Advanced Troubleshooting Guide

Sustainability Solutions

DEMHA CONSULTANTS

The Professional Engineers

Content

[1] BRSR – Business Responsibility and Sustainability Reporting
[2] SBTi – Science Based Targets Initiatives
[3] GHG – Green House Gas
[4] CSR – Corporate Social Responsibility

Why a guide dedicated to Sustainability Solutions?

The solutions for transitioning to sustainability involve innovative social practices, technologies and business models. Sustainability transitions are society-wide, long-term processes built on innovation and knowledge creation. We need to stick to our long-term sustianability goals and anchor into the new priority areas like security and competitiveness.

What is the key fact and way forward?

Key Fact: We are at the fore front of proposing and implementing sustainability solutions, be it by public initiatives / grass-root movements.
Action: By embrassing sustainability transitions, demonstrating solutionsband seizing related opportunities, we can lead the global effort for change.

A reference study: Industrial Parks – EPZA (Private and Public Sectors)

Editor: Ahmed H. H. Mansoor – Founder, DEMHA Group

1. Introduction

In the contemporary business landscape, the integration of Environmental, Social, and Governance (ESG) criteria into corporate strategies has become more than a trend – it is an imperative. As the world grapples with the escalating challenges of climate change, the role of ESG in shaping sustainable and responsible business practices has gained unprecedented momentum. Among the myriads of concerns that ESG addresses, climate change and water-related disclosures stand out due to their profound impact on both the environment and the socio-economic fabric of societies. [1]

In addressing the challenges posed by ESG criteria, climate change, and water-related disclosures, a comprehensive approach is essential. This approach goes beyond mere compliance and risk management; it integrates these considerations into the core business strategy, driving innovation, stakeholder engagement, and long-term sustainability. [2]

Different industries face unique challenges and opportunities in addressing ESG, climate change, and water-related issues. For instance: (1) Agriculture Industry: Balancing water conservation with the need to feed a growing population and adapting to climate change impacts on crop yields. (2) Manufacturing Industry: Reducing emissions and waste, managing water use in production processes, and ensuring responsible supply chain practices. (3) Energy Industry: Transitioning to renewable energy sources, managing the environmental impact of extraction and production, and addressing water use in energy generation. [3]

The intricate relationship between ESG criteria, climate change, and water-related disclosures is a pivotal shift in how industries approach sustainability and corporate responsibility. This relationship underscores the need for a comprehensive, forward-thinking strategy that balances economic success with environmental stewardship and social responsibility. [4]

Key Takeaways

- Interconnected Challenges: ESG, climate change, and water management are deeply interconnected. Actions in one area can have significant implications in others, highlighting the need for an integrated approach.
- Beyond Compliance: Addressing these challenges goes beyond mere compliance with regulations. It's about embedding sustainability into the core of business strategies, creating value for both the company and society.
- Risk Management and Opportunities: A holistic approach to ESG not only helps in managing risks associated with climate change and water scarcity but also opens up new opportunities for innovation and growth.
- Stakeholder Engagement: Engaging with stakeholders is crucial. It fosters trust, enhances reputation, and leads to more effective and sustainable solutions.
- Adaptability and Resilience: In a rapidly changing world, businesses must be prepared to evolve their strategies in response to emerging risks and opportunities.

The Path Forward

As we look to the future, it's clear that the role of ESG, climate change awareness, and water-related disclosures will continue to grow in importance. Businesses that proactively embrace these challenges will be better positioned to thrive in the evolving global economy. The path forward involves: Continuous Learning and Innovation, Collaborative Efforts, Long-term Commitment, Leadership and Culture

2. Water Management Studies

2.1. Water Auding

Water auditing is the process of evaluating and analyzing an organization's water use and the associated water management practices. Water Auditing Services helps to see how their water usage compares to other companies in their industry, so they're more aware of how their business is using resources and what it means for the environment. It involves a comprehensive assessment of water usage and the identification of water-saving opportunities and water conservation measures. The purpose of water auditing is to help organizations reduce their water consumption, minimize their environmental impact, and improve their water management practices. By conducting a water auditing, organizations can identify areas where they can reduce water use, improve water efficiency, and reduce their water bills.

Benefits of Water Auditing

1. Achieve water savings with cost-effective strategies and short payback periods
2. Contribute to water conservation for a sustainable future
3. Enhance competitiveness through operational efficiency and lower costs
4. Minimize environmental impact and promote responsible water management
5. Align with government guidelines for benchmarking water usage across industries

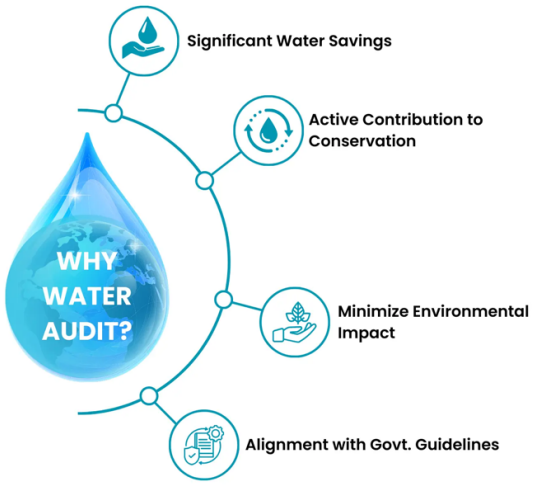

Fig. 2.1. Benefits of Water Audit

Government Guidelines and Water Conservation: The recent governmental directives prioritize water conservation by setting benchmarks for water consumption across a variety of industrial sectors. The Water Authority enforces environmental compensation for users extracting groundwater without proper certification. Industries drawing over 100 meter cubic per day of groundwater must undergo an annual water audit, submitting reports to authority within three months. Those consuming over 100 cbm/day are also mandated to achieve a 20% reduction in groundwater usage within the next three years through appropriate means.

The services include:

1. Water Audit
2. Water Footprint
3. Water Risk Assessment
4. Water Management Planning (WMP)
5. Water Efficiency Improvement Programmes (WEIP)
6. Water Conservation Plans (WCP)

Draft Report
A detailed report is then presented to client consisting of following details & more:-

1. Efficiency calculation of the system. (Pumps, Motors, Etc.)
2. Identification of leakages and water loss areas
3. Reduced water losses and efficient use of existing supplies
4. Improved financial performance
5. Improved reliability of supply system
6. Enhanced knowledge of the distribution system
7. Identify areas to reduced disruption, thereby improving level of service to customers
8. Identify scope of improvement for conservation through efficient utilities, fittings etc
9. Recommendations for various remedial action/installations, fittings for reduction of water consumption and improvement in water distribution efficiency.
10. Suggestion on ETP/STP Plant
11. Recommendations on reusability of RO plant reject

2.2. Alliance for Water Stewardship

Alliance for Water Stewardship (AWS) is at the forefront of promoting sustainable water management practices worldwide. With its renowned certification program, Alliance for Water Stewardship empowers organizations and facilities to showcase their commitment to responsible management by adhering to Alliance for Water Stewardship Standard.

Promoting Sustainable Water Management through this Alliance serves as a universal guideline for significant water consumers to comprehend their water usage and effects, fostering positive outcomes for the environment, society, and the economy within a specific watershed.

Benefits of Alliance for Water Stewardship (AWS)Certification

1. Fosters a goal of the intricate interconnections and consequences tied to water usage.
2. Address operational and supply chain vulnerabilities related to water resources.
3. Implement water management protocols that ensure responsible water practices.
4. Connect with stakeholders i.e. communities and NGOs to tackle water challenges.
5. Share common difficulties and solutions with peers in your watershed, fostering a collective approach to water stewardship.
6. Alliance allows its application across diverse industries and geographic locations.
7. Enhance water governance through policies and regulations plays a pivotal role in strengthening water stewardship practices.

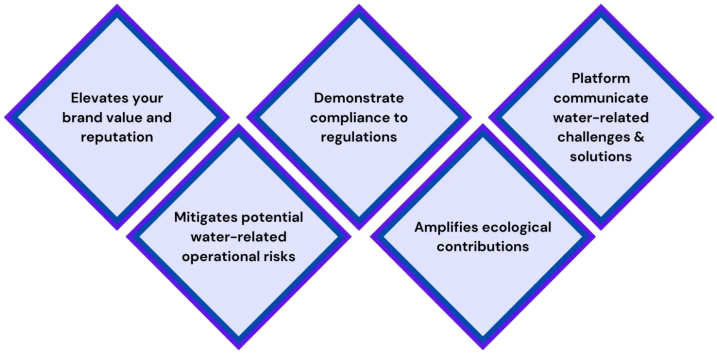

Fig. 2.2. Alliance for Water Stewardship International Standard

Certification Levels

1. AWS Core: 0 – 39 points
2. AWS Gold: 40 – 79 points
3. AWS Platinum: 80 or more points

Alliance for Water Stewardship (AWS) Certification Service includes

1. Gap Assessment and Analysis: Thoroughly analyze your compliance gaps and provide actionable insights.
2. Alliance for Water Stewardship Certification Support: Guiding you through the certification process with expertise and efficiency.
3. Alliance for Water Stewardship Implementation Support: Tailored guidance to seamlessly integrate sustainable water management practices.

2.3. Zero Water Discharge

Zero Water Discharge is a wastewater management that aims to eliminate liquid discharge by treating wastewater until it becomes reusable water or a concentrated solid. This means you minimize environmental impact, reduce dependence on freshwater, and even potentially reuse the treated water within your operations. Put simply, ZLD is about closing the loop on your water usage, turning what was once waste into a valuable resource for a more sustainable future.

Benefits of Zero Water Discharge Implementation

1. Reduced environmental impact: Minimize your discharge of pollutants, safeguarding ecosystems and complying with stringent regulations.
2. Enhanced water conservation: Recover and reuse treated water, reducing dependence on freshwater resources and mitigating drought risks.
3. Optimized operational efficiency: Minimize wastewater disposal costs and maximize water utilization within your processes.
4. Social responsibility: Demonstrate your commitment to environmental responsibility, enhancing your reputation and attracting conscious customers and investors.
5. Long-term compliance: Future-proof your operations by aligning with evolving environmental regulations and best practices.

