Visioning the Future of Performance-based Environmental Programs

Allen L. White
Wei-Shiuen Ng

Tellus Institute

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BACKGROUND

This report is an exploration of the future of Performance-Based Environmental Programs (PBEPs). What has been learned from over a decade of experience in designing and implementing such programs? What principles should guide the designs of the future? How might such principles be operationalized in relation to two key activities of current and future programs, namely, measurement and reporting, and communications?

Voluntary environmental programs were first implemented in the early 1990s in the United States, Europe and Japan. The Environmental Protection Agency's (EPA) first voluntary program, 35/50, was established in 1991 and focused on 17 high-priority chemicals reported to the Toxic Release Inventory. 33/50 emphasized pollution prevention as the preferred environmental management technique. The program's goal was to reduce 33 percent of toxic releases by 1992 below a 1988 baseline, and 50 percent by 1995. Other early examples include the EPA's Climate Wise program, Common Sense Initiative, Project XL, and the Green Lights program.

A major milestone in the evolution from mandatory to voluntary was achieved on June 26, 2000, when the EPA launched the National Environmental Performance Track (PT) program. PT recognized and encouraged facilities to go beyond regulatory requirements to attain continuously higher levels of environmental management and performance. Notably, the Office of Enforcement and Compliance Assurance (OECA) integrated enforcement requirements, as well as other experience into the PT framework (Loffler and Parker, 1999). A number of state programs emerged at this time, designed around the same concepts provided by the Environmental Leadership pilots led by OECA. EPA consulted closely with states, NGOs and the business community while designing PT, and has continued to do so as part of routine program management.

Seven years after its launch, the program's membership includes (as of October 2007) about 495 participating facilities from 49 states and Puerto Rico, and represents every major manufacturing sector, as well as public sector facilities at the Federal, State and local levels (EPA, 2007). Approximately one-half of the states have mounted some type of Performance-based Environmental Programs (PBEPs) during the last decade. The current number of participants in state programs exceeds 800 facilities.

For most of their existence, PBEPs such as PT have tended to focus on direct environmental outcomes, such as reduced emissions, generating fewer tons of hazardous waste, lower discharges of toxics to water, and higher standards of energy efficiency rather than operationally-based input measures such as the number of inspections or permits issued, as measures of the facilities' success. PBEPs strive to foster monitoring and reporting systems to measure the efficiency and effectiveness of the programs. Measurement and reporting of direct reductions in the environmental footprint of

facilities has been held up as a hallmark of PT, even though this comes at a considerable cost to program participants and agencies. These outcome measures are viewed as more meaningful than input measures such as the numbers of inspections, permits, or enforcement actions.

As PBEPs have matured, indirect indicators of success have emerged as a complement to environmental and cost-saving results. As PT evolved, along with programs in a few dozen states, program designers increasingly have sought to understand and measure indirect effects of an organizational and institutional nature. Outcomes such as shifts in a company's or facility's management culture, and relationships with regulatory bodies and communities, are now recognized as benefits that both participants and agencies value. These social benefits, no less than the direct environmental outcomes, should inform the design of future PBEPs.

SETTING THE STAGE

PBEPs operate as a complement to, not a substitute for, regulatory mandates. In theory, they should motivate facilities to undertake actions they may not chose to initiate in the absence of incentives offered by PBEPs. In their best form, they may catalyze internal change that leads to embedding a beyond compliance mindset in facility culture. If such beyond compliance practices evolve into an industry norm, higher standards of environmental performance will evolve, saving agency resources that would otherwise be allocated to promulgating new regulations and saving the facility the opportunity costs of complying with regulatory mandates. In this form, PBEPs may help reduce the adversarial quality of facility-agency relationship, avoid the costs of enforcement on the part of both parties, and lead to mutual learning and trust-building between the agency and regulated facility.

