



MANUFACTURED CAPITAL



Our Manufactured Capital is integral to our value creation process, enabling the production of high-quality activated carbons for a multitude of applications. This year, emphasis was placed on future focusing our Manufactured Capital with a sustainable mindset, to capture opportunities in emerging applications while minimising our environmental impact and positioning



OUR MANUFACTURED CAPITAL

SRI LANKA

2 Manufacturing facilities	4 State of the art laboratories	31,800 TPA Total production capacity
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INDONESIA

2 Manufacturing facilities	2 State of the art laboratories	13,000 TPA Total production capacity
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THAILAND

3 Manufacturing facilities	2 State of the art laboratories	12,000 TPA Total production capacity
		3,600 TPA Total regeneration

FOCAL AREAS IN 2023/24

Future focusing our manufacturing capabilities

Manufacturing excellence



Embedding sustainability

Capital expenditure in 2023/24:

Rs 2.1 Bn (+12%)

Total production capacity
56,800 Mt per annum

Capacity utilisation in 2023/24 : 84%

VALUE CREATED IN 2023/24

- A new pilot plant at the Haycarb Badalgama factory and an electrochemical laboratory at Colombo to capitalise on emerging opportunities in energy storage applications.
- Enhancing production capacity of hard carbons for energy storage applications.
- Progress made on the greenfield investment in the Philippines.
- Enhanced the sustainability of our operations through increased reliance on renewable energy.
- Ongoing capital expenditure to maintain manufacturing excellence.
- Expansion of CK Regen System plant in Thailand to increase capacity by **1,600 Mt**

WAY FORWARD

- Ongoing emphasis on expanding our presence in energy storage applications.
- Upgrade Recogen to enhance its electricity generation capacity.
- Maintain emphasis on enhancing operational efficiency.
- Leverage digital technology to streamline processes and enhance efficiency. (E.g. digitization of production data capture systems, raw material procurement digitization systems and integrated ERP systems to overseas plants, warehouse management systems)
- Reuse of process water through a RO plant
- Continuation of solar project upto 5.6 MWh capacity

CAPITAL TRADE-OFFS

- While investments in future focusing our Manufactured Capital negatively impacts Financial Capital in the short-term, it will enable the Group to capture emerging opportunities and thereby strengthen Financial Capital in the long-term.
- Investments in enhancing the sustainability of our operations positively impacts Natural Capital despite a short-term negative impact on Financial Capital.
- Investments to maintain manufacturing excellence enables consistent product quality and enhances customer satisfaction leading to the strengthening of Social & Relationship Capital.

LINK WITH MATERIAL TOPICS:

M9, M13

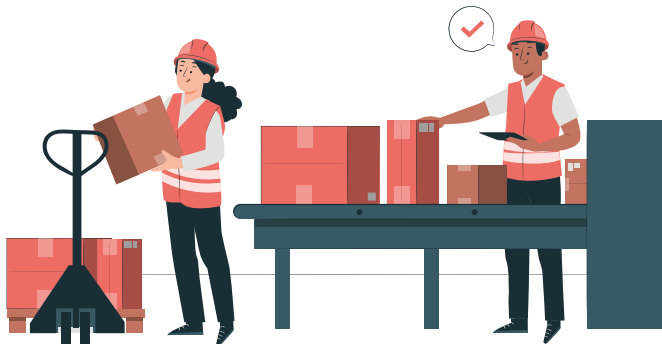
LINK WITH KEY RISKS AND OPPORTUNITIES / SRROS / CRROS

