

# Integrating Sustainability Practices into Power Generation Operations

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Environmental performance and sustainability practices are increasingly important to many industries and investors who recognise the relationship between a company's environmental performance and their financial performance. In one such industry, the electric utility sector is seeing the financial impacts of environmental issues continuing to increase due to market deregulation, increasing regulatory requirements, concern over global climate change, and growing consumer demand for environmentally responsible products and services. This case study describes how the power generation operations of a California utility company successfully integrated environmental management and sustainability practices to address market challenges. The study provides an overview of how the environmental management system was expanded to effectively manage potential risk and to incorporate high-value sustainability practices. The practices reviewed in this study have resulted in several strategic benefits, including: reducing environmental impacts; compliance improvement; protecting natural resources; effectively managing environmental costs; encouraging employee involvement and commitment; reducing environmental liability; and improving the position of the business for the future.

- Electric utility
- Environmental management system
- Sustainability
- Sustainable development
- Power generation

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**E**NVIRONMENTAL PERFORMANCE AND SUSTAINABILITY PRACTICES ARE BECOMING increasingly important to industry because investors are recognising that there is a strong correlation between environmental performance and financial performance. Potential financial risks in the electric utility sector related to environmental issues continue to increase because of factors such as exposure to new regulatory requirements, growing concern over global climate change, and increased customer demand for environmentally responsible products and services. This case study highlights how environmental management and sustainability practices were successfully integrated into the power generation operations of a California utility company to address these ongoing market challenges.

Power Generation is the business unit in Pacific Gas and Electric Company (PG&E) that manages the operation of two fossil-fuelled power plants and 26 hydroelectric projects that provide electric capacity of over 4,000 megawatts (MW). PG&E is one of the largest investor-owned utility companies in the country, delivering electric service to approximately 4.8 million customers and gas service to approximately 3.9 million customers in northern and central California. This case study includes an overview of the Power Generation environmental management system (EMS), initiated in 1996 and modelled on the ISO 14001 standards established by the International Organisation for Standardisation (ISO) based in Geneva, Switzerland. The EMS process includes risk evaluations, environmental strategic planning, compliance programme implementation, audits and corrective action, management review and continuous improvement.

The Power Generation EMS has been expanded to address other environmental, economic and social issues affecting the business based on reviews of other comprehensive programmes in the electric utility sector. For the sake of this study, sustainability practices refer to those business practices in the areas of environmental protection, economic return and social equity that are sustainable over the long term. The electric utility sector has been a leader in promoting sustainable development programmes, especially those companies located in countries that have established greenhouse gas reduction targets established in the Kyoto Protocol. International business councils have worked with companies in the electric utility sector to develop models of comprehensive sustainable development programmes.

Many companies are expanding typical financial and environmental reporting by issuing reports on the status of their sustainability programmes in triple-bottom-line or corporate responsibility reports. The triple-bottom-line reports provide an integrated view of the financial, environmental and sustainability performance indicators and programmes, including:

- ▶ Environmental protection and resource conservation, both local and global
- ▶ Economic prosperity and continuity for the business and its stakeholders
- ▶ Social well-being and equity for both employees and affected communities

Investment research firms often conduct environmental and sustainability screening of potential investments to assess overall risk and profit opportunities. A summary of the environmental and sustainability areas most important to investors related to the Power Generation business is included in this case study. This case study also summarises how the sustainability practices with the highest strategic value are prioritised and integrated into the Power Generation EMS and provides recommendations to better leverage these practices for strategic value in the future.

## Environmental management system: a strong foundation

Companies with a strong EMS will find it much easier to integrate expanded sustainability practices into their business operations. In 1996, Power Generation began implementation of an EMS based on the ISO 14001 standards. Over the last decade, California has implemented electric market restructuring, which has been widely publicised. One of the requirements of restructuring was that the utility had to sell or divest over half of its generation assets, which was completed in 1999. By 2005, more electric power was needed and the utility made plans to invest in new generation assets. The EMS has been shown to be a strong foundation for managing the environmental programme even when faced with significant changes in the asset portfolio and market structure. The key elements of Power Generation's EMS are illustrated in Figure 1.