To set the stage for our assessment, we consider some of the findings of Coglianese, Nash, and Borck (2007) in their companion paper that assesses the state-of-play of goals, activities, communications, and data collection of PBEPs hosted by EPA and the states. Through both interviews with program managers and secondary data analysis, the authors explore 18 well-established state and federal PBEPs, all with histories spanning five or more years. Among the implications the present paper draws from findings of its companion study are the following:

Program Goals

a) Expand PBEP design from an exclusive emphasis on environmental or quantitative benefits to include social goals should occur. This is a formidable task as many current, established PBEPs do not include social benefits in the program goals. Diversifying goals will elevate non-environmental issues in the eyes of facility managers and help achieve a more holistic, systemic view of how facilities should be managed.

b) Diversification of goals implies new measurement approaches, with allowance for qualitative approaches to complement existing quantitative measurement techniques.

Activities Required To Join

a) The ability to demonstrate environmental impacts and improvements form the core of the requirements necessary for potential members. Other activities, such as community engagement commitments, which could improve stakeholder engagement, are often only required for higher tiers within the PBEPs. Since indirect outcomes can influence positive internal changes, they should not be constrained to higher program tiers only. Criteria for participation should reflect both environmental and social benefits. Demonstration of a minimal understanding of both types of benefits and outcomes before a facility can join a program should be an entry requirement.
b) Successful PBEPs should balance the quantity and quality of members. Imposing an appropriate level of stringency to entry criteria will help select the right facilities yet at the same time have enough leverage to encourage others to follow. Future programs should be attractive to facilities that already are among the top performers in the sector, but still allow entry of others that have shown environmental compliance and commitment to a broader set of improvements, including social and economic performance.

Activities Required To Maintain Membership

a) Continued compliance should become a condition for continued participation, and all programs should eventually aim to request 100 percent of all program tiers to maintain compliance with environmental regulations.
b) Variations in the content and format of performance reporting either by the same facility or among different facilities will pose a problem in the long-term, in particular for cross facility and sectoral analysis. Without consistent reports, there can little or no usable baselines or benchmarks. Progress and program benefits will thus be difficult to measure as no good comparison will exist. A standardized reporting system that facilities should follow after becoming participants.
c) Regardless of what type of standardized reporting evolves, it should be aligned with emerging external standards, in particular, the Global Reporting Initiative (GRI) and the Facility Reporting Project (FRP).

Activities Undertaken By Agencies

a) Although it is important for government agencies to provide incentives for facilities to participate in PBEPs, facilities in the future articulate their own incentives without the guiding hand of government. In general, agency sponsored incentives should not be viewed as time unlimited. They are most effective in attracting new participants, but over time, the benefits of beyond

compliance behavior should become self evident and not need continuing agency incentives.

b) Agencies should provide incentives for participating facilities to measure and report social and economic outcomes as a way to align program incentives with a redefined vision of PBEPs.
c) In the long-term, the ultimate success measure is the termination of agency involvement and continuation and further enhancement of the improvements initially spurred by PBEP membership. It may be beneficial to create performance tier along the lines of a "PBEP alumni," facilities that for, say, five years have met all their commitments and are now positioned to carry on primarily as mentors to newcomers. Such a designation would honor outstanding performance while managing the administrative burden on agencies.

Communication

a) Communication strategies should be better defined to identify the target audiences, the information to communicate, and the means of communication. A flexible but coherent strategy would help facilities disseminate program results as well as share the process, and the organizational learning, underlying their achievements.
b) A standard set of guidelines should be established to monitor project benefits consistently across all facilities. This will allow comparison of results between different facilities, and will motivate facilities based on comparisons with peers.
c) Both participating facilities and agencies ought to utilize new, advanced technologies to deliver their messages. Outreach tools may include audio and video technologies, e.g., podcasts, YouTube and webstreaming.
d) Regardless of communications medium, key messages on program performance should be closely aligned with principles of program design and with specific facility commitments.

