paraguay fleet is ripe for replacement of diesel with clean ammonia/H2
 - Chemical and industrial uses – Methanol, e-fuels
 - Power – back up power (IT and medical); gen sets
 - Oxygen will be produced at commercial scale and can be sold to industry, chemical and medical markets

PRODUCTION TARGETS*

	PHASE 1 2023/24	PHASE 2 2025-26	TOTAL
Installed power capacity:	50MW	200MW	250MW
Electrolyser technology:	Alkaline, PEM	Alkaline/PEM, SOEC (mix likely)	Alkaline/PEM, SOEC (mix likely)
H ₂ production per year	8,150 MT	32,589 MT	40,739 MT
NH ₃ production per year:	45,640 MT	182,500 MT	228,140 MT
O ₂ by-product per year:	65,200 MT	260,712 MT	325,912 MT



Itaipu Dam – the second largest dam in the world by output

*Illustrative targets only

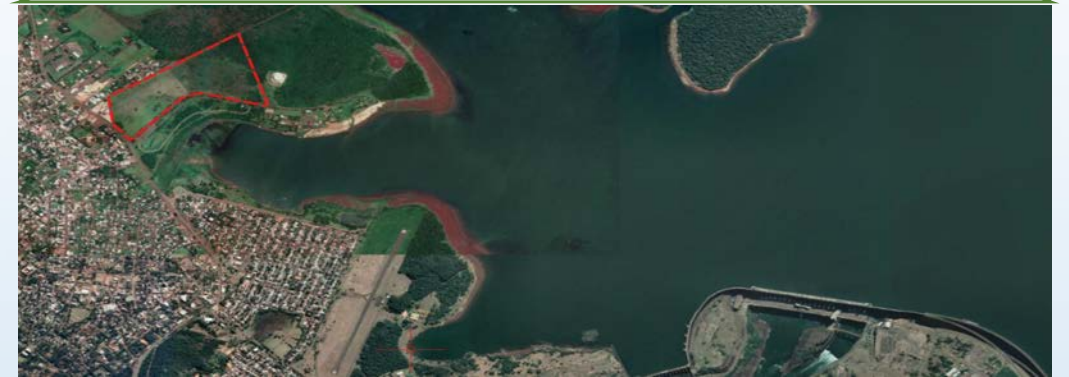
PARAGUAY — STEPS TOWARDS PRODUCTION

AGREEMENTS

- ATOME has entered into an MOU with ANDE, the national power company of Paraguay, for supply of up to 250MW of power
- ATOME has entered into an MOU with PTI, the innovation arm of Itaipu with a view to;
 - Securing up to 20 hectares of land from a technology park site currently in the advanced planning stages at ITAIPU (see picture)
 - Securing up to 250MW of power available to the technology park earmarked for green business within the economic zone where ATOME will also benefit from tax incentives
- Crucially, the park will be situated only some 1km from the power source bringing material savings
- James Spalding, head of Atome Paraguay, was formerly for five years the Paraguay General Director of Itaipu until 2018

NEXT STEPS

- Entry into a definitive Power Purchase Agreement with PTI and the National Power Company
- Formalising arrangements with PTI including lease agreement for land and access to water
- Formalising arrangements for project planning & engineering, procurement of equipment, and infrastructure build out
- Accessing the local ammonia market and developing the hydrogen offtake market in Paraguay in readiness to conduct business



Close up of production facility location outlined in red



Signing of the ANDE MOU

ICELAND — PROJECT SUMMARY

- 100MW green ammonia production facility to be implemented in two phases:
 - 30MW unit operational by end 2023; and
 - 70MW unit by 2025
- Production facility to be located at Bakki industrial park, a pre-approved area offering fiscal benefits and fast track permitting for green projects and located adjacent to a cargo port appropriate for export and large ship fueling
- Readily available 24/7 geothermal power
- Incremental design to ensure economies of scale through tech integration and incorporation of cost advances over the next 5 years
- Ahead of its few competitors; only business focusing on ammonia production for marine fuel or with focus on existing geothermal power availability
- Letters of Support for offtake in place with:
 - Green Energy Park near Bremen, Germany
 - The city and port of Groningen, The Netherlands

PRODUCTION TARGET*

	PHASE 1 2023/24	PHASE 2 2025	TOTAL
Installed power capacity:	30MW	70MW	100MW
Electrolyser technology:	Alkaline (likely)	SOEC	Alkaline/SOEC mix likely
H ₂ production per year	5,536 MT	13,214 MT	18,750 MT
NH ₃ production per year:	31,000 MT	74,000 MT	105,000 MT
O ₂ by-product per year:	44,286 MT	105,714 MT	150,000 MT

TARGETING THE SHIPPING INDUSTRY

The problem: Maritime transport emits 940 million MT of CO₂ annually, equating to 2.5% of global greenhouse gas emissions (IMO, 2014)