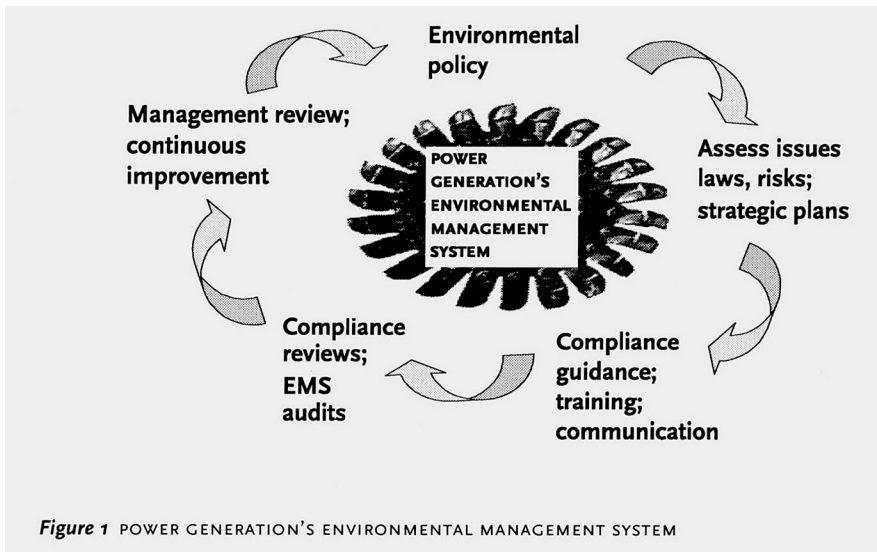


Figure 1 POWER GENERATION'S ENVIRONMENTAL MANAGEMENT SYSTEM

A discussion of how the EMS elements have been integrated into business operations and kept pace with significant changes in the business and energy markets is presented below.

### Environmental policy

The EMS process begins with a strong environmental commitment from the top of the corporation. Pacific Gas and Electric Company has had strong environmental policies in place for over ten years. One area of policy directs lines of business to develop programmes that foster environmental excellence as a contributor to shareholder value, and incorporate such policies into business plans. These policies have remained in place regardless of upturns and downturns in the market. Power Generation uses the EMS approach to integrate environmental goals and objectives into its business operations.

### Environmental strategic planning

Power Generation's EMS includes an environmental strategic planning process to prioritise strategies to be included in its business plans. The purpose of environmental strategic planning is to:

- ▶ Ensure that the business addresses environmental issues in a uniform manner consistent with corporate and business unit financial and environmental goals
- ▶ Identify internal and external market issues and trends that could affect the ability to achieve the financial and environmental goals
- ▶ Identify and prioritise strategies to achieve business and environmental goals based on an assessment of compliance requirements, costs impacts and potential environmental risks
- ▶ Identify environmental strategies that can minimise competitive disadvantages and retain/improve competitive advantages

The key to effective environmental strategic planning is its flexibility to adapt quickly to changes in asset portfolio, regulatory changes or other significant environmental conditions. The steps used to prioritise environmental strategies are outlined below.

- ▶ Review of operational issues: focusing on any potential changes in facility operations, equipment, materials, etc. that could result in environmental impacts or trigger regulatory requirements
- ▶ Regulatory trends: including known and forecasted legislative or regulatory changes that could have an impact on company operations
- ▶ Environmental risk assessment: including prioritisation of potential environmental risks to air, water, land, sensitive habitat, etc. from operations
- ▶ Permitting and compliance requirements: summarising key permitting and compliance requirements for each facility in the near term (one year) to long term (2–5 years)
- ▶ Economic analysis of compliance options: assessment of various compliance strategies and associated short-term and long-term costs

The flow chart provided in Figure 2 illustrates the planning, improvement and measurement elements included in the environmental strategic planning process.