Applications of Zero Water Discharge

1. Industrial Processes: Treat wastewater from diverse industries like power generation, oil & gas, chemical manufacturing, and mining.
2. Municipal Wastewater Treatment: Enhance existing treatment plants to achieve near-zero discharge and reuse potential.
3. Water Scarce Regions: Secure water resources and minimize reliance on freshwater in arid or drought-prone areas.
4. Landfill and Tailings Management: Treat leachate and manage wastewater generated from landfilled waste or mine tailings.
5. Legacy Site Remediation: Clean up contaminated water at historical industrial sites, promoting environmental restoration.

Zero Water Discharge Standard Code Reference

1. US Environmental Protection Agency (EPA) Guidelines for Wastewater Reuse: Provide best practices for safely treating and reutilizing wastewater.
2. Zero Liquid Discharge Technical Guidance Document (US-EPA, 2006): Outlines technical considerations for implementing ZLD systems.

3. International Water Association (IWA) Standards: Set international benchmarks for sustainable wastewater management and treatment.
4. Industry-specific regulations and guidelines: Ensure compliance with relevant regulations and best practices for your specific wastewater type.

Methodology for Zero Water Discharge Services

1. Project scoping and data gathering: We analyze your wastewater composition, flow rates, and environmental requirements.
2. Detailed ZLD technology evaluation: We assess the suitability of various ZLD options based on efficiency, cost, environmental impact, and regulatory compliance.
3. Cost-benefit analysis: We compare the initial investment, operation and maintenance costs, and potential environmental and financial benefits of each option.
4. Development of a customized ZLD plan: We deliver a comprehensive plan outlining the recommended technology, implementation timeline, cost estimates, and environmental benefits.
5. Project implementation and ongoing support: We guide you through every step of ZLD implementation, providing ongoing support and optimizing the system for long-term performance.

2.4. Impact Study of Ground Water

Impact Study of Groundwater assess how your project might affect the hidden water network beneath it. It examines potential changes in groundwater levels, quality, and flow patterns, helping you avoid harmful impacts and develop responsibly. This study provides a detailed analysis, guiding you towards minimizing environmental footprint and ensuring long-term sustainability for both your project and the vital water source it shares its future with.

Impact Study of Groundwater Typically Considers the Following Factors:

1. The location of the project and the aquifers that it could impact.
2. The type of project and the amount of water that it will use or discharge.
3. The natural recharge rate of the aquifers.
4. The potential for contamination of the groundwater.
5. The availability of alternative water supplies.
6. The economic and social impacts of the project.
7. The environmental impacts of the project.

Potential Impacts of Groundwater Depletion and Contamination: Studying these potential impacts empowers us to make informed decisions and safeguard both the environment and our future water security.

The Potential impacts of Groundwater Depletion include:

1. Reduce water availability for drinking, irrigation, and industrial use.
2. Increase pumping costs.
3. Groundwater subsidence, which can lead to sinkholes and other structural damage.
4. Salinization of groundwater, which can make it unfit for human consumption or irrigation.
5. Degradation of aquatic ecosystems.

The Potential Impacts of Groundwater Contamination include:

1. Health problems for people who drink or use contaminated water.
2. Damage to aquatic ecosystems.

3. Decrease property values.
4. Increase costs of cleaning up and preventing contamination.

Methodology for impact study of Groundwater includes:

1. Project scoping and data gathering: We analyze your project plans, site location, and existing hydrogeological data.
2. Detailed hydrogeological modeling: We create a model of the local aquifer system, simulating the potential impact of your project on groundwater resources.
3. Assessment of potential impacts: We identify potential changes in aquifer levels, quality, and flow patterns, and evaluate their environmental implications.
4. Development of mitigation and monitoring plans: We propose strategies to minimize and mitigate potential negative impacts and recommend a monitoring program to track the effectiveness of your mitigation measures.
5. Comprehensive report and recommendations: We deliver a detailed report outlining the findings, potential impacts, mitigation strategies, and monitoring plan, guiding your project towards sustainable development.

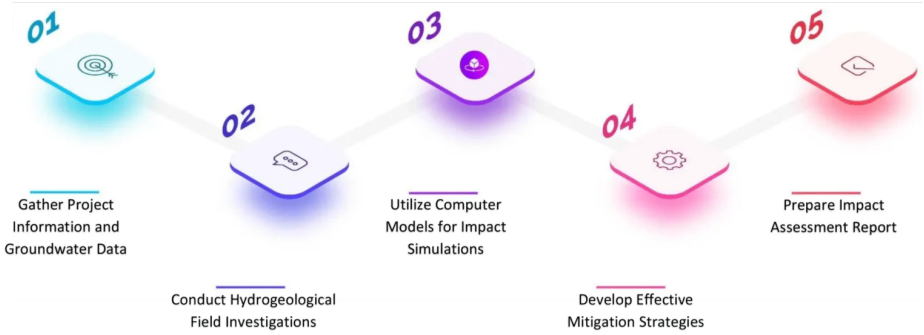

Fig. 2.4. Methodology for impact study of Groundwater

Other Aspects of Groundwater Management, are such as

1. Developing groundwater management plans
2. Designing and implementing groundwater monitoring programs
3. Investigating groundwater contamination incidents
4. Providing technical assistance to clients on groundwater issues

2.5. Net Positive Water

Net Positive Water is a concept in water resource management that refers to a situation in which an organization or a project consistently generates more water than it uses over time. It means that the organization is not only meeting its own water needs, but it is also contributing to the replenishment of local water resources.

Adopting a Net Positive Water approach helps organizations reduce their water usage, minimize their environmental impact, and contribute to the sustainability of local water resources. It is becoming increasingly important for organizations to consider their water footprint and strive for Net Positive Water as water scarcity and the effects of climate change continue to pose challenges to water resource management.

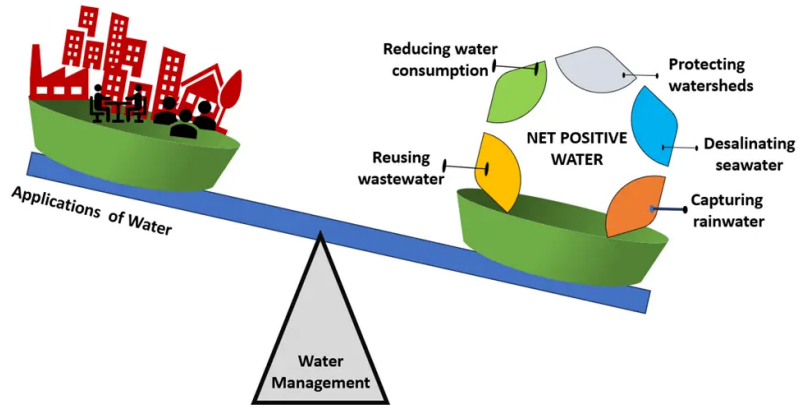

Fig. 2.5.1. Water Management Scale

Benefits of Net Positive Water

The concept of Net Positive Water seeks to address the water crisis by focusing on the amount of water that can be used for a project, rather than the amount of water that has been used. In order to achieve net positive water, a project must be able to return more water to the environment than was used in its construction.

Net Positive Water study helps companies and organizations reduce their water consumption. It also helps them understand their water footprint and find ways to reduce it by using less water or recycling wastewater for other purposes.

This study can help businesses and organizations to make informed decisions about their water use and conservation efforts, as well as provide insight into how their buildings are using water. The process also involves analyzing the current and future water needs of an organization.

Fig. 2.5.2. Net Positive Water Study

Net Positive Water Study

1. Analyzes water cycle to identify excess water generation.
2. Focuses on water used in production and consumption versus water produced.
3. Aims to return more water to the environment than used in a project's construction.

Net positive project focuses on three areas on intervention to make organization net positive

1. Own facilities
2. Surrounding interventions
3. Identification of critical areas for project implementation

Net Positive Water Assessments Includes:

1. Our goal is to help businesses become more environmentally friendly and sustainable. By reducing their water use, and increasing their recycling. Net Positive water assessments includes:
2. Data collection and analysis
3. Water efficiency project feasibility assessment
4. Water efficiency project design and implementation
5. Identification of water harvesting structures
6. Efficient utilization of water resources
7. Recharge of water bodies
8. Stakeholder Engagement

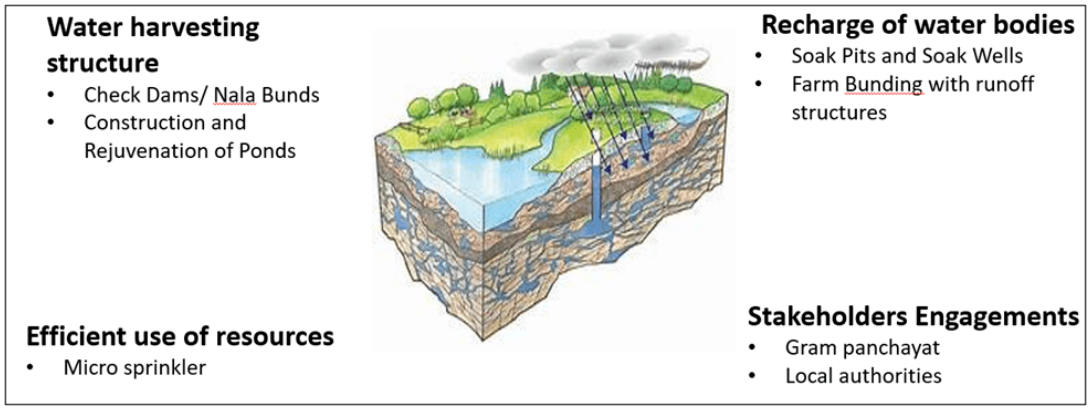

Fig. 2.5.3. Net Positive Water Assessment

Water Positivity Pillars

1. Digitalization and data collection: Utilizing technology to gather and analyze water usage data, promoting informed decision-making and leak detection.
2. Recycling and reuse of water: Implementing greywater systems and rainwater harvesting to reduce reliance on freshwater resources.
3. Reducing water footprint: Encouraging water conservation practices and optimizing water use efficiency in homes, businesses, and industries.
4. Harvesting water: Exploring alternative water sources like rainwater harvesting and desalination to supplement traditional water supplies.
5. Water policies: Establishing regulations and incentives to promote water conservation, sustainable water management, and responsible wastewater treatment.