Data Collection

a) A standardized data collection strategy, at least within a program, should be developed to allow better documentation of program results and progress, and for accurate comparison among facilities.
b) Training should be provided to ensure high quality data.
c) Indicators should measure progress related to shifting the environmental performance curve and changing the culture of facilities and agencies. Such indicators will mostly be qualitative and could be obtained through surveys and interviews.
d) Accessibility of data will continue to be a challenge, unless the facilities are required to report their environmental impacts and have the incentives to do so.

CONTOURS OF A NEW VISION OF PBEPS

While the rationale for PBEPs remain as strong as ever, public expectations of business have shifted dramatically. A decade ago, concepts such as sustainable business practices and corporate social responsibility (CSR) were in their infancy. Now, in a few short years, they have moved to the mainstream in terms of their general acceptance as frameworks for business conduct even as their definition and scope remain unsettled and their implementation remains highly uneven across companies and sectors. In the same vein, the concepts of "stakeholder management" and "stakeholder governance" now challenge the dominance of "shareholder value" as mantra of management theory and practice

If PBEPs are to continue to exercise leadership in driving beyond compliance behavior, their future design must embrace the trends that are redefining 21st business. In the PT case, diversifying and enlarging the participant base beyond its current level of approximately 500 facilities spread across roughly half that many companies will require PT to adopt a fresh approach that aligns with the trends that redefine contemporary business practices.

A new vision should be grounded in a set of design principles, each of which reflects an aspect of emerging, leading edge practices. In short form, these principles seek the following outcomes:

- **Sustainability focus.** A shift from single-bottom-line (financial) orientation to triple-bottom-line (environmental, social, economic) orientation in defining a facility's behavior and performance.

- **Expanded stakeholder engagement.** A movement toward a more expansive definition of a facility's stakeholders; expanding the scope of accountability to reach up and down the facility's value chain.

- **Alignment.** Alignment between PBEP designs and emerging, generally accepted norms of business practice.

- **Tiering.** Tier-based structures to encourage facilities at various performance levels to participate in PBEPs provided that the goal of becoming a leader is not lost in the process and is encouraged among all program participants.

- **Learning.** Creation of strong learning mechanisms such that the capacity to continuously innovate both during and post–program participation is secured.

MEASUREMENT AND REPORTING

A vision of PBEPs that expands their issue coverage and the range of stakeholders requires measurement approaches that not only build on but also expand those currently in practice. Such approaches should be capable of providing both program members and

their stakeholders with the capacity to track changes over time in both the traditional environmental aspects of facility performance, as well as additional areas that form part of a new vision: social, economic and institutional.

Table 1 is illustrative of the *potential* material information applicable to a specific facility. Determination of *actual* material information can only be determined through the second point reference, namely the results of a process of stakeholder engagement in which issues of interest to a facility's stakeholders are revealed through various instruments such as surveys, workshops, focus groups, and advisory panels.

Table 1. Illustrative Reporting Framework for Future PBEPs

Performance Indicators	Aspects
Facility Overview	Total Production
	Sales
	Employee (broken down by status and type)
Economic	Payroll and Local Procurement
	Taxes and Subsidies
	Donations
	Local Infrastructure (non-core business)
Environmental	Materials
	Energy
	Water
	Biodiversity and Natural Habitats
	Emissions, Effluents and Waste
	Compliance
	Nuisance and Quality of Life
Social	Employment
	Labor/Management Relations
	Health and Safety
	Training and Education
	Diversity and Opportunity
	Human Rights and Discrimination
	Society and Community Development
Institutional	Facility-agency Relationships
	Facility-community Relationships
	Facility-peer Facility Relationships
	Within Facility Culture Change
	Within Agency Culture Change
	Agency-Trade Association Collaboration

Source: Portions adapted from the Facility Reporting Project's (FRP) Sustainability Reporting Guidance (Ceres, 2005).