One of the key elements of the environmental strategic plan that differentiates it from routine business planning is the focus on the highest potential environmental risk and compliance needs based on a clear understanding of operational issues. The strategies selected are based on the most cost-effective recommendations for regulatory compliance while achieving the greatest reduction of environmental risk.

Reducing environmental impacts is a key business driver for implementing an EMS. Investments in environmental risk reduction are planned over the long term based on system-wide risk assessments. Power Generation projects targeted in the risk reduction programme have included air emission reduction projects, underground tank replacements, paint stabilisation projects, oil spill prevention projects and oil-filled electrical equipment replacements.

#### Guidance, training, communication

The next step in the EMS is implementation of a comprehensive regulatory compliance programme, which includes guidance, training and communication plans. The benefit of the integrated compliance programme described below is ongoing compliance improvement.

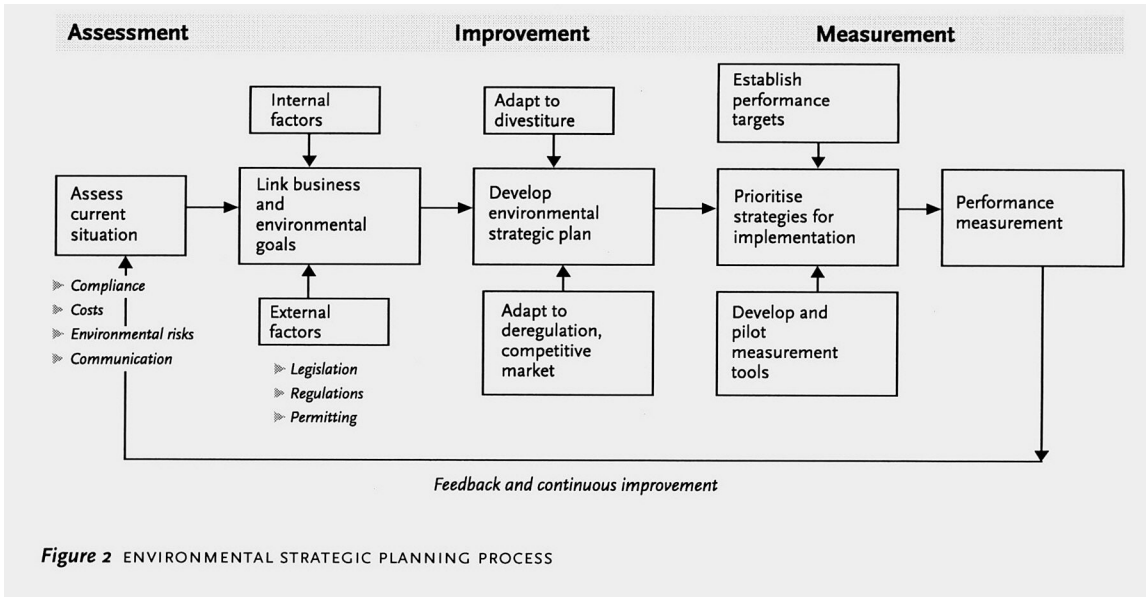


Figure 2 ENVIRONMENTAL STRATEGIC PLANNING PROCESS

*Integrating guidance into work practices*

Integrating efficient regulatory compliance guidance into operational work practices is an ongoing process. Guidance is updated regularly to address changes in regulatory requirements or to incorporate feedback from field staff on more efficient methods for compliance.

One of the most important guidance documents developed has been the comprehensive Pre-Job Planning Guidelines. These guidelines outline all regulatory areas to be reviewed before beginning work activities and construction projects. The guidelines integrate all regulatory requirements, including safety, environmental, Federal Energy Regulatory Commission (FERC) Licence, dam safety and other factors that may need to be addressed in pre-job planning. Screening for regulatory permits and approvals is also a component of this process.