Fig. 2.5.4. Phases for Water Policies

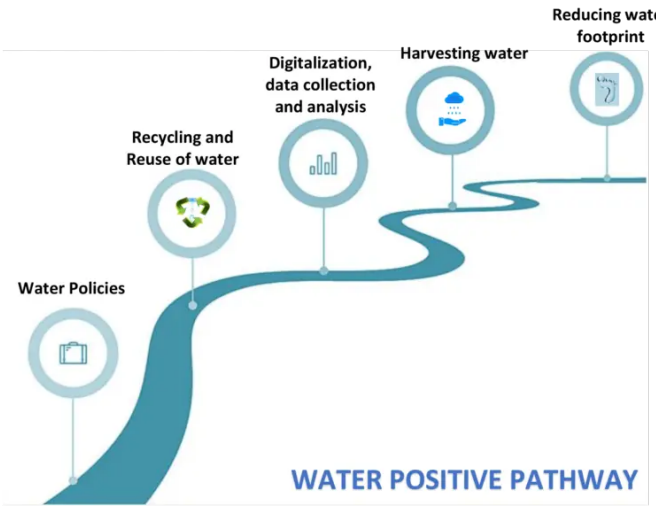

Fig. 2.5.5. Water Positive Pathway

Net Positive water assessments includes:

1. Data collection and analysis
2. Water efficiency project feasibility assessment
3. Water efficiency project design and implementation

2.6. Waste Water Feasibility Studies

Waste water feasibility studies are used to determine the cost and environmental impact of treating waste water. These studies help companies determine whether or not they will be able to afford a treatment system, as well as how much time it would take to operate the system.

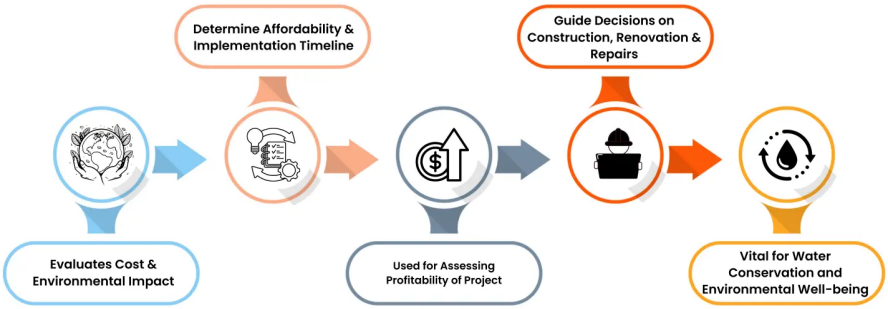

Fig. 2.6. Wastewater Feasibility Studies

Benefits of Waste Water Feasibility Studies

1. Reduced environmental impact: Minimize your ecological footprint by selecting the most sustainable treatment solution.
2. Enhanced compliance: Ensure adherence to local and national discharge regulations.
3. Optimized treatment efficiency: Choose the most cost-effective and resource-efficient system for your specific needs.
4. Informed decision-making: Gain actionable insights to guide investment decisions.

Applications of Waste Water Feasibility Studies

Waste Water Feasibility Studies are often used in commercial buildings because they help determine whether or not a building would be profitable, as well as how much it would cost to build/renovate/repair, etc., which helps businesses make decisions about which projects they

should pursue. Treating waste water is very important in times when conservation of water becomes a need for environment wellbeing.

To obtain "ZERO DISCHARGE", Industries & Facilities are setting up various water treatment units (STP, ETP & WWTP). Design and size of these plants depends on various factors like area, facility type, location, source of water etc.

1. STP (Sewage Treatment Plant)
   - Detailed study of existing sewerage scheme
   - Design of a comprehensive sewerage scheme based on projected population forecast
   - Detailed design comprising the design of various mains, sub-mains, laterals, pumping stations, etc.
   - Design as per need
   - Detailed engineering
2. ETP (Effluent Treatment Plant)
   - Analysis and feasibility studies of treating the industrial effluent
   - Design as per regulatory standards
   - Detailed drawing and budget estimation Operational Support
   - WWTP (Waste Water Treatment Plant)
   - Detailed study of existing arrangement
   - Design based on projected population forecast Detailed design
   - Design as per need
   - Detailed engineering

Waste Water Feasibility Studies Include:

1. Assessing existing conditions, including the types of wastewater treatment facilities and processes used by each plant or facility.
2. Identifying potential sites for future investments in waste water treatment facilities.
3. Determining the cost of constructing new facilities and developing new processes for treating waste water from various sources.

2.7. Water Quality Analysis

Water quality analysis is the process of testing water for different elements, such as pH level and dissolved oxygen content. Water quality analysis can be performed by a professional, or it can be done by homeowners who have access to the right equipment.

Water quality analysis is important for both environmental health and human health. For example, in order to maintain safe drinking water standards, governments around the world require that their citizens' drinking water be tested regularly for contaminants such as bacteria, lead, and pesticides.

The parameters measured will vary depending on the desired use of the water. The water may be intended for drinking, recreation, irrigation, industrial use or as a waste disposal medium.

Why Water Quality Analysis Matters

Water quality analysis is a vital process that assesses the suitability of water for different purposes, such as drinking, agriculture, and industrial usage.

1. Governments worldwide require regular testing guarantee safe drinking water.
2. Monitoring water quality is essential for the health of aquatic ecosystems.

3. Industries rely on water quality analysis to ensure that their processes operate efficiently and do not cause harm to the environment.
4. Accurate analysis aids in minimizing water wastage and maximizing productivity.

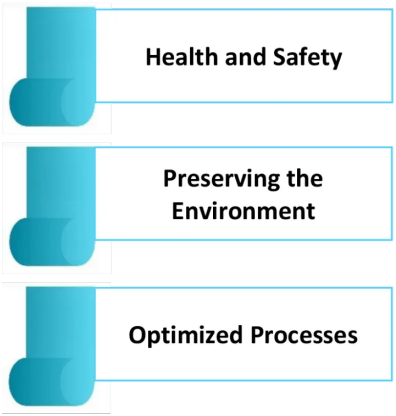

Fig. 2.7. Advantages of testing water quality

Key parameters we analyze in water quality analysis

1. Physical Characteristics
   - These indicators offer insights into potential issues and suitability for different purposes such as, pH (acidity), Temperature, Total Dissolved Solids (TDS), Turbidity (Cloudiness), Color, Odor and Taste
2. Chemical Characteristics
   - This analysis delves into the chemical composition of water, measuring parameters like pH (acidity/alkalinity), Dissolved oxygen (critical for aquatic life), Nutrients (nitrogen and phosphorus), Metals (e.g., lead, mercury), Organic compounds (pesticides, pharmaceuticals, etc.), Chemical Oxygen Demand (COD)
3. Biological Characteristics
   - To examine the presence of microorganisms such as Bacteria and Viruses

Methodology includes

1. Project scoping and data gathering
2. Tailored sampling plan
3. Advanced laboratory analysis
4. Detailed report and recommendations
5. Ongoing support and consultation

3. Environmental, Social, Governance and Sustainability – ESG

3.1. ESG Framework

Environmental, Social, and Governance (ESG) Framework is a pivotal tool that offers a comprehensive evaluation of a company's performance in environmental, social, and governance areas. ESG Framework serves as a holistic lens assess a company's impact on the environment, its commitment to social responsibility, and the effectiveness of its governance structure.

Environmental Social and Governance (ESG) Framework is a set of guidelines that help investors identify and assess the environmental, social, and governance (ESG) risks and opportunities.

Categories of ESG & Sustainability Reporting Framework:

1. Environmental: Encompassing issues like air quality, water pollution, climate change, and more.
2. Social: Covering areas such as employee rights, workplace safety, labor practices, and community involvement.
3. Governance: Including transparency, composition, compliance, and ethical policies.

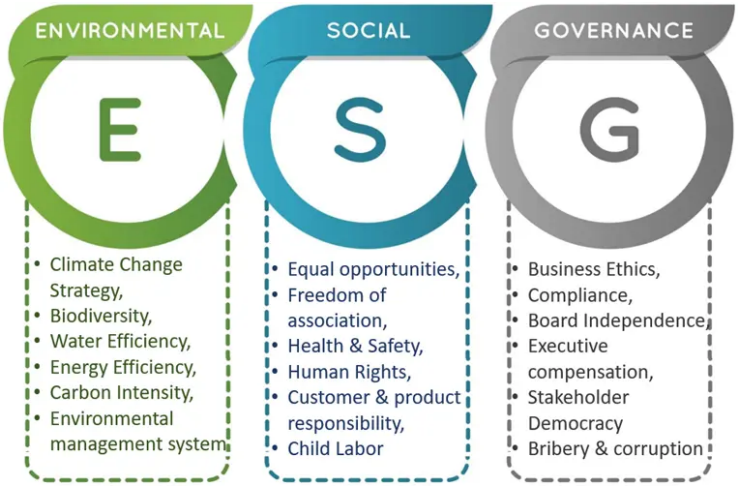

Fig. 3.1.1. ESG Framework

ESG Framework Have Five Core Pillars

1. ESG Framework Integration
2. ESG Framework Metrics
3. ESG Framework Issues and Opportunities Assessment
4. ESG Framework Integration into Investment Processes
5. Reporting on ESG Framework Activities

By implementing the ESG Framework, companies are able to:

1. Gain insight into how they are performing in specific areas related to Environmental Social and Governance (ESG) Framework.
2. Understand how to better manage those aspects of their business that impact the environment, society, and governance of their organization.
3. Leverage data and information about their own performance so that they can make more informed decisions about where they want to go next.

ESG/Sustainability reporting with ESG Framework

1. Strategic Alignment
   - Align sustainability vision with stakeholder expectations.
   - Prioritize key ESG issues through a holistic materiality assessment.
2. Efficient ESG/Sustainability Reporting
   - Streamline data collection for accurate and meaningful reporting.
   - Craft transparent ESG disclosures in compliance with standards and ESG Frameworks
3. ESG Rating Improvement
   - Enhance ESG ratings through in-depth research and gap analysis
4. Comprehensive ESG/Sustainability Services
   - Utilize global reporting ESG framework for comprehensive reporting.

