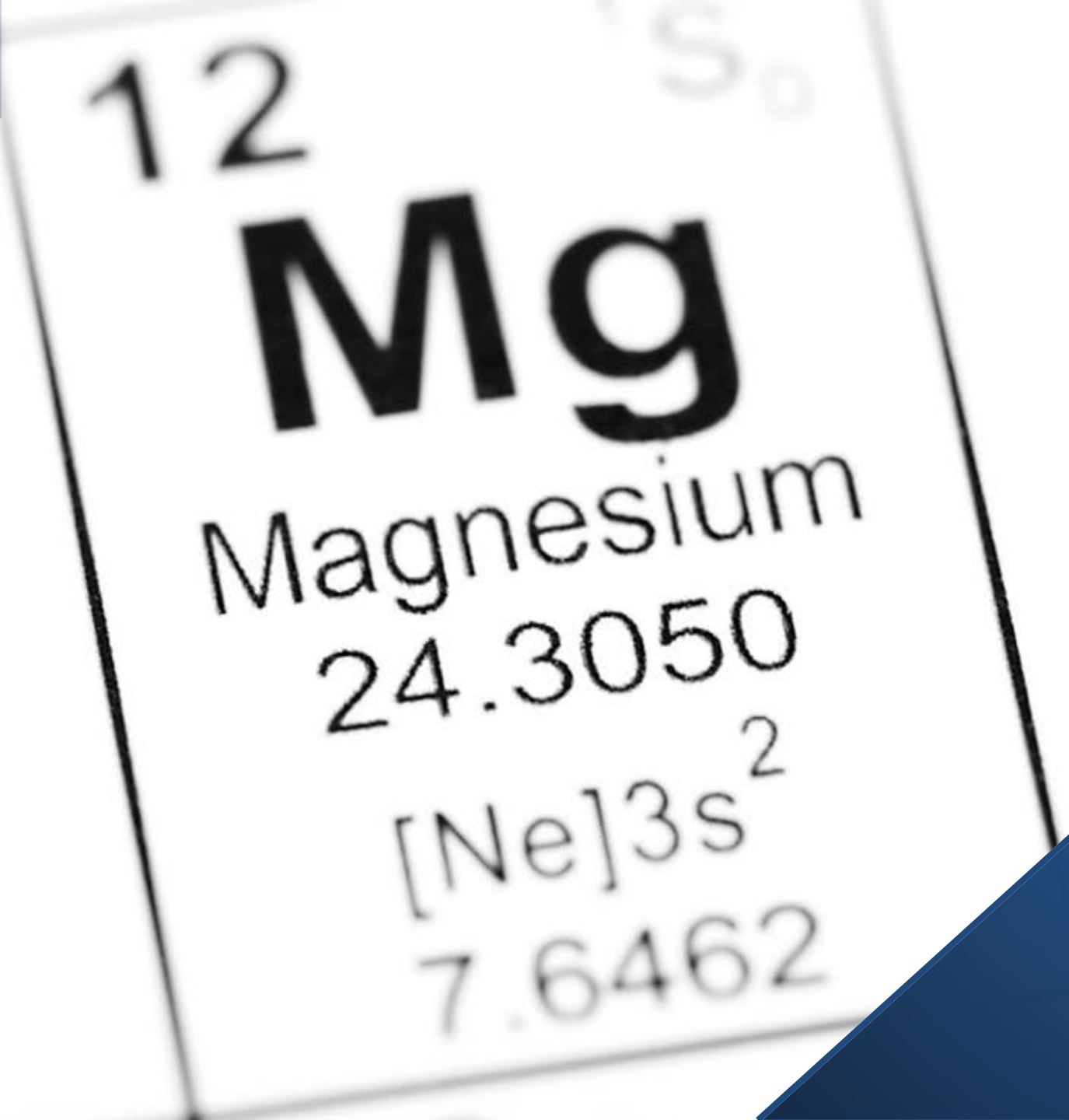


Latrobe Magnesium

Community Presentation

November - 2022

David Paterson – Director & Chief Executive Officer

Disclaimer

This presentation may contain forward looking statements that are subject to risk factors associated with the magnesium business.

It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially including but not limited to: price fluctuations, actual demand, currency fluctuations, production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

Investors should undertake their own analysis and obtain independent advice before investing in LMG shares.

All references to dollars, cents or $ in this presentation are to Australian currency, unless otherwise stated.

Company Overview

Board of Directors

Jock Murray - Non-executive Chairman

- Had a distinguished military career for almost 30 years before retiring as a Colonel in 1994.
- Has held numerous directorships including non-executive Chairman of Omni Tanker Holding Pty Ltd, The Hills Motorway (M2) Ltd and Country Pipelines, as well as the board of Terminals Australia.

David Paterson - Director & CEO

- Qualified chartered accountant and current Director of Europacific Corporate Advisory Pty Ltd.
- Has been involved in a wide range of corporate advisory assignments and underwritings of both debt and equity for several public and private companies.

Philip Bruce - Non-executive Director

- Mining engineer with extensive multi-national resource industry experience in senior management and corporate roles.
- Is a Director of PF Bruce & Associates and Ora Gold Ltd and previously at numerous ASX listed resource companies, and in technology development with Ausmelt Limited.

John Lee - Non-executive Director and Company Secretary

- Has held senior management roles in the Federal Department of Employment and Industrial Relations and at several major corporations including Henry Jones IXL, Elders Building Supplies & Woolworths Ltd.
- Is a Director of a number of listed companies concentrating mainly in the mining and technology sectors.

Michael Wandmaker - Non-executive Director

- Has held senior management roles at Melbourne Water, Sydney Water, Transfield Services, including COO and Acting CEO at UGL.
- Qualified Mechanical and Computing Engineer and Fellow of the Institute of Engineers.

Michelle Blackburn - Non-executive Director

- An Honorary Senior Fellow at the University of Melbourne with a Bachelor of Laws (hons) and a Masters in Social Science (Planning and Environment) from RMIT University.
- Has held Director roles at South Gippsland Water and Interchange Gippsland including Senior Associate at Minter Ellison Lawyers and a Partner at Corrs Chambers Westgarth.

Management Team

Ronan Gillen – Chief Operating Officer

- Over 20 years experience in the resources industry in areas of Engineering, Operations and Project Management with Fluor and others.

Jim Siemon – Technical Director

- Chemical engineer who has held various metallurgical R&D management toles with Nystar, Zinifex, Pasminco, Rio Tinti and CRA.

John Catterson – Commercial Manager

- Over 25 years in banking, including startup business as well as involvement in major infrastructure construction projects.

Brett Trigger – Procurement & Contract Manager

- Has 17 years experience in Supply Chain in industries such as Automotive, Resources and Defence employed by Cleanaway, Ford JV in Thailand and German defence group.