In 2003, improvements were made in the pre-job planning process to incorporate methods to streamline regulatory requirements and reduce potential environmental impacts. Project managers and planning support teams are trained to meet early in the planning process to adjust job scope, timing, location, etc. to reduce potential impacts to land, water quality, sensitive species and cultural resources. This effort has reduced safety and environmental risks, improved compliance with permit and regulatory requirements, avoided project time delays and reduced compliance costs.

*Training plans and resources*

Training plans have been developed that include a matrix of all department positions and the corresponding training requirements in all regulatory areas. Completed training is tracked on a database and reports can be run to track completion of the employee's assigned training courses. Training is provided on all new or revised compliance guidance documents on a regular basis. Training resources are provided that include 'tailboards', or quick lessons, training courses, on-the-job training and computer-based training programmes, which can be tailored to the employee's training needs.

### *Environmental communication plans*

Communicating with internal and external stakeholders about the environmental programme is an important element of the EMS. The communication plans include regular reporting internally and externally regarding the progress in meeting environmental performance objectives and other initiatives. The PG&E Annual Corporate Responsibility Reports are available to the public on the PG&E website at: [www.pge-corp.com](http://www.pge-corp.com).

### Compliance reviews and EMS audits

#### *Compliance review and corrective action programme*

In order to ensure that compliance guidance and training are effectively implemented at field locations, Power Generation developed a compliance review programme. Environmental compliance reviews are conducted on a regular basis to verify that staff are implementing compliance requirements efficiently and effectively. In 2005, the compliance review programme was expanded to include processes to identify the root cause of assessment findings and implement corrective action plans.

#### *EMS audit and improvement plan*

In order to evaluate the effectiveness of the EMS programme, Power Generation completed an EMS audit in 2001. The independent evaluation was performed using the ISO 14001 Environmental Management System Self Assessment Checklist developed by the Global Environmental Management Initiative (GEMI 1996). The audit tool is an excellent resource to identify potential gaps in the EMS programme and areas for potential improvement. The overall Power Generation EMS programme was ranked in the mid-high range. Some of the areas identified for improvement included:

- ▶ Improve integration of EMS programme with financial/business planning
- ▶ Improve environmental risk assessment process/model; clarify how high-risk areas are addressed in setting environmental targets/objectives
- ▶ Improve environmental programme budget management; identify opportunities to reduce compliance costs
- ▶ Improve budget forecasts for compliance with new regulatory requirements and prioritised risk reduction measures
- ▶ Continue to promote integration of environmental considerations into business decision-making

In 2005, a field-focused EMS audit is being conducted to determine if there are opportunities to improve employee tools to facilitate day-to-day compliance work management. The need for this type of audit was identified due to the increasing number and complexity of new licence, permit and regulatory requirements, and because the requirements can vary by assigned work location.

### Performance measurement and management review

In order to motivate employees to accomplish environmental goals and objectives, key metrics are linked to performance targets and individual performance plans. A portion of an employee's pay is tied to the performance incentive plan and merit pay plan, which include specific environmental compliance performance targets.



Management review and feedback is a critical element of the EMS. Environmental programme costs, initiatives and performance metrics are reviewed with management in conjunction with the budget approval cycle. Key initiatives are also reviewed at regular intervals with the company’s chief financial officer. Incorporating feedback from management reviews drives efforts for continuous improvement of the environmental management programme.

Expanding the EMS to cover a broader range of environmental, economic and social issues was determined to be a critical factor in becoming a top performer in the electric utility sector, as summarised in the following section.

### Sustainability in the electric utility sector

The Power Generation sustainability practices were selected after conducting a review of similar programmes in place in the utility industry. In recent years, a number of multinational corporations have established highly visible sustainability programmes, including companies in the electric utility sector. The World Business Council for Sustainable Development (WBCSD) issued a report, *Sustainability in the Electric Utilities Sector* (WBCSD 2002). The report explores the sustainable development issues and challenges within the electric industry. It provides an assessment of the industry’s current practices and identifies strategies that could help the sector progress towards its sustainability objectives. Some of the key recommendations for sustainable development principles and objectives for electric utilities are outlined in Table 1.