- Engage stakeholders for input, integrating it into ESG strategies.

ESG Services include:

1. Materiality Assessment: Understand stakeholder expectations to articulate ESG performance clearly.
2. Data Collection: Support in gathering essential data for ESG reporting and measurement.
3. ESG Disclosures: Drafting ESG disclosures in line with legal requirements.
4. Gap Analysis: Identify gaps in ESG reporting and align with reporting standards.
5. Advisory in ESG Rating Improvement: In-depth research to improve ESG ratings and guide companies toward enhancement.
   - Need Assessment
   - ESG Gap and Maturity Analysis
   - Feasibility Analysis
   - Implementation Support
   - Carbon footprint accounting support
   - Carbon Offsetting
   - ESG/Sustainability Advisory Services
   - Advisory in ESG Ratings
6. Capacity building guides
   - ESG & Sustainability Strategy Development
   - Stakeholder Engagement and materiality Assessment
   - Guide for ESG, BRSR and Sustainability Assurance

ESG & Sustainability Reporting Framework serves as a holistic evaluation of a company's performance in environmental impact, social responsibility, and governance. The essence of ESG & Sustainability Reporting lies in empowering investors to make informed decisions about their investments based on a comprehensive overview of a company's ESG & Sustainability Reporting practices. The services extend beyond the surface, assess the risks and opportunities linked to diverse activities and offering guidance for constant improvement.

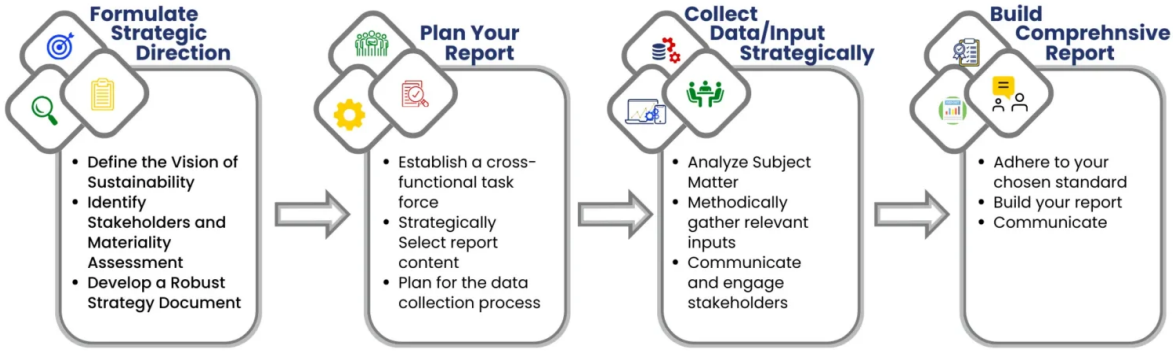

Fig 3.1.2. Steps to build a comprehensive ESG Report

ESG & Sustainability Reporting Services include:

1. ESG & Sustainability Reporting Framework Services:
   - Materiality Assessment: Understand stakeholder expectations to articulate ESG performance clearly.
   - Data Collection: Support in gathering essential data for ESG reporting and measurement.
   - ESG Disclosures: Drafting ESG disclosures in line with legal requirements.
   - Gap Analysis: Identify gaps in ESG reporting and align with reporting standards.

- Advisory in ESG Rating Improvement: In-depth research to improve ESG ratings and guide companies toward enhancement.

2. ESG & Sustainability Reporting Strategies:
   - ESG & Sustainability Reporting Strategy Development: Our experienced team crafts strategies aligning business goals with sustainability objectives.
   - Stakeholder Engagement & Materiality Assessment: We blend stakeholder input with materiality assessment to shape your sustainability strategy.
   - ESG GAP and Maturity Analysis: Identify strengths and weaknesses for sustained improvements.
3. ESG & Sustainability Reporting Disclosures:
   - Global Reporting Initiative (GRI) Framework: Leverage the most widely used global reporting framework.
   - Business Responsibility and Sustainability Reporting (BRSR): Comply with SEBI mandates for listed entities.
   - Sustainability Accounting Standards Board (SASB): Disclose material ESG topics and metrics.
   - Carbon Disclosure Project (CDP): Assess environmental impacts related to climate change, water, and forests.
   - Climate Disclosure Standards Board (CDSB): Comprehensively disclose your environmental information in line with the Climate Disclosure Standards Board.
   - Task Force on Climate-related Financial Disclosures (TCFD): Align your disclosures with the recommendations of the Task Force on Climate-related Financial Disclosures.
   - ECOVADIS Rating: Showcase your sustainability achievements through EcoVadis ratings, enhancing your credibility in responsible practices.
   - CRISIL Rating: Engage with the CRISIL Rating to underscore your commitment to sustainability and enhance your organizational standing.
   - MORNINGSTAR Sustainability Rating: Elevate your transparency and accountability by engaging with Morningstar's sustainability assessments.
   - Dow Jones Sustainability Index (DJSI): Align with a global framework for climate-related disclosures.
   - Integrated Reporting (IR) Framework: Integrate financial and non-financial information for a holistic view.
   - HIGG INDEX: Optimize your sustainability practices in alignment with the Higg Index's rigorous criteria.
   - UN Sustainable Development Goals (UN SDGs): Shape your ESG and sustainability initiatives around key SDGs.
   - MSCI (Morgan Stanley Capital International) Index: Elevate your ESG performance visibility through MSCI's assessments, enhancing investor confidence.
   - SBTi (Science-Based Targets initiative): Engage with the Science-Based Targets initiative to amplify your climate change mitigation efforts.
   - GHG Accounting: Manage your carbon footprint and demonstrate commitment to addressing climate change follows ISO14064 standard and GHG protocol
   - ISSB (International Sustainability Standards Board): Optimize your sustainability practices in alignment with the ISSB.
4. Capacity Building
   - Capacity Building: Elevate competence and understanding of ESG through our certified training courses.
   - Guide for ESG Assurance: Ensure the credibility of your ESG and sustainability reports through third-party verification.

ESG & Sustainability Reporting, collaborates to:

- Develop comprehensive strategies that align with stakeholder need.
- Bridge ESG information gaps and facilitate nstandardized disclosures.
- Navigate the intricacies of regulatory frameworks.

3.2. BRSR Report

BRSR Reporting or Business Responsibility and Sustainability Reporting is a transformative tool that empowers companies to showcase their responsible actions towards employees, customers, and the environment, serving as a testament to their social, governance and environmental performance.

This Business Responsibility and Sustainability Reporting (BRSR) format replaces the Business Responsibility Report (BRR), intertwining financial outcomes with ESG performance, and is recognized by the Ministry of Corporate Affairs (MCA) as a central repository of non-financial sustainability information, fostering accountability, transparency, and standardization across industries.

Benefits through BRSR Reporting are:

1. Enhance Transparency and Trust with stakeholders
2. Competitive Advantage and Investor Confidence
3. Risk Mitigation and ensure Compliance with sustainability regulations
4. Operational Efficiency and encourage innovative solutions
5. Employee Engagement and Community Impact
6. Strategic Alignment and Long-Term Value creation

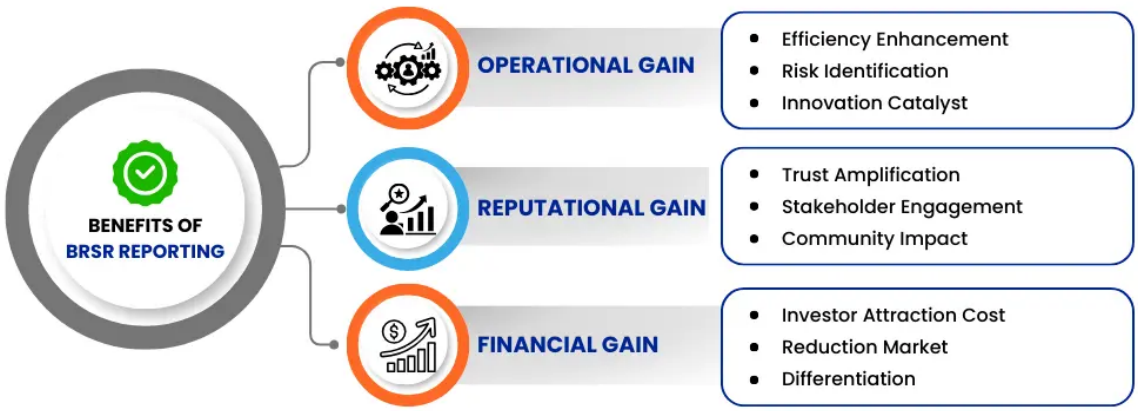

Fig. 3.2.1. Benefits of BRSR

Foundation of Business Responsibility and Sustainability Reporting (BRSR)
The Business Responsibility and Sustainability Reporting (BRSR) evolves from the extant 'Business Responsibility Report (BRR)' and 'National Guidelines on Responsible Business Conduct (NGRBC) principles', which, in turn, derive inspiration from the Sustainable Development Goals (SDGs).

Business Responsibility and Sustainability Reporting Disclosures

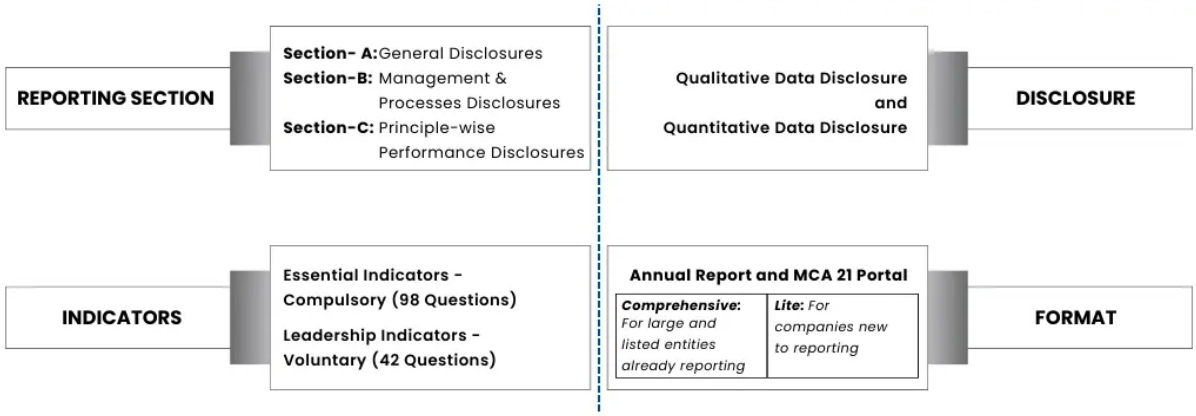

Fig. 3.2.2. BRSR Disclosures

Fig. 3.2.3. SDS – BRSR Reporting

4. Climate Change

4.1. SBTi

The Science Based Targets initiative (SBTi) is a global collaboration between CDP, the United Nations Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) that drives ambitious corporate climate action. It helps companies set science-based emissions reduction targets aligned with the Paris Agreement goal of limiting global warming to well below 2°C, preferably 1.5°C, compared to pre-industrial levels.