Sal Awad – Project Engineer

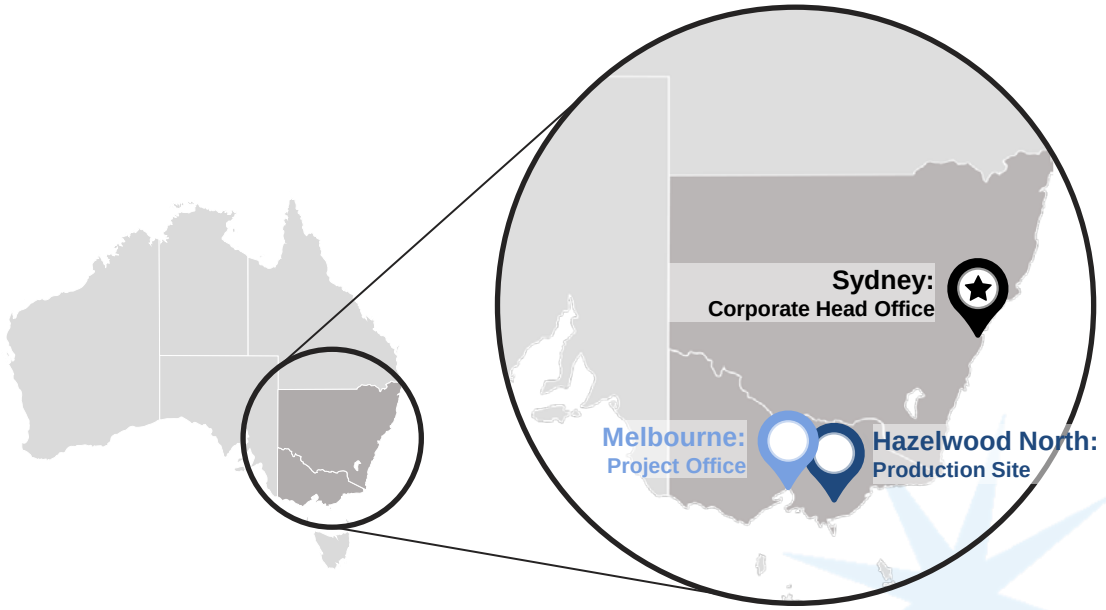
- Over 10 years experience as a project engineer, delivering EPCM services to the mining, energy and chemicals industries employed by Worley, Wood and Fluor.

Capital Structure and Location

Latrobe Magnesium is an Australian listed public company under the ASX code LMG.

ASX Code	LMG
Shares on Issue	1,612 million
Share Price*	$0.084
Market Cap.	$135 million

*As of 8th November, 2022



LMG Summary

Magnesium is a Critical Raw Material in Australia, USA, EU, and Japan. China currently supply 88% of world demand, creating a risk for global supply chains which experienced difficulties in the last quarter of 2021. The global magnesium market is forecast to double by 2030, owing to the light weighting of cars.

Proprietary hydromet technology allows LMG to be an ESG-credentialled clean metals producer. LMG's feedstocks, both fly ash and ferro nickel slag, contains MgO and CaO not carbonates. It also sequests CO_2 in its process. The result is more than a 50% reduction in CO_2 emissions compared to China magnesium producers. LMG is seeking to reduce this further by using renewable energy in its larger plants.

LMG produces not just magnesium but other valuable saleable products from its feedstock. These products generate some 40% to 50% of its revenue. These additional revenues means LMG's operating costs are competitive to China operating costs.

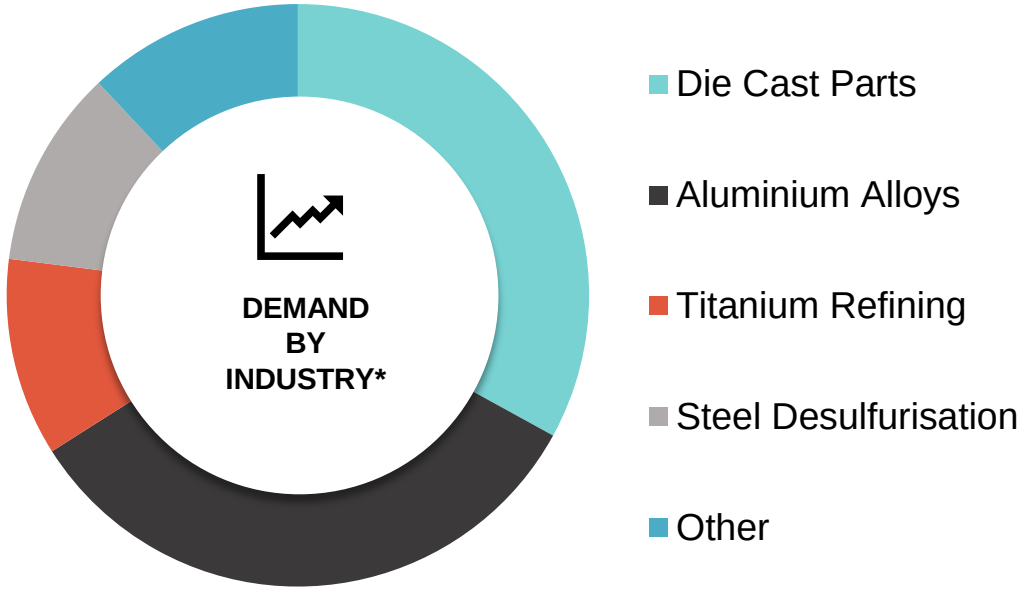
LMG will have strong revenue growth, secured by firm offtake agreements. The 10,000 tpa plant is expected to generate in the order of $110m in revenue and EBITDA of $42m in 2024. The offtake for this production is complete with LMG 's two distributors in the USA and Japan.

LMG has sound but substantial growth strategy. LMG will start by proving its unique hydromet processes by successfully commissioning its 1,000 tpa demonstration plant by June 2023, followed by its 10,000 tpa in late 2024. Subsequently, it is developing a 100,000 tpa plant to commence production at the end of 2027.

LMG's Experienced Board and Management Team have over a century of combined mining experience and management involving large scale developments in various mineral projects globally.

Magnesium: The Green Metal

Key Statistics



*Source: IME Institute of Process Metallurgy and Metal Recycling, RWTH Aachen University