Another tool available to screen potential sustainability strategies is the Sustainable Development Planner developed by GEMI (2002). Contributing GEMI work group

Principle	Objective
Guiding vision and goals	Develop a clear vision of sustainable development and define the objectives that define the vision
Holistic perspective	Adopt a holistic and integrated view of the role and impacts of utility operations
Precautionary approach	Adopt a precautionary attitude and modify electric utility operations where possible, consistent with scientific/technical understanding, to prevent serious or irreversible environmental degradation
Essential elements	Consider the essential elements of economic development, environmental quality and social equity in utility operations
Adequate scope	Adopt a time horizon long enough to capture both human and ecosystem time-scales, where possible, and deal with a large enough space to capture local and long-distance impacts
Openness	Apply transparency in operations, including measurement and interactions with government and the public
Effective communication	Report on activities and progress, and disseminate information in an appropriate manner
Participation	Adopt a participatory approach to operations and evaluations
Institutional capacity	Contribute to greater understanding and capacity of sustainable development and the role of electric utilities

Table 1 SUSTAINABLE DEVELOPMENT PRINCIPLES AND OBJECTIVES FOR ELECTRIC UTILITIES

members included representatives from the electric utility sector: for example, Duke Energy, Southern Company, Mirant Corporation and Georgia Power. The planner tool can be customised to focus on those areas that are most relevant to the business. The tool includes a self-assessment, gap analysis, goal setting and proposed action items for continuous improvement in specific areas of sustainability. Other utility environmental and sustainability programmes reviewed included Manitoba Hydro's sustainable development policy adopted in 1993; triple-bottom-line reports from BC Hydro (2000) (British Columbia, Canada) and Wisconsin Energy; and Hydro Quebec and PacifiCorp's expanded environmental performance reports that also cover their sustainable development programmes.

This screening and assessment of potential sustainability practices demonstrated that there were common elements in electric utility sustainability programmes, including sustainability guidelines or principles, environmental performance indicators that tracked reduction in environmental impacts, products and services offered that were responsive to customer and stakeholder interests, and promotion of new business opportunities capitalising on products and services with positive environmental attributes, such as renewable energy.

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### Investor environmental and social screening indicators

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Investors are recognising that there is a strong, positive, growing correlation between industrial companies' environmental performance and their competitiveness and financial performance. Investor risk exposure related to environmental issues is growing in the electric utility sector owing to factors such as increasing regulatory requirements, growing customer demand for environmentally responsible products and services, increasing public concerns about climate change and potential environmental litigation. Investment research firms conduct studies of companies' environmental and sustainability performance. Two of the investment research studies are described below, including the Innovest Strategic Advisors Eco-Value Rating (Innovest 2002) and the Dow Jones Sustainability Index (DJSI 1999).

Innovest Strategic Value Advisors is an internationally recognised investment research and advisory firm specialising in analysing companies' environmental and social performance and their impact on competitiveness, profitability and share price performance. Innovest uses its Eco-Value Rating to benchmark eco-efficiency programmes among various industry groups. The rating is based on performance in environmental strategy, risk factors, strategic profit opportunity, and eco-efficiency initiatives. Another environmental and sustainability screening tool is the Dow Jones Sustainability Index (DJSI 1999). The DJSI is the world's first global index tracking the performance of leading sustainable corporations worldwide. Duke Energy was included in the 2003 Dow Jones Sustainability World Index.

The Dow Jones Sustainability Index (DJSI 1999) defines sustainability as:

A business approach to create long-term shareholder value. Sustainability leaders embrace opportunities and manage risks which derive from economic, environmental and social developments. As the importance of these trends increases, a growing number of investors integrate economic, environmental and social criteria into their stock analysis and use sustainability as a proxy indicator for innovative and future-oriented management.