The investment needed to meet the International Maritime Organisation's climate target (50% reduction in emission by 2050) is \$US0.8-1.2 trillion, an average of \$40-\$60 billion annually over the next 20 years (Oxford Energy Forum, 2021)

In 2021, the World Bank estimates a US\$1 trillion market opportunity from the decarbonisation on shipping (World Bank, 2021)

The solution: By 2050, ammonia could make up 25% of all maritime fuel, with all new ships from 2044 running on ammonia (Ammonia Energy Association, 2019)

ICELAND — ACCESS TO THE EU'S FASTEST GROWING MARKETS

- ATOME has acquired a 75% interest in Green Fuel ehf, an Icelandic based green hydrogen and ammonia company, managed by experienced, well connected Icelanders who own the other 25%
- Renewable energy makes up almost all of Iceland's electricity production with 72% from hydropower and 27% from geothermal with Landsvirkjun, the national power company
- Part of the Schengen Zone and in close proximity to Europe to develop an export market
- Green Fuel has now signed an MOU with Landsvirkjun to secure up to 100MW of power, with support from Iceland's Ministry of Industry, the local municipality where the project will be situated for land and water and Landsnet the transmission company
- MOU also signed with Haldor Topsoe, a Danish leading equipment and technology supplier, for the development of commercial and tech solutions for Green Fuel's project
- Will benefit from EU's increasing number of grants and subsidies dedicated towards green energy ventures with Green Fuel already receiving support at ministerial level in Iceland

NEXT STEPS

- Entry into a definitive Power Purchase Agreement with Landsvirkjun
- Formalising lease agreement arrangements with the Green Industrial Park and the municipality for land and access to water
- Formalising arrangements for the project & planning, procurement of equipment and infrastructure build out
- Developing the offtake market in Iceland and Europe in readiness to conduct business

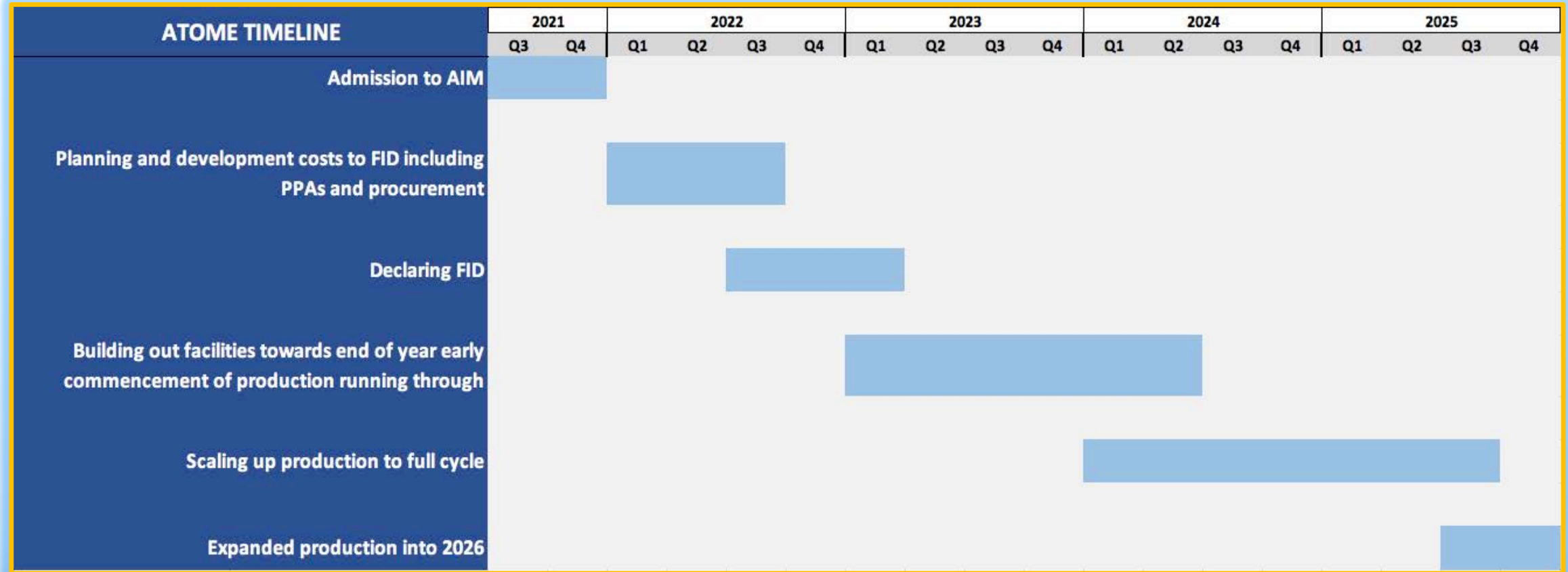


Green Fuel management (left and centre) signing MOU with Haldor Topsoe



Production site location

PROJECT QUARTERLY ILLUSTRATIVE TARGETS AND NEXT STEPS



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