

Mining, Oil & Gas Industry





Mining is the leading industry in the Australian economy providing economic growth and employment. It is also a resource intensive industry that leaves a significant environmental footprint with deforestation, erosion, water table contamination and pollution.

Sustainable Solutions International Pty Ltd (SSI) has extensive experience in environmental engineering, process engineering and implementing process improvements in the Mining, Oil & Gas Industry.

SSI provides a wide range of services including:

- Design and development, construction management and commissioning of new plants;
- Maintenance of water treatment plants, wastewater treatment plants and rainwater harvesting systems;
- Assessment and feasibility studies of plant performance or upgrade;
- Time in motion studies for mine sites used as a component of continuous improvement;
- Environmental Management Planning;
- Remote monitoring, data management and analysis;
- Solid waste and energy audits; and
- Implementation of solid waste, water, wastewater and energy management plans.

Benefits of a sustainable approach to the mining industries

- Assess and improve performance to industry best practice analysis through minor operational shifts;
- Reduce operational expenditure;
- Increase profitability through efficient management strategies to reduce reliance on resources such as water, fossil fuels and electricity;
- Reduce environmental impact through efficient wastewater, solid waste and energy management; and
- Enhance environmental image and stewardship through forward thinking design and environmental management.

WHAT DO WE OFFER?

The objective of our service is to deliver the most cost effective solution to protect the public health and safeguard the environment focusing on the industry needs and resources available.

Environmental Management

SSI provides environmental management planning and reporting to comply with local, state and federal government regulations and legislation, as well as international standards.

Environmental management in the mining sector include:

- Comprehensive or partial water audits to assess historical and current usage to verify compliance with legislation and guidelines;
- Development of Water Efficiency Management Plans by setting water conservation goals and identify water conservation opportunities;
- Development of Site Based Management Plans to identify environmental impacts and promote compliance with standards and legislation by suggesting appropriate management approaches. SSI is committed to preparing a comprehensive Environmental Impact Assessments (EIA) that addresses all the potential impacts to water, air quality, noise, biodiversity and local communities;
- Planning and liaising with government agencies and environmental authorities to obtain the necessary licences and permits for the development of the environmental infrastructure, mining projects or mine site developments; and
- Annual Environmental Management and sustainability reporting.

Asset & Maintenance Management

Design Construction Management & Commissioning

Efficiency Audits & Cleaner Production Environmental
Compliance &
Licensing

Master <u>Planning</u> Plant Assessment & Optimisation

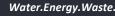
Sustainable Resource Management Risk Assessments (HACCP & HAZOP)



For more information please contact: Sustainable Solutions International Pty Ltd











Water Services

As a part of our services SSI offers:

- Water Audits to assess historical and current water use by individual operations. Based on the results, methods of improving water efficiency during wash down of stockyards, trucks and lairages. Audits can be carried out periodically to verify compliance with environmental guidelines, legislation and to allow for continuous improvement;
- Development of Water Efficiency Management Plans to set benchmark metrics and identify opportunities for water conservations; and
- Design and installation of Rainwater Harvesting System to drive water efficiency by reducing potable water demand.



Solid Waste Services

As a part of our solid waste services SSI offers:

- Solid waste audits to identify solid waste streams and composition of solid waste produced. During this process the engineering team also identifies areas of improvement regarding solid waste generation, disposal or opportunities to convert solid waste to energy;
- Solid Waste Management Plans inline with the EPA hierarchy for solid waste management: Avoid, Reduce, Reuse and Recycle;
- Training and awareness to educate staff and consumers about solid waste reduction, management and disposal; and
- Selection of best suited solid waste management technologies based on cost effectiveness, labour, equipment, consumables and civil works.

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Energy Services

As a part of our solid waste services SSI offers:

- Energy audits to assess:
 - ♦ Energy consumption;
 - ♦ Energy intensive activities; and
 - ♦ Energy usage analysis.
- Energy audits are classified as Level I, II or III depending on the level of accuracy;
- Identification of energy saving opportunities through the implementation of renewable energy systems, such as:
 - Solar energy; and
 - Waste to energy (through the utilisation of anaerobic digestion to generate energy from waste treatment.



Key Projects

Exxon Mobil Permanent Facility Compound PNG

The Papua New Guinea (PNG) Permanent Facilities Compound (PFC) is an aspect of the broader PNG Liquefied Natural Gas (LNG) project to commercialise gas reserve available within PNG. Exxon Mobil designed and installed the PFC as a permanent office, support centre and community facility for those working within the PNG LNG projects. The compound is located in Port Moresby and includes wastewater and recycled water treatment, water reuse and diesel fuel supply for light vehicles and generators.

Leighton's Ltd (PNG) contracted SSI to perform commissioning facilities at the PFC. D&C Services requested SSI to provide technical project management and engineering review of the water treatment plant and wastewater treatment plant.

Asset & Maintenance Management Design Construction Management & Commissioning

Efficiency Audits & Cleaner Production Environmental Compliance & Licensing

Master Planning Plant Assessment & Optimisation

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