The investor screening tools were evaluated to determine the most critical environmental and sustainability performance measures used by the research firms. The areas of greatest interest to investors are summarised in Table 2.



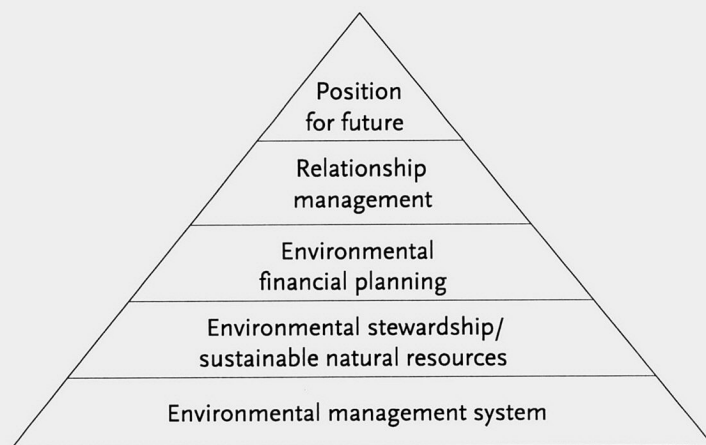
Environmental and sustainability screening area	Highest investor interest
Environmental strategy	<ul style="list-style-type: none"> <li>▶ Environmental policy</li> <li>▶ Environmental management system</li> <li>▶ Training programme</li> <li>▶ Audit programme</li> <li>▶ Compliance performance</li> <li>▶ Environmental factors integrated into business planning</li> </ul>
Environmental performance	<ul style="list-style-type: none"> <li>▶ Energy use</li> <li>▶ Renewable energy</li> <li>▶ Air emissions profile</li> <li>▶ Greenhouse gas profile</li> <li>▶ Materials procurement: life-cycle assessments</li> <li>▶ Waste reduction</li> <li>▶ Water use</li> </ul>
Risk factors	<ul style="list-style-type: none"> <li>▶ Exposure to new regulations</li> <li>▶ Site liabilities</li> <li>▶ Litigation risk</li> </ul>
Strategic profit opportunity	<ul style="list-style-type: none"> <li>▶ Environmental proactivity to enhance market image</li> <li>▶ Business development in sustainable products/services</li> <li>▶ New renewable energy</li> <li>▶ Green power marketing</li> <li>▶ Testing of new technology with positive environmental attributes</li> </ul>
Sustainability initiatives	<ul style="list-style-type: none"> <li>▶ Triple-bottom-line reporting: environmental, economic, social</li> <li>▶ Energy efficiency</li> <li>▶ Natural resources protection</li> <li>▶ Land/biodiversity protection</li> <li>▶ Water use efficiency</li> </ul>
Social factors	<ul style="list-style-type: none"> <li>▶ Stakeholder relationship management</li> </ul>

**Table 2** ENVIRONMENTAL AND SUSTAINABILITY SCREENING AREAS, HIGHEST INVESTOR INTEREST: ELECTRIC UTILITY SECTOR

## Integrating sustainability practices

Power Generation uses the EMS strategic planning tool to screen and prioritise the best potential environmental and sustainability practices identified in the review of other electric utility sector programmes and areas of highest interest to potential investors.

The EMS process is used to incorporate these sustainability practices into the business operations because it is more efficient that setting up a new and separate sustainability programme. The areas where the EMS has been expanded include environmental stewardship and sustainable natural resources, environmental financial planning, relationship management and positioning for the future, as illustrated in Figure 3, and discussed in more detail below.



**Figure 3** INTEGRATING SUSTAINABILITY PRACTICES INTO AN EMS

### Environmental stewardship/sustainable natural resources

#### *Environmental stewardship*

The company's environmental policy is to foster environmental excellence as a contributor to shareholder value. The awards and recognition the company receives for environmental stewardship projects and partnerships are regularly highlighted in shareholder notices and meetings. Planning and prioritisation of stewardship projects is done in conjunction with the EMS planning process, including evaluating potential environmental benefits, costs, supplemental funding sources, and the importance of the recovery or restoration project to resource agencies. The benefits of environmental stewardship projects are the protection of natural resources and the building of trust through collaborative partnerships with key stakeholders. Some examples of Power Generation's environmental stewardship projects are summarised below.