Setting the Stage for Transformation through SBTi and Expert
Net-zero has emerged as a paramount ESG objective. With the attention of investors, industry specialists, governments, and the public at large, the imperative is not whether companies should strive for net-zero, but rather, how to navigate this journey effectively and precisely. Whether your organization is initiating decarbonization efforts or seeking guidance to illuminate your value chain's emissions and propel your strategy, our sustainability experts assist you throughout your decarbonization expedition.

Fig. 4.1.1. Decarbonization Journey Through SBTi

Decarbonization Journey Through SBTi includes;

1. Screening: Leverage expertise and data for GHG boundary definition, screening analysis, benchmarking, and materiality assessment.
2. Baseline: Utilize data, software and expertise for GHG inventory, quantification of Scope-1, 2, and 3 emissions.

3. Emission Reduction: Harness data and expertise data to analyze energy efficiency, material reduction potential, and product efficiency.
4. Target Setting: Employ data and expertise to establish mid-term science based targets initiative (SBTi) and a long-term science based targets initiative – net-zero goal.
5. Reporting: Utilize data and expertise to ensure accurate emissions reporting and transparent stakeholder communication.
6. Action: Leverage the resources to engage with your supply chain effectively and drive innovative eco-design practices.

The outcome of the established decarbonization path culminates in shaping a climate commitment. This commitment encompasses distinct climate objectives spanning short, medium, and long timeframes, accompanied by the formulation of an ultimate net-zero goal. This specific objective requires validation from recognized benchmarks, notably the science based targets initiative (SBTi), to ensure its accuracy and alignment with scientific standards, adherence to the newly instituted net-zero standards.

Standards followed include;

1. CDP (formerly Carbon Disclosure Project)
2. ISO 14064 Standards
3. Greenhouse Gas Protocol
4. Science Based Targets Initiative Net-Zero Standard

Crucial components defining a corporate net-zero target;

1. Near-Term Science-Based Target
2. Long-Term Science-Based Target
3. Residual Emissions Neutralization
4. Beyond Value Chain Mitigation (BVCM)

Fig. 4.1.2. Crucial components for a corporate net-zero target

Methodologies

1. Formulate emissions reduction goals for Scope-1,2 and 3, including near-term science-based targets for tracking progress.
2. Establish long-term net-zero target, incorporating target boundaries, year, and calculation methodology aligned with SBTi's Net-Zero Standard.
3. Identify and apply the suitable science based targets initiative net-zero pathway tailored to your company's requirements.
4. Facilitate thorough target submission and validation process between your organization and science based targets initiative.

Science Based Target Settings

1. Initiating with registration and submission of document according with SBTi standard
2. Progressing through the science based target initiative Near Term Target Submission and Guidance
3. Advancing to the science based target initiative Net-Zero Target Submission
4. Assisting with the Target Update and guidance
5. Streamline with Target Validation System

4.2. GHG Emissions Report

GHG Emissions Reporting is the process of measuring, calculating, and disclosing the greenhouse gas (GHG) emissions released by an organization or activity. These emissions, primarily consisting of carbon dioxide, methane, and nitrous oxide, contribute to climate change by trapping heat in the atmosphere.

Greenhouse gas emissions reporting have become a focal point for organizations seeking to align their operations with sustainability goals and environmental regulations. Effective Greenhouse gas (GHG) emissions reporting enables companies to measure and manage their carbon footprint, thus contributing to a greener future.

GHG emissions reporting is crucial for businesses for several reasons:

1. Identify potential future risks associated with climate change and unearth opportunities for emission reduction.
2. Provide solid foundation for monitoring and refining climate strategies
3. Setting an internal carbon cost aids in managing future investment risks, making business decisions that consider the potential financial impacts of carbon emissions.
4. Organizations can actively participate in voluntary or mandatory GHG programs and markets.
5. Gain recognition and commendation for organizations taking proactive steps towards emissions reduction.
6. Stepping stone towards achieving carbon neutrality.
7. Enhances transparency, bolstering an organization's reputation as it communicates its commitment to environmental responsibility.

Standards Followed for Calculation & Evaluation of GHG Emissions Reporting are:

1. ISO 14064 Standards
   - Part 1: Design and develop GHG Inventories for organizations
   - Part 2: GHG Project Quantification and reporting of reductions/ removals
2. Greenhouse Gas Protocol

Fig. 4.2.1. Benefits for GHG Accounting and Reporting

Categories of GHG Emissions Reporting:
For effective accounting, GHG emissions reporting are categorized into three scopes:

1. Direct Emissions- within organizational boundary :- Emissions originating from sources owned or controlled by the reporting entity.
2. Indirect Emissions- within organizational boundary:- Emissions arising from purchased electricity, steam, cooling, or heating at a facility.
3. Other Indirect Emissions- outside organizational boundary:- Emissions related to the company's activities but not owned or directly controlled by the organization.

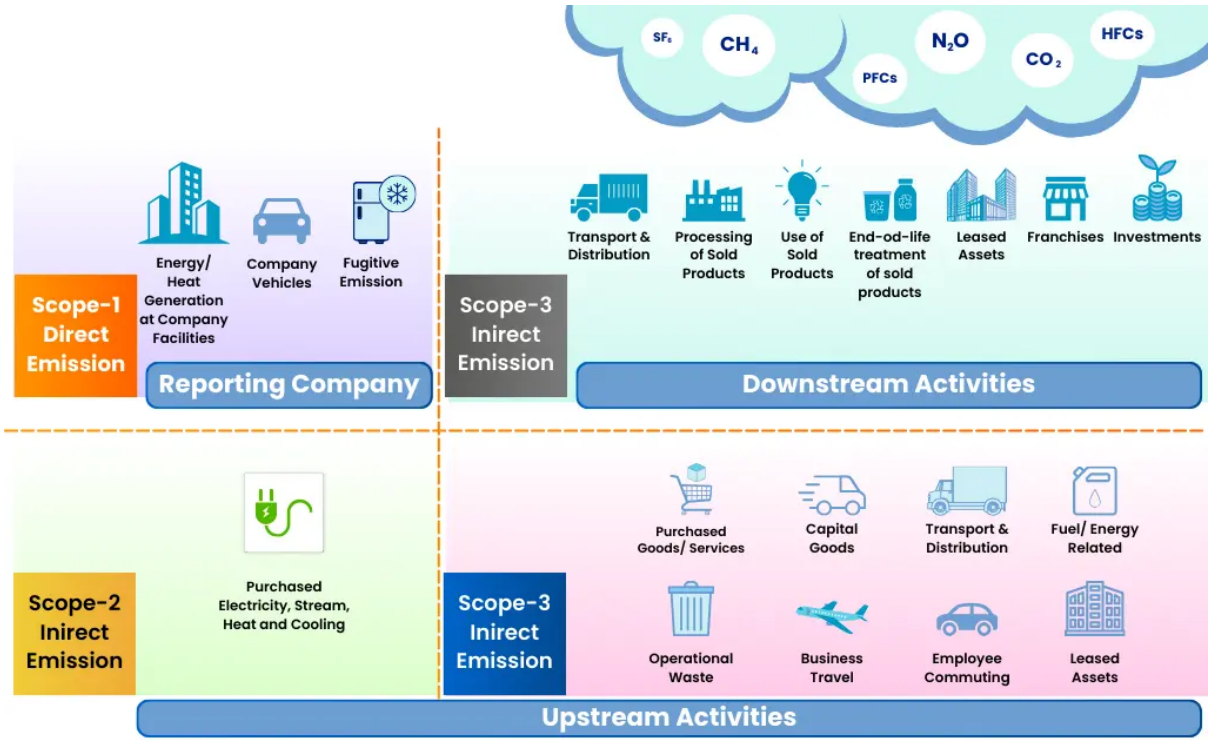

Fig. 4.2.2. Categories of GHG Emissions Reporting

Approach & Methodology for Greenhouse Gas Emissions Reporting Inventory Development

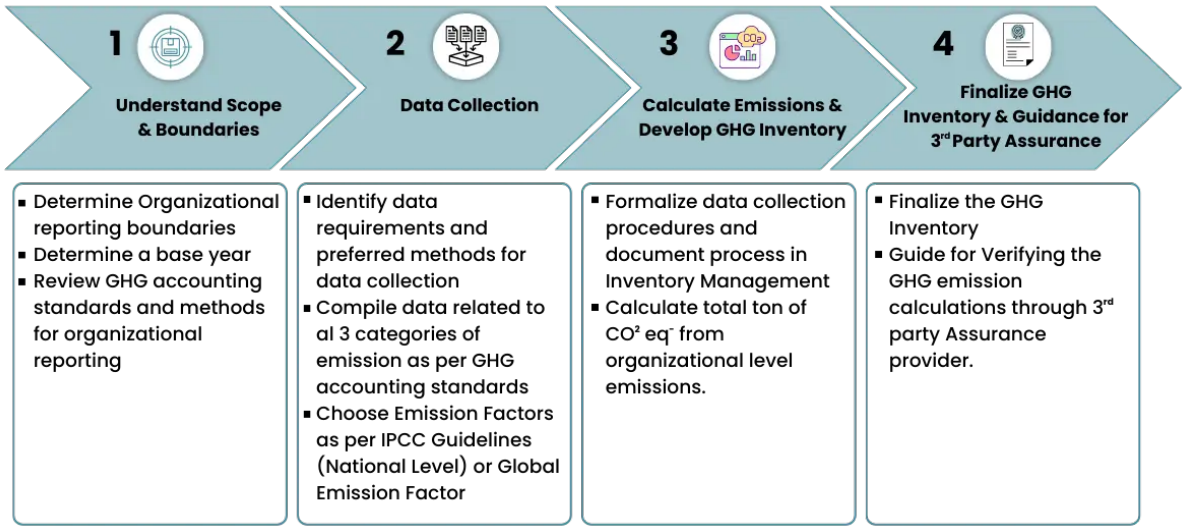

Fig. 4.2.3. Methodology for GJG Emissions Reporting Inventory Management

Services include:

1. Preparation of Inventory of Greenhouse gas emissions reporting: Identify and calculates Greenhouse gas emissions reporting according to Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and follows procedures aligned with the ISO 14064-1 standard.
2. Gap analysis: Against ISO 14064 parts 1/2.
3. Guidance for Validation and Verification: Guidance the organisation for Greenhouse gas emissions assertions, claims and reports against ISO 14064 standards.
4. Training: to help you implement ISO 14064 standard into your organisation, public and in-house training is available.
5. Implementation Workshops: facilitated workshops aimed at providing training to your organisation on how to develop a process to implement and manage the Greenhouse gas emissions reporting related issues.