GLOBAL DEMAND 2021
1.04m tpa

PRICE USD / TONNE#
$3,640

CHINESE PRODUCTION
~88%

#Source: www.tradingeconomics.com, 25.10.22

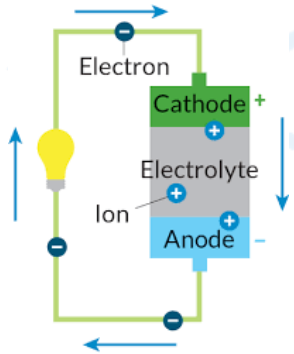
Current and Emerging Uses

Aluminium Sheet

Die Cast Components

Bioabsorbable Stents

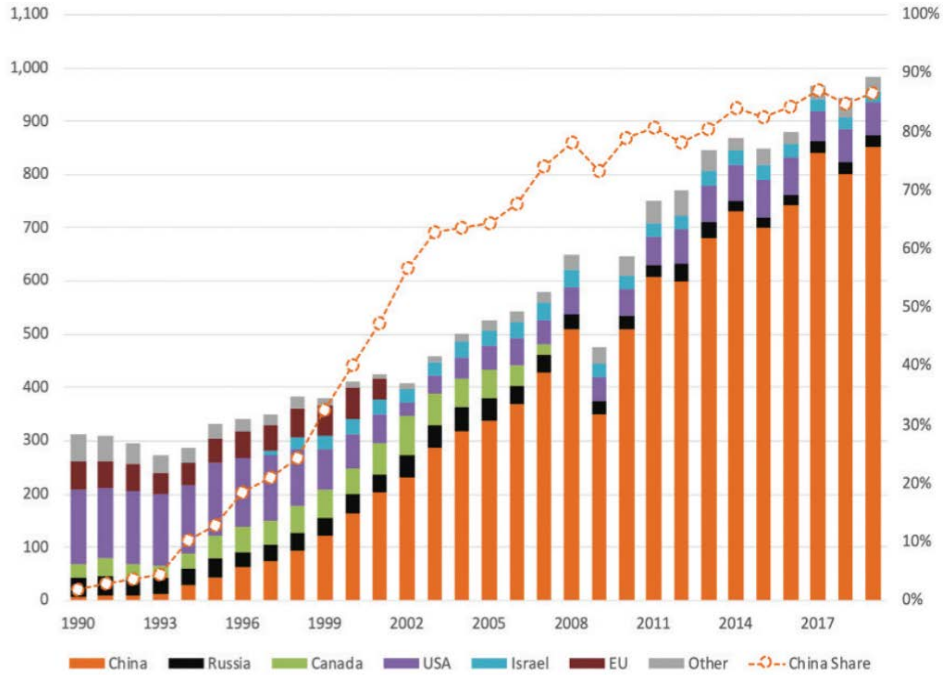
Magnesium Batteries



Magnesium market is set to double over next decade

- Magnesium has the best high strength-to-weight ratio of common structural metals, e.g. 75% lighter than steel, 33% lighter than aluminum & titanium
- In 2020 world magnesium production was ~ 1 million tonnes. China supplies ~85%. ~ 440,000 tpa exported mainly to the US, Japan & the EU
- The magnesium market is forecast to reach of $5.4 billion USD ($7.31b AUD) by 2025[1]
- China, the world's biggest car producer, plans to increase Mg in cars from 8.6kg in 2017 to 45 kg in 2030. This will generate 1m tpa of new Mg demand
- Magnesium demand is set to accelerate as car producers look to lightweight heavy EVs

Figure 1: Global Primary Magnesium Production by Country, 1990-2019 (kt)



With a push for diversified & clean producers to reduce supplier risk, LMG is well positioned to supply the surging demand for magnesium globally

1. *Sourced from https://www.industryarc.com/Report/16106/magnesium-metal-market.html*
2. *Graph sourced from https://cdn.ymaws.com/www.intlmag.org/resource/resmgr/docs/other/China%e2%80%99s-Magnesium-Sector-202.pdf*

The Demonstration Plant

- Will produce 1,000 tonnes per annum of magnesium, with an estimated capex of $40m

- Processing fly ash from the Energy Australian, Yallourn West power station.

- Converting 100% of fly ash waste into saleable products:
    - Magnesium
    - Supplementary cementitious material & silica – used in concrete manufacture
    - Char – a charcoal replacement
    - Calcium carbonate or lime – for agriculture
    - Iron oxide - used in steelmaking

- Located on 11 ha industrial site in Hazelwood North using 14,000 m^2 of existing buildings

Construction has commenced with some 30% of expenditure committed and production commencing mid next year

A commitment to local employment

Initial benefit

Value-adding for the future

Potential to retain & reskill workers from the brown coal power sector

Construction of the demonstration plant will generate between *50-80 jobs*

Operation of the demonstration plant will generate approximately *40-50 on-going jobs*

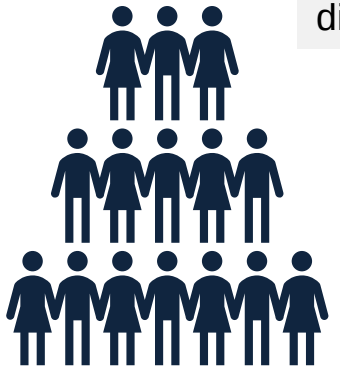
Creating opportunities for young people to develop skills & employment pathways in LV, e.g. apprenticeships

Continued work with companies, unions, government & local education providers to *develop training & employment opportunities*

Supporting the Latrobe Valley Economy

Latrobe Magnesium

Estimated 3:1 direct to indirect



Job generation

Using local suppliers & contractors where possible

> $850,000

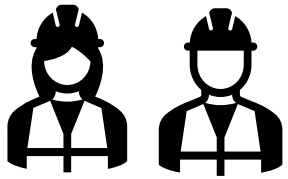
100% of early works awarded to local contractors

Plans to further support employment & economic development in the region through:

Using existing infrastructure: roads, water & energy

Accessing new, local renewable energy supplies

Partnering with new/existing up & down-stream industries with synergies



Plant operations & administrative staff will work on-site & live in the region

Sponsoring the Latrobe Valley

Latrobe Magnesium was delighted to become a primary sponsor of the Morwell East Football and Netball Club

How will the fly ash be transported to LMG?

- Fly ash will be supplied from the existing ash facility at Energy Australia's Yallourn West power station
- It will be transported by covered truck on existing roads through existing industrial areas using established local contractors RTL Mining & Earthworks
- It requires approximately 10 tonnes of fly ash waste to produce 1 tonne of magnesium
- The demonstration plant will need 1 semi trailer truck per day with occasionally 2 trucks required on Fridays.
- The truck route will be via Sandwash Road, to Latrobe River Road, Brown Coalmine Road, Tanjil E Road, Alexanders Road and into Tramway Road see next slide for Route Map

How will the fly ash be transported to LMG?