R8, R20

ALIGNMENT WITH STRATEGIC PRIORITIES



CONTRIBUTION TO SDGS



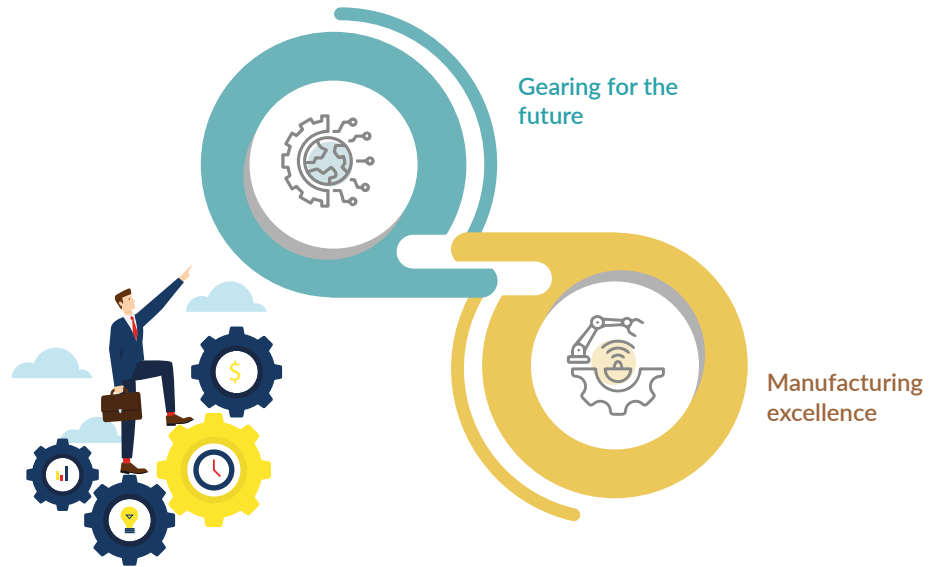
MANUFACTURED CAPITAL

MANAGEMENT APPROACH

Our approach to managing our Manufactured Capital is guided by our strategic objectives and the evolving needs of our customers. Investment decisions involve careful assessment of the product design and manufacturing requirements and are made following robust evaluation by the engineering, research and development, finance and other technical teams. To optimise capital expenditure and minimise its environmental footprint, Haycarb also evaluates the feasibility of re-purposing used machinery, leveraging the expertise of its engineering team to adapt and modify.

POSITIONING OUR MANUFACTURED CAPITAL FOR THE FUTURE

Advancements in industries reliant on stored energy for their operations have created numerous opportunities within energy storage applications. The shift towards a low-carbon economy has intensified the focus on renewable energy

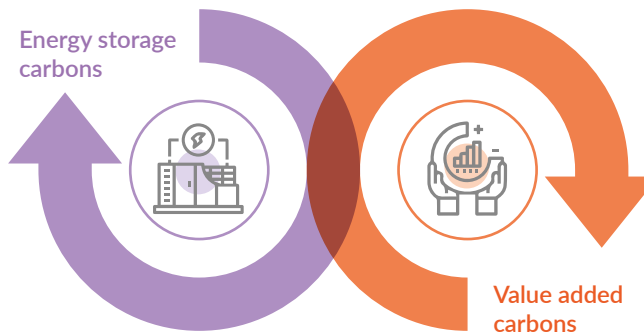


generation, increasing the vital importance of energy storage in improving reliability and power quality. Recognising these emerging trends, we made substantial investments during the year to enhance our

Manufactured Capital to position ourselves as a leader in the supply of activated carbon products for energy storage applications.

We invested in a new electro-chemical laboratory, enabling in-house performance testing of energy storage carbons. The laboratory is equipped with the latest electro-chemical performance testing facilities. Establishing the laboratory in-house has reduced the lead time in obtaining test results. This has enabled us to respond to customer queries more swiftly and enhance collaboration bringing energy storage carbon solutions closer to commercial manufacture.

Opening of our new electro-chemical laboratory



Investment in enhancing the washing capacity by 200 MT for washed carbon manufacturing in Sri Lanka.

Investment was also made in capacity enhancement for energy storage carbon production





We also strive to improve our manufacturing and supply chain processes, adopting greener technologies across the Organisation

Given the growing demand for activated carbon products across diverse applications and our own strategic goal of increasing our global market share by 1%, we also focused on advancing our greenfield investment in the Philippines.



Greenfield investment in the Philippines



- We recognized Philippines' potential with its readily available supply of raw materials facilitating our strategic objective of a diverse supply chain network and its strategic location supporting to cater to the company's key markets.
- Haycarb officially incorporated a new entity, Haycarb Philippines Corporation during the year under review.
- The Group is currently in the process of evaluating and finalizing the selected site for the establishment of its manufacturing plant in the Philippines.

ACHIEVING MANUFACTURING EXCELLENCE SUSTAINABLY

We continued to invest in our Manufacturing Capital to uphold excellence in fulfilling product specifications and maintaining consistency in quality across the wide range of applications we serve.