4.3. Carbon Credit

Carbon Consultancy services assist organizations in managing their carbon footprint, the total amount of greenhouse gases they emit directly and indirectly. These services offer expertise and guidance to reduce emissions, comply with regulations, and achieve sustainability goals.

The urgency to address climate change compels businesses to make strategic choices that align with their environmental goals. Our carbon consultancy services offer a systematic approach that optimizes emissions reduction, ensuring a seamless transition to a greener operational framework.

Benefits of Carbon Credit

Improved decision-making: Our carbon consultants provide data-driven insights that empower organizations to make informed decisions about their carbon footprint.

Cost savings: Carbon consultancy services offer a strategic advantage by identifying and implementing cost-effective carbon reduction measures.

Risk mitigation: Organizations can mitigate their exposure to climate change liability.

Improve reputation: Help organization to improve reputation with customers and investors.
Compliance with regulations: Ensure organizations remain compliant with these regulations, avoiding fines and penalties.

Fig. 4.3.1. Benefits of carbon credit

Empowering Organizations through Carbon Credits
Carbon consultants can be a valuable resource for organizations that are looking to reduce their carbon emissions. They can provide the expertise and experience that organizations need to make informed decisions about their carbon reduction strategies. Carbon consultants can help organizations to:

1. Assess their carbon footprint
2. Develop a carbon reduction plan
3. Implement carbon reduction measures
4. Report on their carbon emissions
5. Carbon offsets
6. Improve their reputation with customers and investors
7. Stay ahead of changing regulations
8. Save money on energy costs

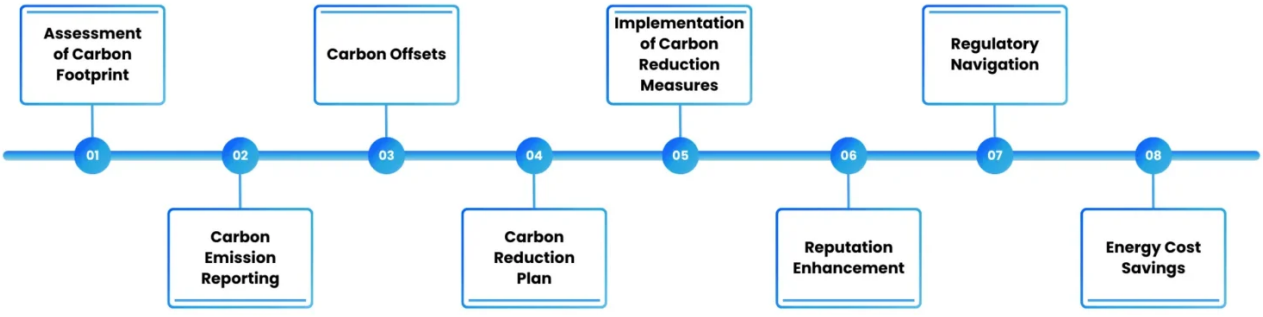

Fig. 4.3.2. Advantages of carbon credit services

Greenhouse Gas (GHG) Emissions
Corporates can make a significant impact by adopting strategies such as energy efficiency improvements, renewable energy adoption, transportation emission reduction, waste management, and carbon offsetting.

Sources of Greenhouse Gas Emissions:

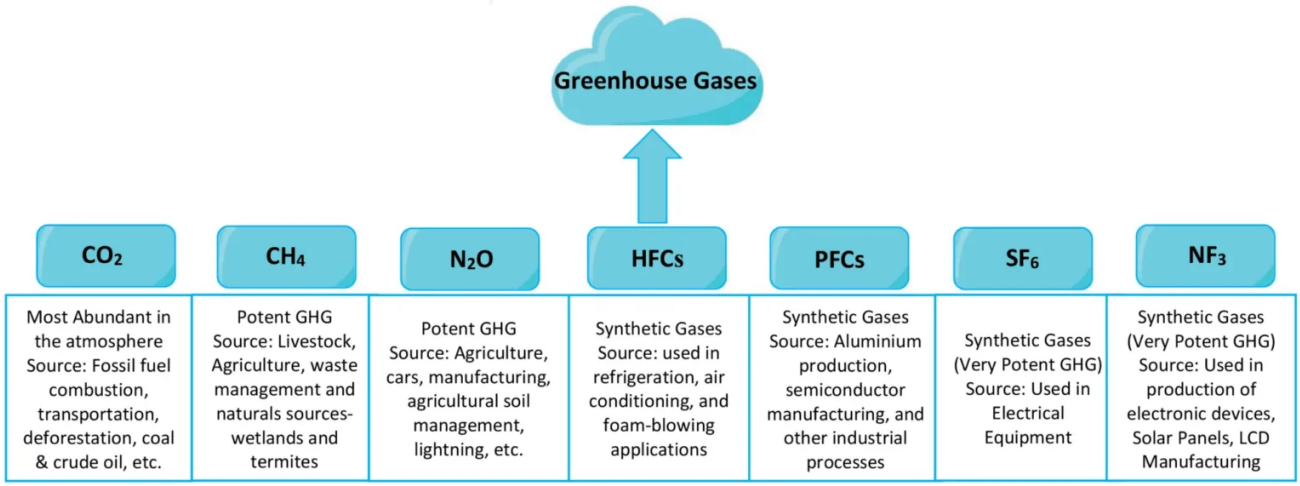

Fig. 4.3.3. Sources of GHG Emissions

GHG Emissions Calculation Methods
Calculating GHG emissions requires a multi-faceted approach. GHG emission calculation methods are:

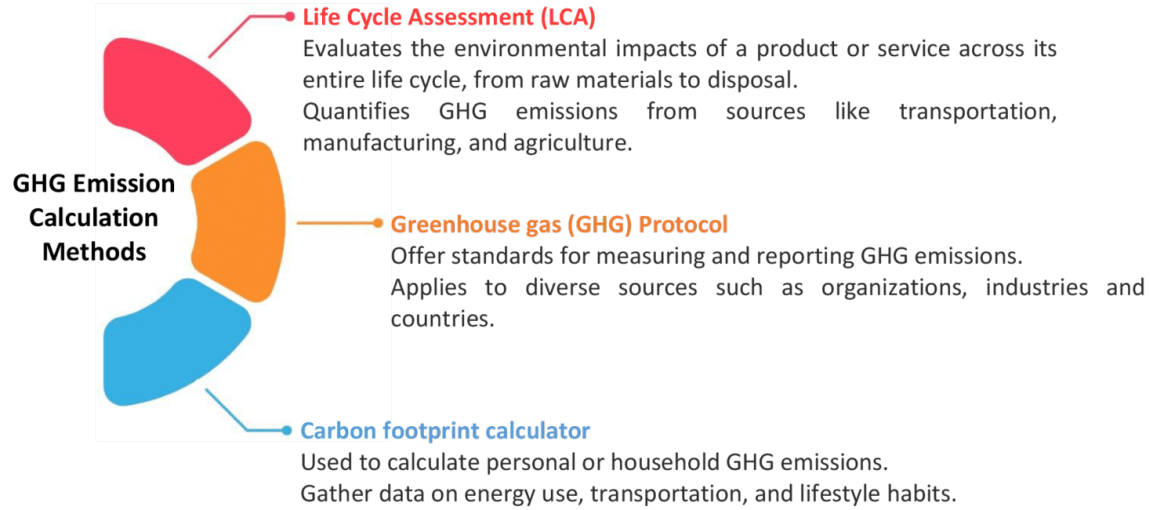

Fig. 4.3.4. GHG Emission calculation methods

Project Development

1. Identification and assessment of greenhouse gas emission
2. Preparation of long- and short-term goal of energy and emission
3. Scope-1, Scope-2 and Scope-3 greenhouse gas inventory preparation
4. Project Design Document (PDD) and other documentations
5. Regulatory compliance and procedural
6. GRI framework reporting

Registration

1. Development of methodology or standards.
2. Registration with the concern platforms (such as UNFCC for CDM, for GS).

3. Support of Carbon Disclosure Project (CDP) and Science-based targets initiative (SBTi)

Monitoring and Verification Support
1. Preparation of project assessment report.
2. Periodic assessment and monitoring.
3. Verification support and issuance carbon foot print.

Certification services of carbon credit include;
1. Clean Development Mechanism (CDM)
2. Global Carbon Council (GCC)
3. Gold standard (GS)
4. Verified carbon standards (VCS)
5. Global Emission Standards (GES)
6. ISO 14064 standard

4.4. Net Zero Report

Net Zero signifies achieving a balance between the greenhouse gases we emit and those we remove from the atmosphere. It's not just a destination, but a dynamic framework guiding businesses towards sustainable operations and a low-carbon economy.