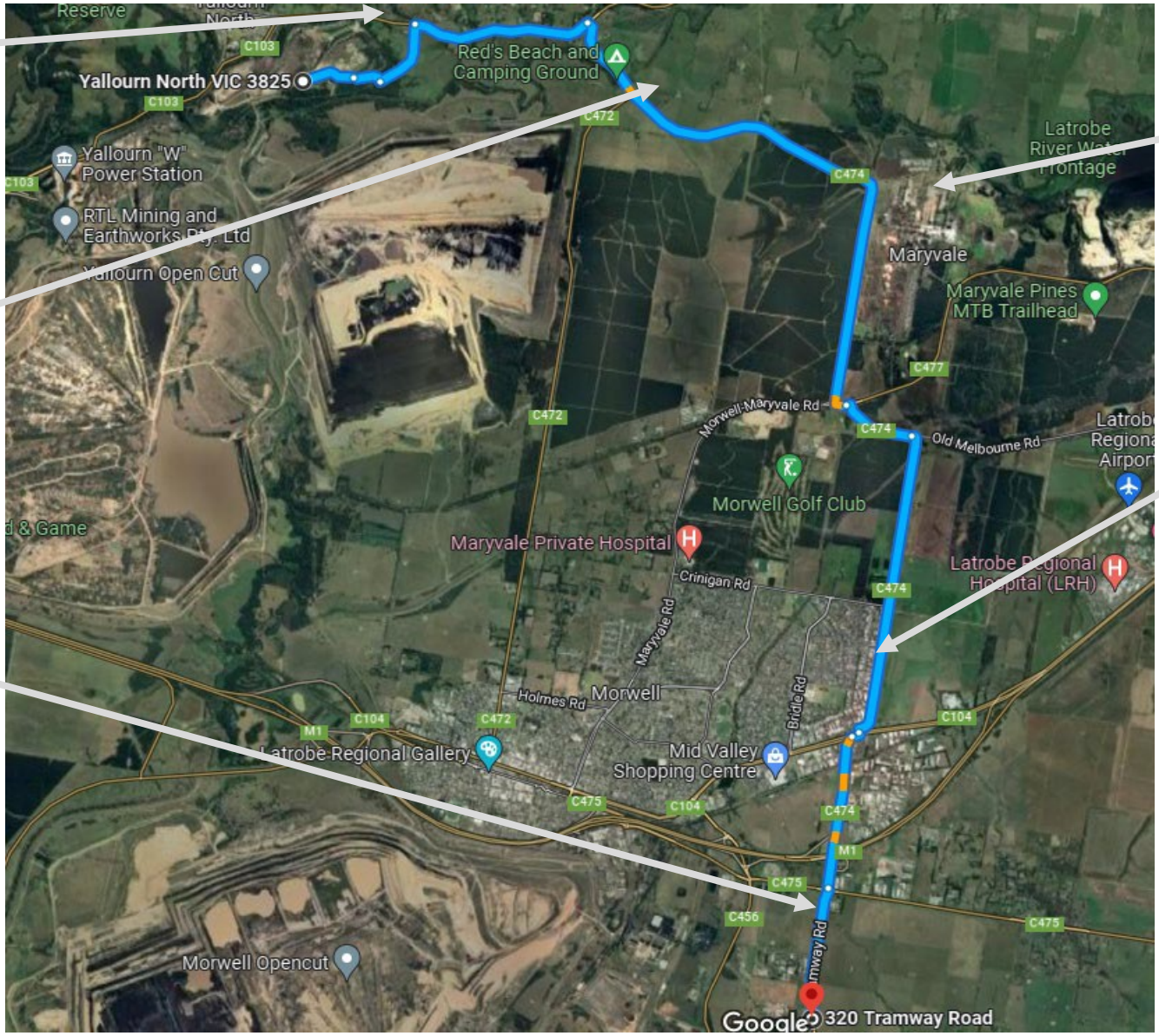
Latrobe Magnesium

Proposed Ash Transport Route

Exit Yallourn via Sandwash Road

Travel through rural roads

Continuing through industrial areas south of Princes Fwy



Past Australian Paper

Through Industrial areas

At no time does the route pass through populated residential areas

A Low Emissions Demonstration Plant

- A complete study of the expected emissions to air was conducted in 2020 which were well below all minimum standards
- All emitted pollutants from the LMG plant comply with the Victorian criteria specified in the SEPP AQM guidelines, with all emitted compounds predicted to be < 60 % of the relevant criterion value
- Fourteen sensitive receptors were included in the modelling, all of which experienced low concentrations of all pollutants (< 9 % of the criterion).
- A risk assessment was made of the human health risk posed by the LMG plant. The assessment concluded that the LMG plant is unlikely to cause harm to human health, due to its isolated location, the current ambient environment, rapid decline in pollutant concentrations and low GLCs relative to the criteria.

Since then:

The plant design basis has been reduced from 3,000 to 1,000 tonnes per annum of magnesium metal product. The overall emissions to air will be decreased by a factor of between 2 and 3.

Tackling CO_2 emissions

- LMG's process produces a third the CO_2 of the magnesium industry average, 8 to 10 tonnes of CO_2 per tonne of magnesium
- The demonstration plant will use electricity & gas, predominantly for its furnaces
- The Latrobe Valley is transitioning from brown coal to renewable energy with several large-scale battery, solar & wind farm projects in development and a pending connection to the Tasmanian hydropower plants
- LMG is seeking local sources of renewable energy for its on-going operations which would further reduce its CO_2 footprint. It had initial discussions with the Morwell Solar farm but found that their costs were too high.
- LMG is committed to reducing its carbon footprint and will continue to assess other renewable or green sources of energy to further reduce its CO2 emissions

The ULAB Project

- LMG has no affiliation with Pure and is a stakeholder in the project, like the rest of the community
- LMG has conducted a base line study to determine any existing contamination on its site
- This study will be used as a starting point for regular monitoring of ground contamination and air emissions from the lead recycling plant
- LMG's position is that its workers have to be safeguarded at all times and therefore it will continue to monitor impacts of the lead recycling plant including blood testing of employees as required.

The Commercial Plant – Stage 2

- LMG has commissioned expert studies & will use learnings from the demonstration plant to determine the potential economic capacity of a commercial magnesium plant at its Hazelwood North site
- LMG is developing a commercial scale plant producing an estimated 10,000tpa magnesium at a capex of $100m
- Construction & operation of such a commercial plant would generate more than 300 jobs in the Latrobe Valley
- Such plant would generate in the order of $110m in revenue with export to the USA & Japan
- The commercial plant would require standard planning, EPA development & operating licences & other relevant regulatory approvals
- LMG is undergoing a study on the amount of fly ash that is capable of being extracted from the Yallourn landfill. Once this work is completed LMG will determine whether the capacity of this plant is higher than 10,000tpa.

Continued Community Engagement

LMG is committed to working openly & constructively with the Latrobe Valley community & interested stakeholders in developing our magnesium business.

We will:

Continue to run regular, open community meetings to keep people up to date & answer questions

Share learnings from the development & operation of the demonstration plant

Report publicly on our health safety & environment performance in our annual report

Continue to meet with community groups, businesses, unions, environment interests & other stakeholders as requested

- e.g., we meet regularly with the Yallourn North Action Group & the Environment Review Committee for the Yallourn Power Station

