



Sustainability & Circularity



Our Approach

STEP is proactively working with corporates on resource optimisation & business risks mapping, mitigating environmental and societal risks & impacts and for meaningful community engagement. The value STEP adds in the area of sustainability & circularity is apart from advisory and strategic consultation, STEP provides engineering consultancy based on 6R principles for management of wastes/ residues and for implementation of interventions. Our holistic approach makes a difference on ground.

Sustainability is a key strategy, Circularity is immediate future :



01

Scarcity of Resources

Nearly 2/3 of the world population will be living in the water scarce/water stressed areas by 2025

02

Climate Change

Climate change is one of the most complex global environmental problems, impacting the physical and biological systems of aquatic, terrestrial and marine environments.

03

Health Impact

Global health crisis is at its peak, Strict quarantine measures, social distancing protocols are becoming a part of our lives.

04

Need for Innovation

Covid -19 outbreak has impacted resources - manpower, capacities etc. Innovation and resource optimization will be a key to survival.



Our Focus Areas.....



Environment Due Diligence & Sustainability Audits

- Water and wastewater management & recycle
- Solid waste management & circularity,
- Efficient utility operations, Resource optimisation, Biodiversity conservation, Carbon footprint assessment, Stakeholder mapping and engagement, Benchmarking & sustainability framework
- Roadmap for implementation of interventions- costs, timeline and detailed design specifications

ESG Audits

- Materiality management, Environment, Social and Governance (ESG) risks impacts & liabilities and interventions for mitigation
- International framework and benchmarking & best practices, gap analysis
- Compliance with National regulations and international protocols
- ESG performance and stakeholder relationships

Environment and Social Assessments

- Based on Environmental and social policies/ framework/ performance standards of international funding institutions
- Assessment and evaluation of environment and social risks & Impacts
- Environment and Social Management Plan (ESMP), post project monitoring

CSR and Social Business Models

- CSR strategy based on business core values/ competencies and social factors
- CSR framework based on need assessment analysis
- CSR sustainability, Stakeholder mapping
- Development of Key Performance Indicators (KPI)
- Capacity development programs for NGOs
- Community engagement programs
- Midline surveys and impact assessment
- Engagement with citizen stakeholders, civil society, influencers and value chain actors
- Knowledge asset management for environment ethics, values and stewardship

Sustainability Strategy & Roadmap for Circularity

- Sustainability strategy, roadmap for implementation and reporting
- Sustainability & business risk mapping, risk evaluation assessment, interventions for mitigation
- Residue management based on 6 R principles
- Process intensification and improved productivity
- Resource management, roadmap for sustainable operations and improved profitability
- Interventions with scope, cost and action plan
- Implementation of projects, monitoring and assessment of impacts

Green Technologies for Resource Optimization....



Process Intensification

- Productivity Improvement through process audits.
- Converting batch reactions into continuous mode.
- Resource management in terms of manpower, raw materials, plant capacities

Column Chromatography

- Chemicals Recovery from wastewater:- Aniline, Di Methyl Formamide (DMF), Methylene Di Chloride (MDC)
- Color removal :- Replacement of activated carbon, by polymeric adsorbents or resins.
- Product purification :- Removal of impurities using specialty adsorbents.

Ultrasonic Crystallization & Milling

- This technology can be used to produce desired particle size distribution/ fine crystals.
- This is used for specialty chemicals and APIs. The process can be operated in batch or continuous mode in a closed atmosphere thereby avoiding any losses of fines.

Downflow Gas Contactor (DGC) Technology

- **Wastewater Treatment:** - Niche application for treatment of industrial effluent treatment containing bio refractory/ recalcitrant effluents.
- **Biogas Upgradation:** Upgradation of biogas through removal of Carbon Dioxide and Hydrogen Sulphide..
- **Process Chemical Reactions:** Gas-liquid reactions viz. hydrogenation & oxidation; as well as liquid-liquid reaction viz. biodiesel production.



Thank you

For more information: visit www.stepsol.com

Mail ID : info@stepsol.com; jyoti.palekar@stepsol.com

Contact Details : +91-9820283540/ 9820182487