The company successfully completed two collaborative processes to better balance use of natural resources associated with the Mokelumne River and Rock Creek-Cresta Hydroelectric Projects, in conjunction with the relicensing proceedings for these projects. These collaborative efforts were awarded the National Hydropower Association's Outstanding Stewardship of America's Rivers Awards in 2003.

#### *Sustainable natural resources*

The EMS risk assessment process includes an assessment of the natural resources affected by the production of products and services provided by the company and opportunities to reduce those risks. In the case of Power Generation operations, the product is electricity, which consumes various types of fuel and can potentially have an impact on air quality, water quality and sensitive species.

The Power Generation portfolio includes 3,896 MW of hydroelectric power, which is a clean, renewable source of electricity. Hydropower produces no air emissions and no greenhouse gases. In addition to providing a sustainable energy resource, the company works collaboratively with other stakeholders in ensuring the water resources and fisheries potentially affected by hydroelectric operations continue to function at sustainable levels.

The FERC provides oversight in balancing energy, environmental, recreation, fish and wildlife habitat, and other multi-use aspects of hydroelectric projects during licensing proceedings. Twenty out of the company's 26 FERC-licensed hydroelectric projects will be involved in major environmental reviews and licensing proceedings in this decade, 2000–2010. The success of these licensing activities will be significantly influenced by the collaborative partnerships set up to balance multiple public benefits from the resources associated with the hydroelectric projects.

An example of a broad-based collaborative effort is the Battle Creek Salmon and Steelhead Restoration Project. The Battle Creek watershed provides a habitat for spring-run Chinook salmon and steelhead trout, species listed for protection under the Endangered Species Act. This project was ranked as a high priority for fishery recovery by state and federal resource agencies. The groups participating in the collaborative include state and federal resources agencies, environmental groups and private foundations. This restoration project and partnership received the California Governor's Environmental and Economic Leadership Award for Ecosystem Restoration in 1999.

### Environmental financial planning

In 2003, Power Generation improved the integration of its EMS environmental planning process with the financial planning systems. The benefit of improved environmental financial planning is that it ensures effective management of environmental costs and ensures that these costs are considered in business decision-making and long-term strategic planning. The components of the environmental financial planning process include:

- ▶ Environmental strategic plans: identifying business drivers, regulatory requirements and prioritised risk reduction projects, including short-term and long-term cost projections
- ▶ Environmental programme management agreement: outlining responsibilities of environmental programme and financial business planners for the funding, budgeting and reporting on elements of the environmental programme
- ▶ Environmental programme budgeting guidelines: including environmental accounting practices for budgeting and tracking environment-related costs
- ▶ Environmental programme performance profiles: including the environmental and financial performance information that is reported to the chief financial officer on a regular basis, which is part of the EMS management review process
- ▶ Environmental financial planning calendar: aligning the timing of environmental strategic planning with the business financial planning and reporting processes

### Relationship management

The EMS planning process has been expanded to identify and address key concerns of regulatory agencies, non-governmental agencies, environmental organisations, local community groups and employees related to Power Generation operations. These issues are addressed in Power Generation's Relationship Management Plan. The issues are critical in maintaining long-term, positive relationships with these key stakeholders. It is also critical to encourage employee involvement and commitment to improvement in environmental programme performance. Examples of Relationship Management Plan components are provided below.

### *Community advisory committees*

The company has an environmental justice (EJ) policy and procedure that directs staff to identify potentially significant EJ concerns, work co-operatively with communities and take actions to address their concerns. Power Generation's fossil-fuelled power plants located in San Francisco and Humboldt counties each have advisory committees that allow local-community representatives to participate and hear about upcoming activities involving plant operations and to raise any concerns or questions.