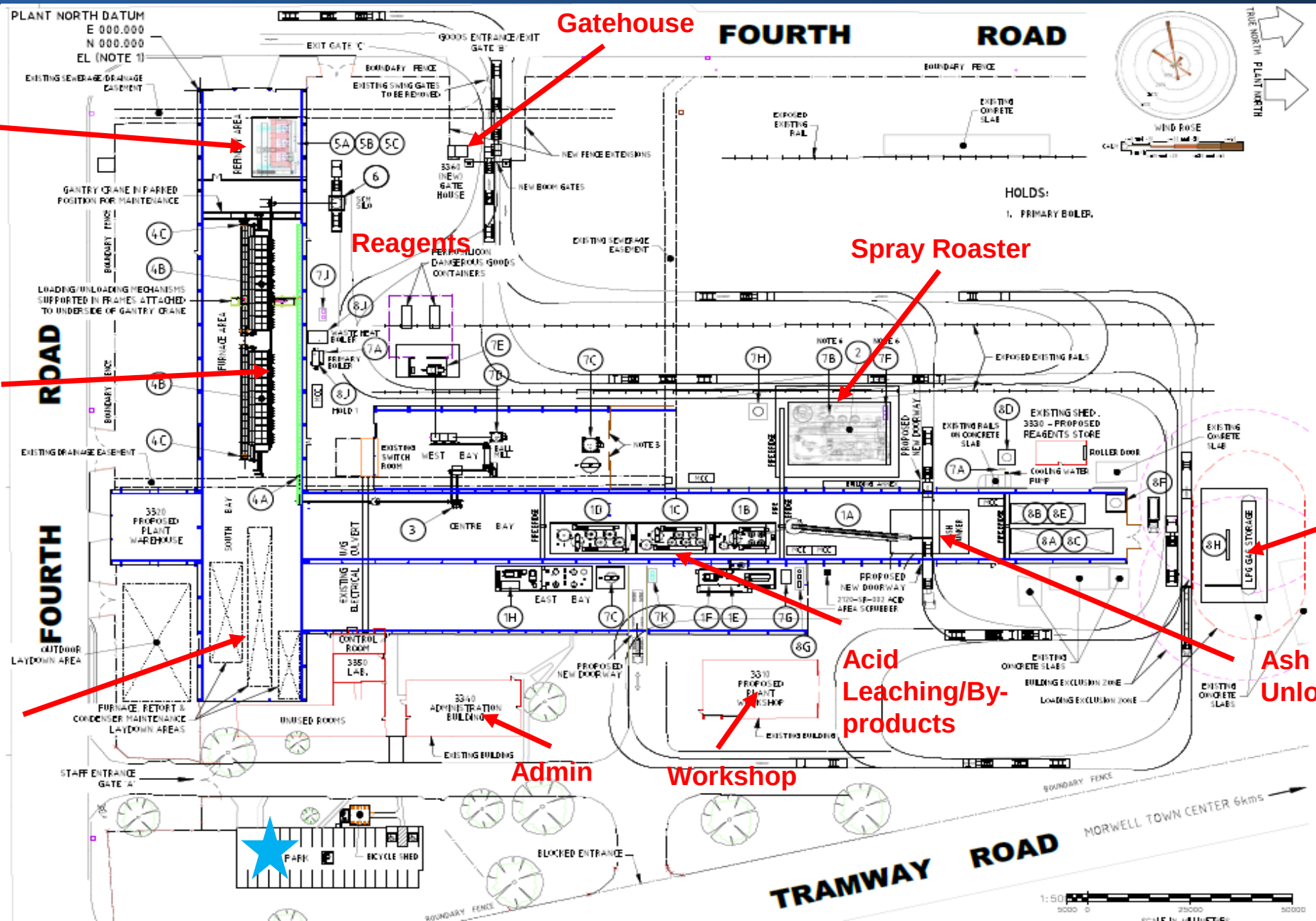
Latrobe Magnesium

Process Overview

Nov - 2022

Ronan Gillen COO

Site Plan

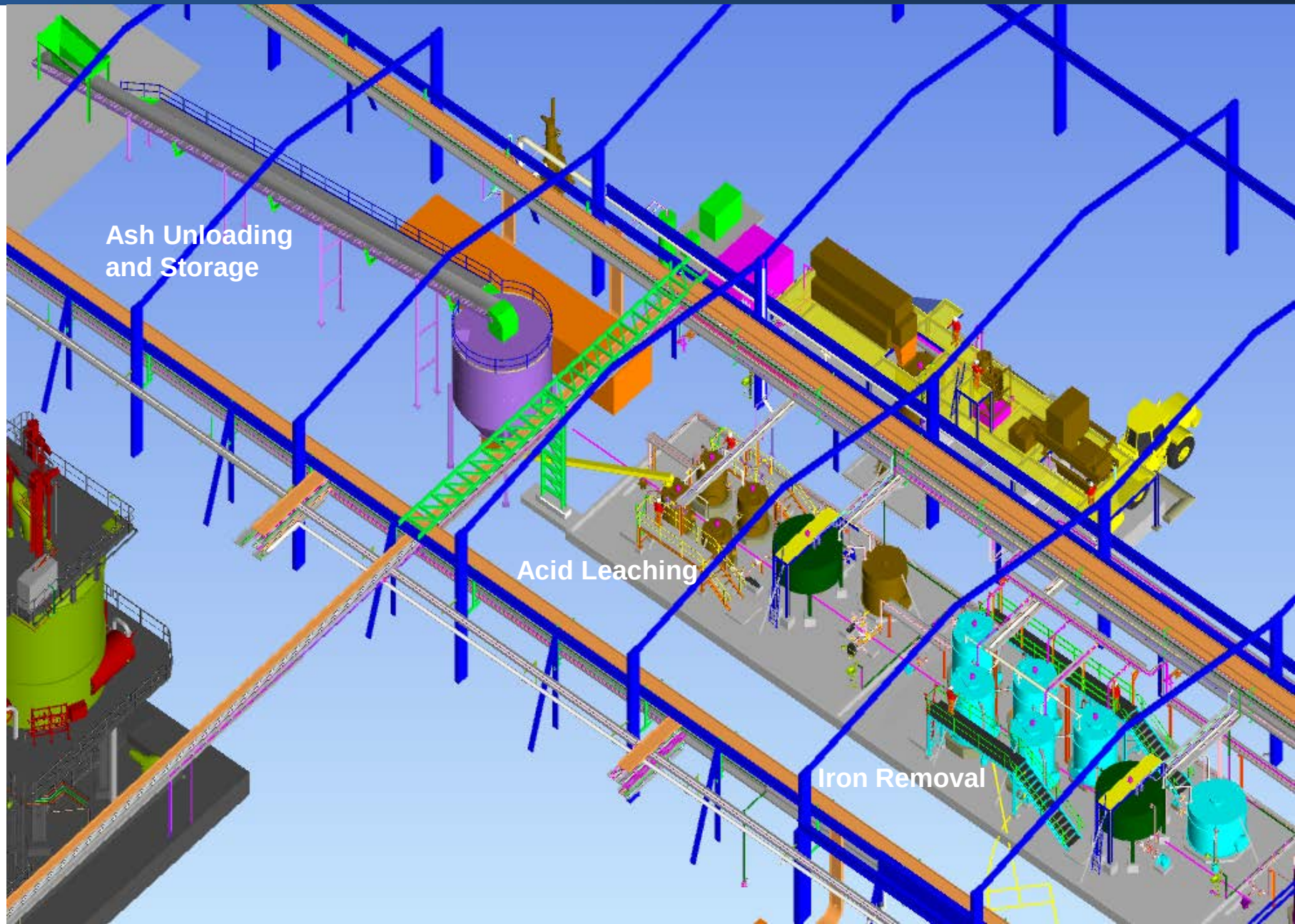

Mg Refining
Gatehouse
Reagents
Spray Roaster
Thermal Reduction
LPG
Acid Leaching/By-products
Ash Unloading
Maintenance Laydown
Admin
Workshop
FOURTH ROAD
TRAMWAY ROAD
PLANT NORTH DATUM
E 000.000
N 000.000
EL (NOTE 1)
HOLDS:
1. PRIMARY BOILER.
PROPOSED PLANT WAREHOUSE
EXISTING SHED - PROPOSED REAGENTS STORE
LPG GAS STORAGE
CENTRE BAY
EAST BAY
WEST BAY
SOUTH BAY
CONTROL ROOM
ADMINISTRATION BUILDING
PROPOSED PLANT WORKSHOP
OUTDOOR LAYDOWN AREA
FURNACE, RETORT & CONDENSER MAINTENANCE LAYDOWN AREAS
STAFF ENTRANCE GATE 'A'
BLOCKED ENTRANCE
MORWELL TOWN CENTER 6kms