Furthermore, we made substantial investments to advance our 2030 ESG goals as outlined in our ESG Roadmap 2030, Activate. Key investments made during the year under review in this regard, are given below.

Sustainability	<ul style="list-style-type: none"> • Installation of solar panels to generate renewable energy. • Process improvements to reduce consumption of Oil. • Enhanced capacity for spent carbon regeneration at CK Regen plant in Thailand.
Capacity enhancements	<ul style="list-style-type: none"> • Capacity enhancements including enhancing washed carbon capacity.
Value-added product range	<ul style="list-style-type: none"> • Enhanced manufacturing capacity of value-added activated carbon products including energy storage carbons
Other investments	<ul style="list-style-type: none"> • Refurbishment of the Head Office to create a modern space that promotes collaboration and creative thinking.

MANUFACTURED CAPITAL

OPERATIONAL EFFICIENCY AND PRODUCTIVITY

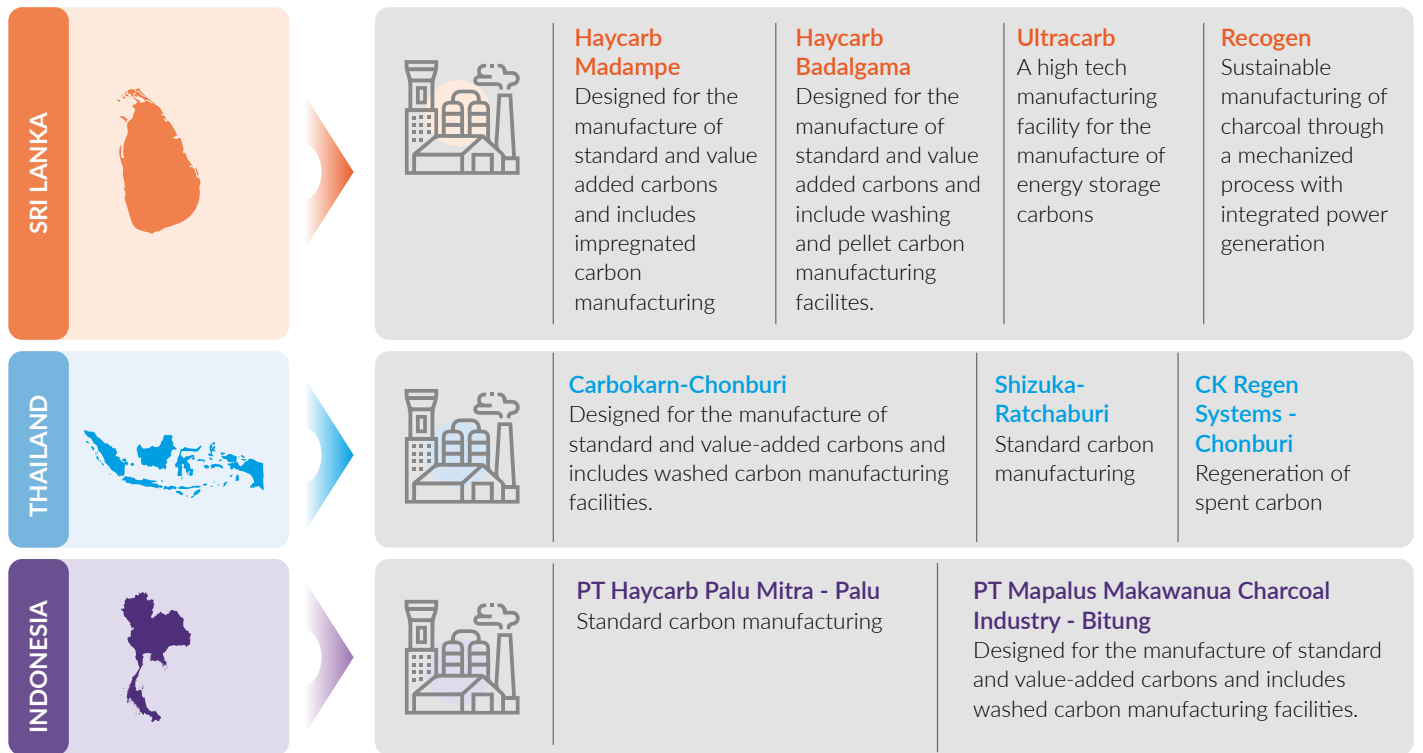
The Group's emphasis on operational efficiency is guided by its 3R concept of Reduce, Reuse and Recycle, and enables a comprehensive approach to improving processes, reducing waste, and enhancing productivity. The Group implements a range of manufacturing best practices

including Lean Manufacturing, Six Sigma, 5S and Kaizen across its manufacturing facilities to nurture a culture of 'zero produce defects' enhancing product quality while minimising waste. Haycarb has maintained a zero-defect standard in the production of its EDLC carbon range since its inception in 2010.