### *Resource agency and stakeholder relationships*

Power Generation has developed an outreach plan that identifies key stakeholders, including resource agencies, environmental organisations, community groups, Native American Tribes and non-governmental organisations that have interest in the hydro system. These groups are involved to varying degrees in hydro relicensing activities. Some hydro projects have local Ecological Resource Committees, consisting of representatives of key stakeholder groups, which participate in the decision-making related to project operations and watershed enhancement activities.

### *Employee recognition and involvement*

The company has a recognition programme that honours teams or individuals for environmental leadership. Over 50 Power Generation employees have been nominated for their efforts in various environmental initiatives. The company also has a Volunteer Stewardship Programme that promotes opportunities for employees and their families to work on restoration and clean-up projects throughout their local communities and state parks.

### Positioning for the future

The Power Generation EMS includes the strategic planning area that focuses on positioning the business for the future. This area emphasises retaining asset value and reducing potential long-term environmental liability through ongoing efforts to reduce environmental impacts. In 2005, an environmental screening tool was developed to ensure potential investment in new generation projects is evaluated for potential impacts to the environment and local communities, in addition to economic factors. Power Generation's screening of asset value impacts associated with potential acquisitions and divestiture of power generation assets over the last several years has demonstrated that asset value is clearly enhanced when facilities have demonstrated a long-term commitment to high environmental standards, have good working relationships with their regulatory agencies and are viewed as good neighbours by their local communities. Ensuring that assets in the portfolio and future business initiatives are screened, selected, located and managed using appropriate environmental, economic and social indicators will help to improve the position of the business for sustainable returns in the future.

One of the benefits of the investment in the EMS and sustainability practices is that it has put the company in a good position to be rated highly by investors that integrate economic, environmental and social criteria into their stock analysis and use sustainability as an indicator for innovative and future-oriented management. Fully capturing the strategic value of these practices is still a work in progress. An internal assessment was conducted to determine how these practices could be more effectively leveraged for strategic value. In 2003, Power Generation used the GEMI Sustainability Planning Tool (GEMI 2002) to evaluate potential improvement in the strategic application and value of sustainability practices. Areas identified for potential improvement, which are being incorporated into the EMS management review process, included:

- ▶ Confirm support for sustainability practices from upper management
- ▶ Improve communication of sustainability practices with internal and external stakeholders, e.g. triple-bottom-line or corporate responsibility reporting
- ▶ Improve collaborative efforts with specific stakeholder groups
- ▶ Improve integration of environmental attributes and sustainability measures into investment decisions

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## Conclusion

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Environmental performance and sustainability practices are becoming increasingly important to industry because investors are recognising the strong relationship between a company's environmental performance and its financial performance. The electric utility sector has responded to the increasing risks posed by environmental concerns by adopting comprehensive sustainability programmes that address environmental, economic and social issues. This case study identified some examples of comprehensive sustainability programmes and areas of highest importance to potential investors in this industry sector. This type of research has assisted the business in this case study to identify potential high value practices to include in a comprehensive programme.

As demonstrated in this case study, integrating sustainability practices into a company's existing EMS can expedite the use of these practices in business operations. The strategic benefits from these practices have included:

- ▶ Reducing environmental impacts
- ▶ Compliance improvement
- ▶ Building trust through collaborative partnerships
- ▶ Protecting natural resources
- ▶ Effective management of environmental costs
- ▶ Addressing stakeholder concerns
- ▶ Encouraging employee involvement and commitment
- ▶ Reducing environmental liability
- ▶ Improving the position of the business for the future

The costs of integrating sustainability practices into business operations are minimal and the potential return in terms of long-term benefit to shareholders can be significant. Although other companies have their own unique set of environmental, economic and social issues to address, the steps to identify potential sustainability practices and integrate them into a company's business operations are likely to be comparable and other companies may benefit from the lessons learned in this case study.

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