Guide to Net Zero Framework
1. Understand: We help you map your current carbon footprint through comprehensive emissions analysis, identifying key sources and areas for improvement.
2. Strategize: We co-create a customized Net Zero roadmap, aligning sustainability goals with your business vision and market realities.
3. Act: We empower you to transition to Net Zero through expert support in:
   - Decarbonization initiatives: Reducing emissions at source through operational efficiency, renewable energy integration, and technology adoption.
   - Carbon offsetting: Compensate for residual emissions while investing in renewable energy projects.
4. Measure & Reimagine: We support continuous progress through ongoing monitoring, data-driven adjustments, and innovative solutions to keep you on track towards your Net Zero ambition.

Net Zero Services includes:
1. Carbon Emissions Mapping: Gain accurate insights into your organizational greenhouse gas footprint across all scopes (1, 2, & 3) with our tailored analysis and reporting tools.
2. Decarbonization Roadmap: We craft a practical and future-proof strategy for achieving Net Zero, prioritizing actionable steps, investment plans, and potential technology integrations.
3. Transition to Net Zero: Implementation of roadmap, tackling operational challenges, navigating policy landscapes, and securing buy-in across your organization.
4. Tailored solutions: We design strategies and services that seamlessly integrate with your existing operations and industry context.
5. Deep expertise: Our team comprises seasoned sustainability consultants, engineers, and data analysts equipped to tackle complex challenges across all sectors.

6. Data-driven approach: We leverage robust data analysis and modeling to guide your decisions, track progress, and ensure tangible results.
7. Collaborative partnership: We work as an extension of your team, fostering open communication, shared ownership, and lasting impact.

Embracing Net Zero isn't just about compliance; it's an opportunity to future-proof your business, enhance brand reputation, attract talent, and unlock innovative growth potential. We're here to guide you every step of the way, making your Net Zero journey not just achievable, but transformative.

5. Energy Management

5.1. Energy Auditing

Energy Auditing Services is a process that seeks to identify, assess, and quantify the energy-related issues of a facility. It provides recommendations for reduction in energy use and cost savings. The process is performed by an energy auditor who is qualified in the field of auditing and has experience with performing audits on all sectors.

Benefits of Energy Audit

1. Reduced energy costs: Identify and eliminate energy waste, leading to significant cost savings on your utility bills.
2. Improved sustainability: Minimize your environmental footprint by optimizing energy consumption and transitioning to renewable sources.
3. Enhanced system performance: Identify and address equipment inefficiencies, boosting system reliability and lifespan.

Applications of Energy Auditing Services

1. Commercial, residential buildings: Offices, hotels, restaurants, homes, and apartments.
2. Industrial facilities: Factories, warehouses, and production lines.
3. Public spaces: Schools, hospitals, airports, and transportation hubs.
4. IT and data facilities: Minimizing energy consumption for critical computing systems.
5. Renewable energy projects: Optimizing system performance and maximizing output.

Energy Audit Standards Code Reference

1. ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) Standards: Provide guidelines for energy audits and efficiency measures.
2. International Energy Agency (IEA) Annex L Methodology: Standardized framework for conducting energy audits in buildings.
3. Local Building Codes and Regulations: Ensure compliance with specific regional requirements for energy efficiency.

Do's of Expertise and Experience in This Field

1. Energy auditing services with accredited energy auditors certified energy auditors and managers by BEE.
2. Monitoring and targeting, measurement and verification, data collection and analysis. Monitoring is a part of ISO 50001's plan and measurement of energy saving is essential.
3. As an ESCO, we are efficient to provide solutions for energy efficiency to the public sector

4. Energy management; Energy efficiency is part of an integrated energy (& resource) solution including self-generation, demand response, etc. Good energy management is one aspect of good management. There are many no-cost and low-cost measures that could be implemented through better energy management and applying ISO 50001.
5. Implementing an energy management system can help you cut your energy costs and reduce your organization's carbon footprint. Our ISO 50001 training complement the EI's core energy management training levels by providing a more detailed understanding of implementing an energy management system based on the ISO 50001 standard.
6. Complete power quality audit consultancy services under one roof for green building certification under various green rating systems (USGBC, IGBC – LEED, GRIHA, Green Eco). Certification is the best way to demonstrate the design efforts & initiatives taken in a project which are truly "green." There are green certifications for new construction viz. IT Parks, hotels, Commercial Offices, Institutes, Government Buildings, SEZs, Townships, Residential Complexes, Factories, Commercial Interiors, and Existing Buildings & Landscapes.

Energy Auditing Services Include:

1. A walk-through of the building with an inspector who takes notes on any areas that need improvement
2. A discussion with you about your goals and how they relate to your current situation
3. An inspection of all aspects of your home or business—including insulation, appliances, lighting fixtures, windows, doors and more—to determine what needs improvement
4. Recommendations from an expert on how best to increase efficiency and save money on utility bills
5. Chemical oxygen demand (COD) (how much oxygen it takes to oxidate organic matter in the water).

5.2. Energy Management

Energy management services (EMS) are a suite of specialized services offered by us to help organizations, businesses, and even individuals optimize their energy consumption, reduce costs, and achieve sustainability goals. Energy Management Services go beyond simply monitoring energy bills and flipping off lights – it's about systematic and strategic management of your energy use.

By harnessing advances technology and leveraging our extensive engineering expertise, we tailor pragmatic investment plans that align with your core business objectives. The result is improved facility performance and reduced operating costs, all while enhancing sustainability.

Fig. 5.2.1. Benefits of Our Energy Management

Applications of Energy Management Services

1. Businesses and organizations of all sizes: From small businesses to large corporations across various industries, anyone can benefit from optimizing their energy use.
2. Commercial Building owners and managers: Efficient energy management is crucial for reducing operational costs and enhancing occupant comfort in buildings.
3. Government agencies and institutions: Public entities can set the example by adopting sustainable energy practices and reducing their environmental impact.

Pioneering Turnkey Projects

Turnkey projects follow a well-defined process that begins with a feasibility study. This study assesses the technical and financial viability of the project. Upon receiving the feasibility assessment report, detailed Engineering, Procurement, and Construction (EPC) phase is followrd. Here, meticulous planning, material procurement, and construction activities come together to turn vision into reality.

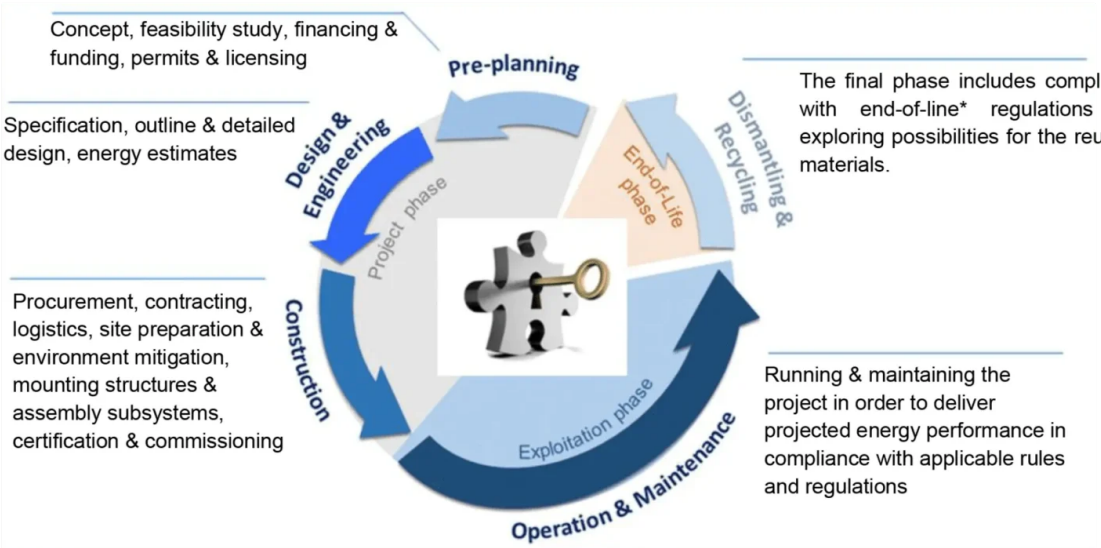

Fig. 5.2.2. Projects operation phases

Energy Management Services include:

1. Project scoping and data gathering: We analyze your energy bills, system data, and operational practices.
2. Comprehensive energy audit: We conduct a detailed assessment of your energy usage, identifying inefficiencies and potential savings opportunities.
3. Custom-designed energy management plan: We develop a tailored plan with specific strategies to optimize your energy consumption and achieve your goals.
4. Implementation and monitoring: We assist in implementing the plan, tracking progress, and reporting on achieved savings.
5. Continuous improvement and optimization: We remain readily available to refine your energy management strategy and adapt to changing needs.

5.3. Power Quality Auditing

Power Quality Audit is a process of analyzing and evaluating the quality of power supply. It is a systematic approach to evaluate the performance and reliability of the electrical system. Power quality audit determines the impact of power disturbances on equipment, services and

processes. A power quality audit is conducted to analyze the causes of poor power quality, determine additional protection requirements and verify that existing protection systems are adequate for their intended purpose.

Power quality audits can be performed before or after equipment installation, during system startup or shutdown or as part of routine maintenance activities.

Applications of Power Quality Audit

1. Industrial facilities: Factories, data centers, manufacturing plants, and critical infrastructure.
2. Commercial, Hospitals, hotels, office complexes, and retail spaces.
3. Renewable energy projects: Solar and wind farms, battery storage facilities, and microgrids.
4. Sensitive instrumentation and equipment: Laboratories, research facilities, and medical equipment.
5. Any project reliant on consistent and reliable power quality.

Power Quality Audit Standards Code Reference

1. IEEE 519: Recommended Practices and Requirements for Harmonic Control in Electric Power Systems.
2. IEEE 1159: Recommended Practice for Monitoring Power Quality Measurements.
3. IEC 61000: Electromagnetic compatibility (EMC) standards addressing various types of electrical disturbances.
4. Local Building Codes and Regulations: Ensure compliance with specific regional requirements for power quality.

