



PHYLA
earth



Regenerating Mining Landscapes.

Transforming liabilities into
productive assets.

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Phyla Earth can help you transform your end-of-life mine facilities into productive landscapes that provide net-zero fuels for core mining operations. Our revegetation solutions create a new and productive ecosystem in the most challenging environment to deliver economic, environmental and development benefits to both core mining activities and the wider community.

Our business is the development of vibrant green economies that support sustainable mining activities throughout the life of mine and beyond.

ENVIRONMENTAL COMPLIANCE

Ensure environmental compliance and reputation, returning functioning and healthy landscapes.

STAKEHOLDER RESPONSIBILITY

Addressing climate change and engaging with the wider local community in the mine supply chain to ensure viable post-mining economies.

PRODUCTION EFFICIENCY

Combat rising costs of energy securing low carbon, low-cost, low price volatility energy supplies for mine operations.

PHYLA is the only company in the world pioneering the development of elite pongamia agroforestry systems for the regeneration of mining landscapes and the creation of viable low-carbon post-mining green economies.

Our biological restoration process transforms degraded and contaminated landscapes into productive assets that generate economic, social and environmental benefits for mining companies and communities.

Phyla Mines Services



Community Engagement

Building consensus through expert engagement with extended stakeholders to reduce risk and build trust.



Water Management

Managing water resources to minimise use and depollute waste streams.



Precision Mapping

Characterisation of mine facilities and landscapes using state-of-the-art technology and algorithms.



Landform Creation and Stabilisation

Healing soils and streams by intelligent design from micro-indentation to large landscape features.



Reprocessing and Revalorisation

Bespoke design and implementation of physical, chemical and biological processes to recover value from waste.



Reafforestation

Ensuring every planted tree survives creating biodiverse incipient novel ecosystems in the most challenging of landscapes.



Productive Regeneration

Our trees produce bioenergy for mine use and our systems create jobs for communities surrounding the mine, laying the foundation for a vibrant Green Economy.

Our Unique Approach

Effective rehabilitation of mine landscapes must take into consideration the social, economic and employment needs of the local community along with their hopes and visions for the development of a viable post-mining economy.

We have developed a solution that aligns with the core activity of mining, throughout the life-of-mine, through the provision of low carbon renewable energy for mine operations. In the short-term, we offer mines assistance to achieve zero carbon mining whilst providing communities with gainful employment. In the long-term, we

create viable low carbon post mining economies supplying transport fuels, food protein and biotechnology products.

We enable mining companies to meet the highest environmental restoration standards whilst achieving social impact targets through massive job creation with the local community. Our approach also ensures a viable post-mining economy through successful mine facility revegetation, biological restoration and supply of energy to meet the growing demands of the domestic economy once the mine is gone.





Phytoremediation & Heavy Metal Tolerance

PHYLA's Elite Pongamia grows robustly in mine tailings even with heavy metal concentrations exceeding 2000mg/kg. The survival rate of Phyla's selected varieties means reduced revegetation costs and ensures reputational integrity for mines.

Saline Tolerance

Our Elite Pongamia seedlings have consistently displayed a tolerance to salinity levels reaching 19 dS m⁻¹. The inherent capability of Pongamia roots to resist Na⁺ accumulation ensures their survival in these conditions, eliminating the cost of repeated replanting. We can effectively utilize saline mine wastewater and deep aquifer irrigation.

Drought Adaptability

Originating from regions with an average annual rainfall between 550 to 650 mm, PHYLA's Elite Pongamia can survive harsh mine tailings and degraded soils with minimal water requirements. Its deep tap root system enables the tree to access water reserves deep in the soil, ensuring both survival and reduced competition for water.

Nitrogen Fixing & Carbon Sequestration

Mine tailings generally have critically low nitrogen and organic carbon contents. Our Elite Pongamia has the inherent capacity to harness nitrogen and carbon directly from the atmosphere, thereby rejuvenating the soil's microbial and fungal life. Importantly, our methods negate the need for synthetic fertilisers.

Enhanced Biodiversity

Pongamia creates the conditions necessary for other life to establish and thrive. We call them "nurse trees". By supporting soil microbial and fungal communities, providing shade and food, we see a very rapid increase in biodiversity as Pongamia provides bees, frogs, snakes, rabbits, mice, birds and a multitude of insect species with a liveable habitat.

Erosion Mitigation

Pongamia establishes a protective tree canopy, shielding soils from erosive elements. PHYLA's strategic approach to landscape design, including the implementation of halfmoon and terrace systems, further ensures water retention. These trees then play a pivotal role in consolidating and strengthening the soil.

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