Process Plant

Ash is unloaded by truck directly into the ash storage bin

Acid leaching process dissolves the minerals in the ash, releasing Magnesium and other elements into solution.

Iron Removal separates out Iron from Magnesium solution and produces an Iron Oxide by-product which is separately sold



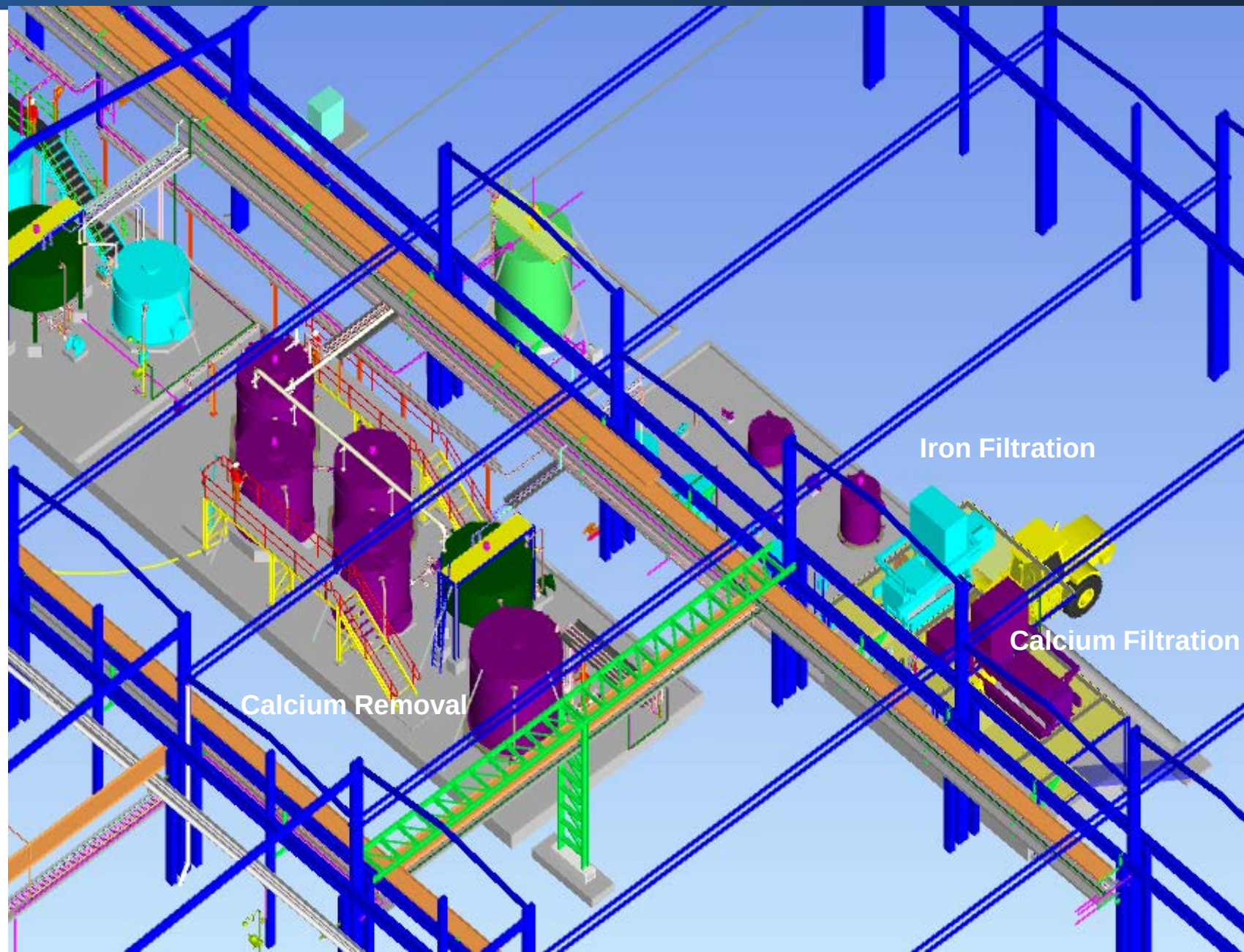
Process Plant

Latrobe Magnesium

Calcium Removal separates out Calcium from Magnesium solution and produces a Calcium Carbonate by-product (Ag-Lime) which is separately sold