Maintenance of plant and machinery is guided by the Preventive Maintenance pillar of Total Productive Maintenance (TPM) minimising loss of productivity due to machine breakdowns.

- **31 lean initiatives** implemented during 2023/24
- **Rs 148.6 Mn** in cost savings

ENABLING MANUFACTURING AND TECHNICAL EXCELLENCE



ACTIVATED CARBON SEGMENT

State-of-the-art quality control laboratories situated at all manufacturing locations enables standard and specific testing of carbons to ensure products meet the technical specifications of customers.



QUALITY CONTROL

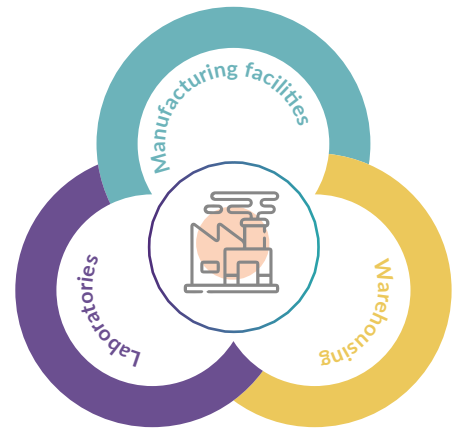


NEW PRODUCT DEVELOPMENT

Analytical laboratory in Colombo, Sri Lanka supports the Group's Research and Development, and the development of new products for emerging applications.



Manufactured capital comprises of;



Key laboratory equipment that supports innovation and technical excellence in the Activated Carbon segment include,

Equipment	Capability
Inductively coupled plasma mass spectrometric (ICP-MS) analyzer	Ability to measure metal constituents at trace levels (ppt levels) enables the production of activated carbon with high purity.
Atomic absorption spectroscopy (AAS)	Ability to measure metal constituents in activated carbon facilitates the production of value-added activated carbon segment and enables maintaining required purity levels for the specialized carbon product portfolio.
ONH element analyser	Ability to measure surface functional groups (Oxygen, Nitrogen, Hydrogen) in surface modified/ treated activated carbon.
Surface area analyser	Measures pore geometry of activate carbon (internal) pore area, pore diameter, pore size distribution, pore volumes of micropores and meso pores) and facilitate fundamental development work.
Laser particle size analysers	Ability to measure particle size distribution facilitates the ability to maintain the correct drop in pressure at the end application.

NEW ADDITIONS 2023/24

GAS DISPLACEMENT PYCNOMETER

Ability to measure high-precision volume measurements and true density calculations of activated carbon.

ELECTROCHEMICAL LAB

Equipped with critical equipment including a Glove box to assemble coin cells in controlled environment and Battery Testing equipment to support development of battery carbons.

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ENVIRONMENTAL ENGINEERING SOLUTIONS SEGMENT

The Environmental Engineering Solutions segment is also equipped with a modern laboratory that can carrying out advanced analysis of rare and special effluents, while enabling new product development, process improvements and capacity augmentation. Our laboratory is registered under the Central Environment Authority as a laboratory for environmental monitoring and evaluation.

During the year, we extended our capabilities to include,

- Performing wide range of tests related to chemicals sales business sector
- Onsite testing to ensure smooth operation existing treatment plants.



WAREHOUSING

Access to extensive warehousing around the world has enabled the timely delivery of finished goods, the fulfillment of urgent customer needs and optimised inventory management. Our marketing offices maintain warehousing facilities in the USA, Europe and Australia. Warehousing facilities are also available at each manufacturing site enabling the storage of raw materials, semi-finished and finished goods while additional warehouses within proximity to seaports facilitate shipment of finished goods. During the year, we expanded our warehousing network through the addition of 1 new warehouse in Perth, Australia.