Fig. 5.3.1. Power quality audit parameters

Power Quality Audit Parameters

1. Harmonics –Current THD, Voltage THD upto 49th level
2. Load current
3. Phase-phase/Neutral RMS voltage variation
4. Frequency variations
5. Ground – Neutral RMS voltage variations
6. Power Factor – Improvement in power factor

7. KW Measurement
8. Phase angle measurement
9. Transient

Power Quality Audit Services Include:

1. Power Quality Audits
2. Power Quality Assessments
3. Power Conditioning and Protection Solutions
4. Critical Infrastructure Protection Solutions
5. Reliability and availability assessment

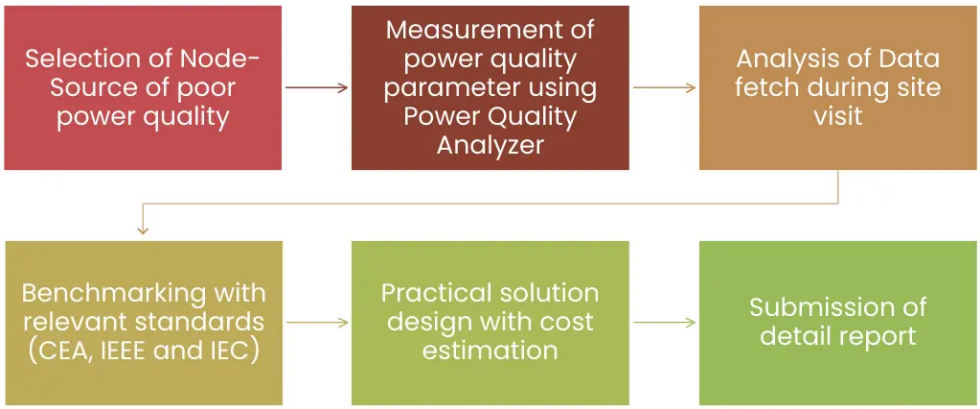

Fig. 5.3.2. Power quality audit process

5.4. Industrial Energy Auditing

Industrial Energy Auditing is a comprehensive investigation into the energy consumption of a manufacturing facility. It systematically analyzes each stage of the production process, from raw material intake to finished product, with the objective of identifying areas where energy is wasted and pinpointing opportunities for significant cost savings. This analysis encompasses equipment efficiency, process optimization, and resource utilization, aiming to minimize environmental impact and boost operational efficiency.

Benefits of Industrial Energy Audit

1. Reduced energy costs: Identify and eliminate energy waste, leading to significant financial savings on your utility bills.
2. Improved environmental footprint: Minimize your carbon footprint by optimizing energy consumption and transitioning to renewable energy sources.
3. Enhanced process efficiency: Identify and address equipment inefficiencies, boosting production output and quality.
4. Informed decision-making: Gain accurate data and insights to guide strategic investments in energy-saving technologies and upgrades.
5. Increased competitive advantage: Demonstrate a commitment to sustainability and cost-effectiveness, enhancing your market appeal.

Applications of Industrial Energy Audit Services

1. Manufacturing facilities: across diverse industries like food and beverage, chemical, textile, and automotive.

2. Power plants and refineries: Optimizing energy generation and consumption for maximum efficiency.
3. Water treatment facilities: Minimizing energy use in water pumping, purification, and distribution.
4. Mining and processing operations: Identifying energy-saving opportunities in resource extraction and processing.
5. Any industrial facility with complex energy systems and high energy consumption.

Industrial Energy Audit Services:

1. Recommendations to reduce energy consumption and achieve cost savings
2. Identify areas of energy waste and inefficiency
3. Implement targeted solutions to reduce energy consumption
4. Lower operating costs and utility bills
5. Gain insights into energy consumption patterns and trends
6. Contribute to environmental sustainability by reducing carbon emissions
7. Align with green initiatives and corporate social responsibility
8. Improve Equipment Performance
9. Compliance with energy efficiency standards and regulations
10. Avoid penalties and stay up-to-date with industry requirements
11. Address specific challenges and opportunities for improvement
12. Adapt to changing energy landscapes and future-proof your operations

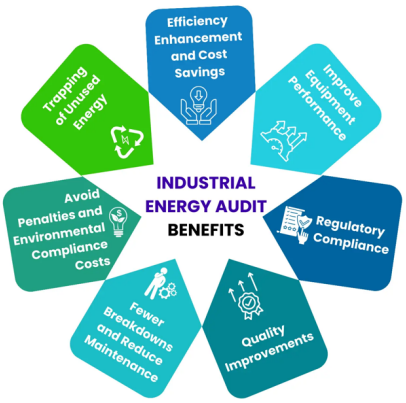

Fig. 5.4.1. Benefits of Industrial Energy Audit

Industrial Energy Audit Process

1. Comprehensive building walk-through with certified Energy Auditor, documenting areas necessitating improvement.
2. In-depth consultations with regarding your goals in relation to your present status.
3. Thorough inspection of all aspects of your property, encompassing Electricity Bill analysis, distribution system analysis, HVAC and refrigeration system, Air conditioner, Lighting system, insulation, appliances, thermal system analyses such as boilers, steam systems, hydraulic systems, fans, blowers, motors, pumps, heat exchangers, furnaces, air compressors, power quality and harmonic analysis and more, to pinpoint areas warranting enhancement.
4. Recommendations from our experts detailing the most effective strategies for boosting efficiency and trimming utility expenses.

Fig. 5.4.2. Industrial energy audit process

Array of expertise includes;

- Comprehensive energy management encompassing monitoring, targeting, measurement, and verification.
- Tailored energy efficiency solutions.
- Accomplished energy management, which seamlessly integrates energy efficiency into holistic resource management strategies.
- Assistance in facilitating energy cost reduction and carbon footprint mitigation
- Full-fledged power quality audit consultancy
- Training & Awareness Programme on Energy Conservation

Diverse Categories of Industrial Energy Audit Services

- Baseline Study for Benchmarking Industrial Energy Audit or walkthrough audit Services: Spotlighting energy-saving opportunities and estimating potential savings.
- Detailed Industrial Energy Audit Services : Yielding energy efficiency measures with financial analyses to guide prioritized implementations covering major areas including electrical and thermal energy, utility systems, water systems, and pumping systems.
- Electrical and Thermal Energy Performance Assessment: Our all-encompassing industrial energy audit evaluates every facet of your facility, including utility, thermal, and electrical systems, to generate detailed energy efficiency insights.
- Investment Grade Industrial Energy Audit (IGEA): Offering bundled measures, financial planning, and implementation strategies.
- Industrial Energy Audit under the Perform Achieve and Trade (PAT) Scheme: Complies with the Perform Achieve and Trade Scheme, which focuses on energy efficiency improvements.
- Awareness & Training Programme: Focuses on enhancing awareness and providing training related to Energy Conservation.

6. CSR Impact Assesment

Specific code of conducts (The amfori BSCI Code of Conduct, Sedex Members Ethical Trade Audit & Initiative for Compliance and Sustainability) and Standards (ISO 26000) are used for performance measurement and benchmarking in the Corporate Social Reporting Audit.

CSR Impact Assessment services include the following assessment procedure

1. Baseline assessment:We collect all relevant documents, primary data and conduct thorough assessments to understand the compliance requirement of project and establish a baseline for measuring impact.

2. Stakeholder engagement: We engage with multiple stakeholders to gather valuable data, insights and feedback, ensuring a holistic understanding of the project's impact.
3. Impact measurement: We measure both quantitative and qualitative factors through established methodologies which will measure the impact of CSR impact assessment.
4. Direct and indirect impact assessment: Our data analytics system measures both direct and indirect impact of project on communities, beneficiaries and environment.
5. Reporting: We provide concise reports, highlighting the key findings and impact achieved, mapping it to SDG goals to effectively communicate your CSR impact assessment efforts through Sustainability, ESG and BRSR reports.
6. Recommendations: Based on our data assessment, we measure the gap areas and recommend action points to enhance the effectiveness and sustainability of your CSR projects.

Baseline Assessment

1. Goals and objectives of CSR impact assessment
2. Identification of Key stakeholders (internal and external)
3. Quantitative and Qualitative Data collection
4. Demographic details
5. Project – specific metrics
6. Financial Data

Fig. 6.1. CSR Baseline Assessment

Stakeholder Engagement

1. Government agencies, NGOs, communities, Employees and other entities
2. Inclusive and respectful and culturally sensitive approach
3. Individual interviews
4. Group discussion
5. Surveys and workshops
6. Online platforms for feedback and inputs

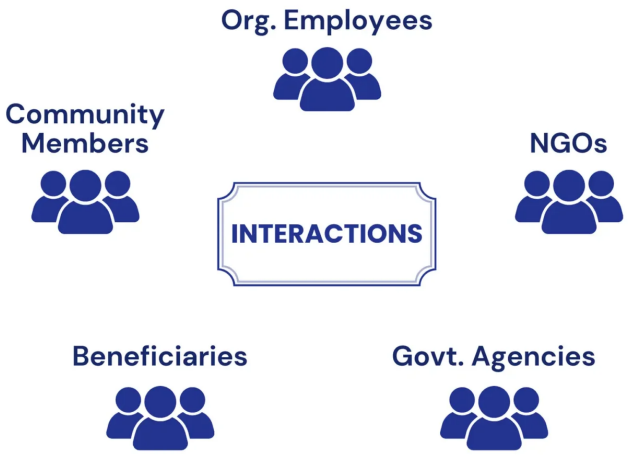

Fig. 6.2. Stakeholder interactions

Impact measurement

1. Quantification of changes
2. Qualification of changes
3. Primary and secondary data analysis
4. Identifying key performance indicators (KPIs)
5. leverage with Government reports and publically available datasheets
6. Tracking outcome and capturing outputs

Fig. 6.3. Organizational Governance

Direct and indirect Impact Assessment

1. Direct benefit analysis
2. Indirect benefit analysis
3. Identifying impact indicators
4. Socio-economic and environmental impact
5. Comprehensive assessment of Impact
6. Impact Evaluation

Reporting

1. Reporting formats
2. Frame work and standard
3. Key finding
4. Impact achieved
5. Engaging infographics
6. Data visualization
7. Return on investment (ROI)
8. Sustainable development goals (SDG goals)
9. Executive summary

Recommendations

1. Identification of strengths
2. Areas of improvement
3. Maximization of positive social, economic and environmental impact
4. Sustainability of CSR project
5. Benchmarking against industry best practices
6. Suggestion on strategies
7. Supporting implementation

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Thank you.

References

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End Note