Calcium Carbonate is filtered and loaded into trucks for transport by a loader

Iron Oxide is also filtered and loaded into trucks for transport for a loader



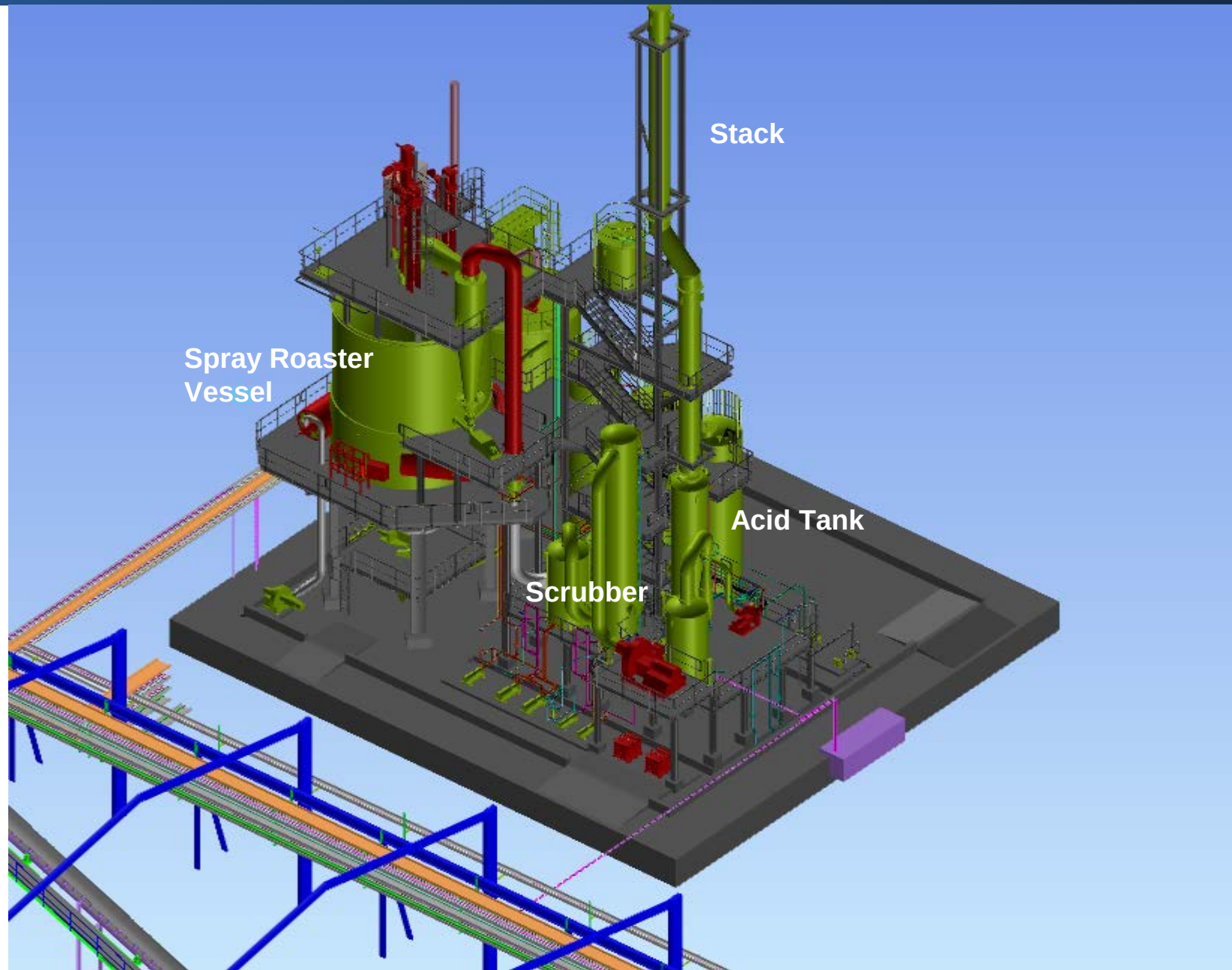
Process Plant

Spray Roaster converts Magnesium solution to Magnesium Oxide powder at 600 deg C

The acid is regenerated and reused in acid leach

Spray Roaster is 20m tall and off gases are scrubbed and cleaned before steam is released

The Magnesium Oxide powder is cooled to ambient temperature



Process Plant

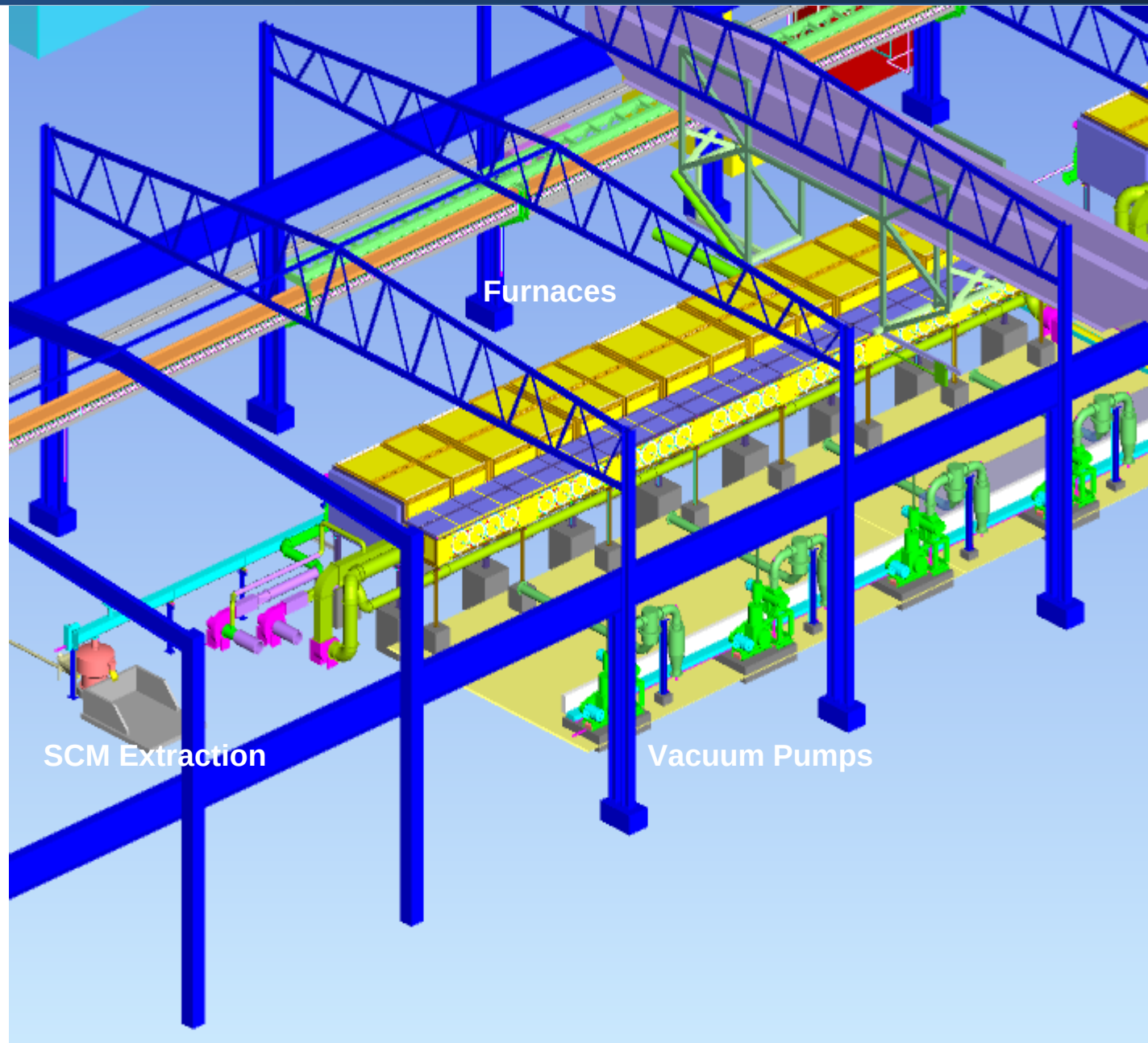
Magnesium Oxide is combined with Quicklime and Ferrosilicon, formed into briquettes, and placed into the thermal reduction furnaces.

Over 12 hours and 1200 deg C, the Magnesium reacts and turns into a vapour. The vapour is then cooled and the Magnesium solidifies into pure Magnesium metal called ‘crowns’

The residue left over is called SCM and is a by-product cement replacement that is sold.

The Magnesium is then refined and cast as ingots at 99.9% purity.

The loading/unloading of the furnaces is automated avoiding personnel being exposed to heat

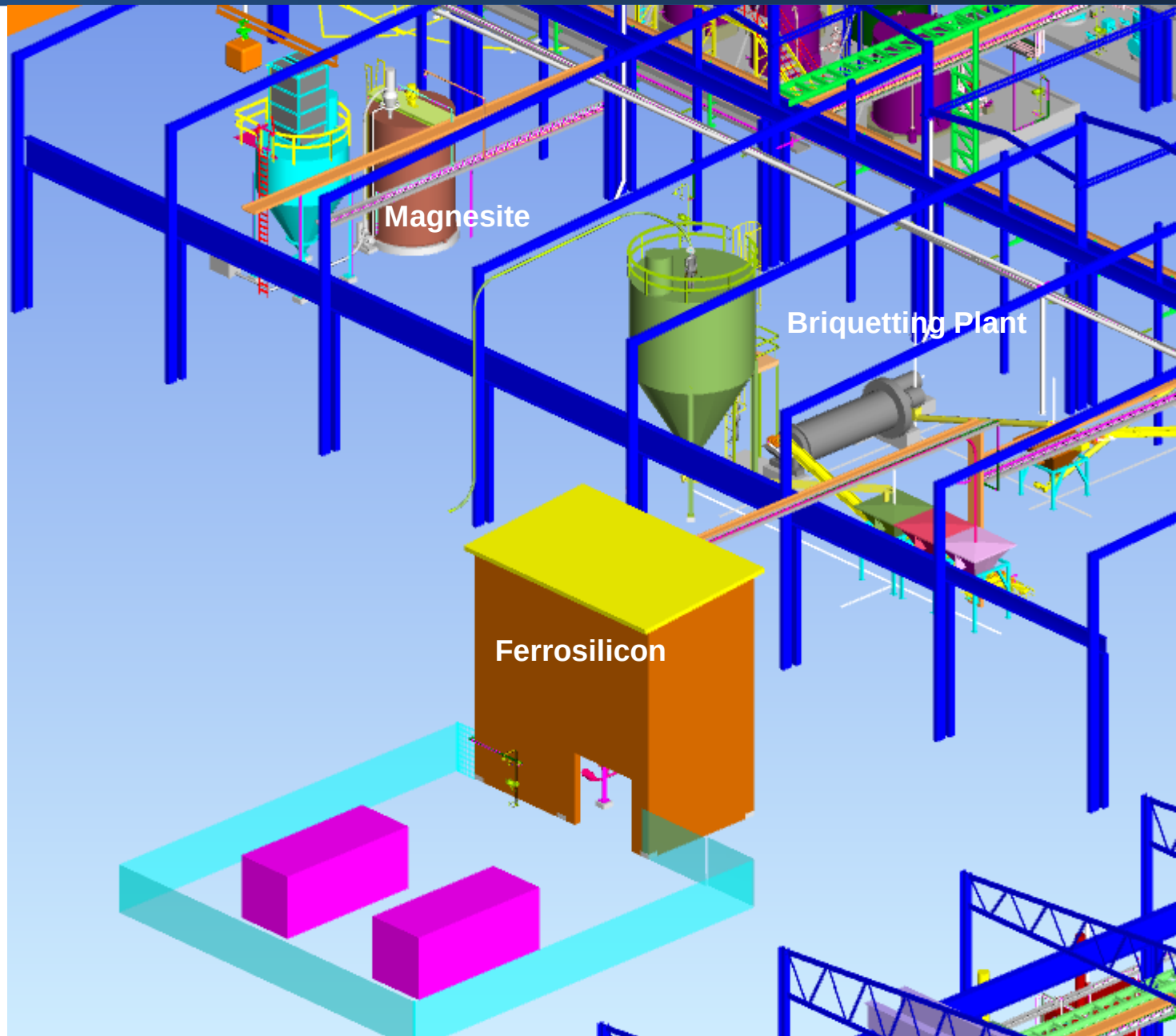


Process Plant

Briquetting plant combines the quicklime, Ferrosilicon and Magnesium Oxide to form pillow shaped briquettes.

Ferrosilicon is used a reducing agent

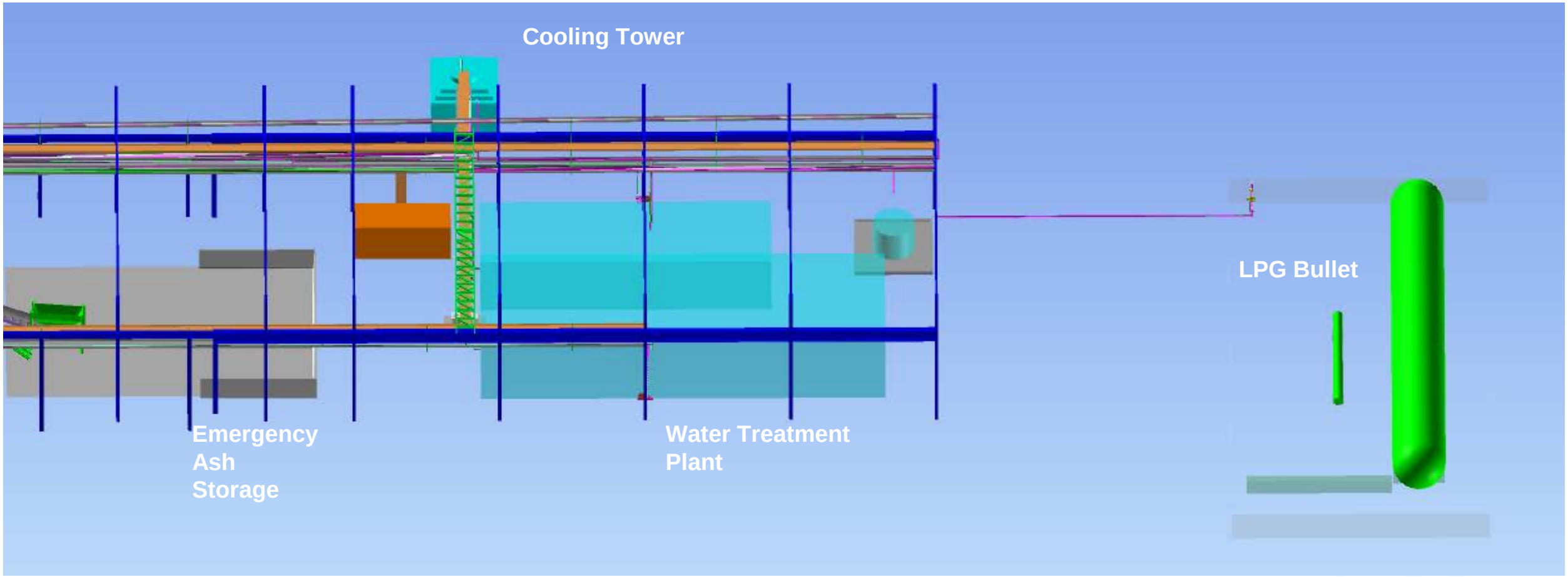
Magnesite is used as a reagent in Iron Removal



Process Plant

LPG is located a safe distance from the rest of the process plant.

The water treatment plant ensures that no untreated water is discharged to the environment.



Questions?