In the context of a new vision for PBEPs, the definition of materiality is expanded beyond purely investor needs to include information that meets the needs of all stakeholders—e.g., employees, suppliers, communities, agencies—with legitimate interests in performance of a member facility. Such expansion implies reaching beyond the confines of cost savings reductions and environmental outcomes to encompass a broader range of issues and outcomes.

Moving from the universe to a manageable subset requires two points of reference: (1) a standardized benchmark representing the best collective judgment of a multi-stakeholder process with respect to generally applicable, material indicators, and (2) a facility-specific process to further winnow and refine the generally applicable to the specifically applicable, that is, applicable to a specific facility.

Implementing a two-step process that melds a generally accepted framework with the results of a facility specific stakeholder consultation, helps guide program members to identify a set of key performance indicators (KPIs). KPIs present those indicators that, when taken together, provide the foundation profiling facilities' sustainability performance over time.

No consensus exists on how many KPIs is the "right" number. In shifting toward a sustainable, multi-stakeholder perspective in future program design, the number of PBEPs logically will expand to some extent. With the addition of social and economic content in future PBEP reporting, KPIs for each of these two areas plus those for environmental performance translate into an expanded overall set reflecting the emergence of a sustainability perspective to the facility's measurement and reporting effort.

The next generation of PBEPs has the benefit which the current generation never did: an emerging set of generally accepted indicators that has been tested and refined for several years by companies throughout the world. This experience, coupled with a decade of practice and learning by agencies and facilities, provide a sound foundation for moving toward a set of KPIs that promise to yield the public benefits such as those articulated above.

COMMUNICATIONS

Communication from the facility and program perspectives consists of an internal and external dimension. Internally, strong communication within and across facilities enables facility managers to track progress, identify risks and tap opportunities in relation to R&D, new product development, process improvements, and employee learning and skills development. Facility staff benefit from internal communication by sharing program results and tracking progress toward sustainability goals. Such internal communication is crucial internal marketing of a PBEP program and for making the case for extending participation to other facilities within the same company.

Externally, communication is the foundation for bringing timely, credible, trust-building information to stakeholders. Such information lays the foundation for stakeholder engagement that helps turn potential adversaries into assets, and conflict into cooperation. Information empowers all parties to explore common interests and to resolve disputes that inevitably emerge in the course of business operations.

For agencies, external communication serves as a tool to promote the benefits of the program, share program results with other participants, increase public awareness, as well as attract potential program members. Timely communication is also essential in fostering relationships between EPA and the states with PBEPs. In particular, it serves to harmonize efforts to maximize synergies and shared learning, and strengthen prospects for alignment of measurement and reporting practices that strengthen the agencies' capacities to track progress toward shared goals.

The history of communication in PBEPs points to both the value and the limitation of current practices. For PT and for most state programs, some type of public outreach and reporting form part of program expectations. In the case of PT, no fixed standards exist for communication; individual facilities are left to decide what approaches are most appropriate given the size, product line, location, and stakeholder expectations.

For facilities that are part of companies that subscribe to one or more initiatives such as Responsible Care, Ceres or GRI, public outreach is a well-trodden path. For facilities without such experience, outreach typically is limited to modest efforts such a newsletter or website and gradually expands as mangers over time explore new communications modes and messages.

In general, it is fair to say that PBEP participants' communications have been relatively limited in scope and media. Most have been in the form of annual reports, press releases and public meetings. This is equally true for most of the communication measures initiated by EPA and the states. With a vision of PBEP that enlarges the domain of issues and stakeholders, effective communications will require diversification of media and messages relative to the limited few characteristic of current practice.

Consider, for example, the goals of shifting the curve of sustainability performance (upgraded from solely environmental performance) and diffusing best sustainability practices throughout the business sector to which a participating facility belongs. Transforming facility management into such a sustainability mindset requires a continuous flow of examples and benchmarks targeted at facility operators to inspire and guide deep change in the organizations.

From an agency perspective, such information helps meet two key goals of PBEPs: increasing program awareness and recruiting new participants, especially those that tend to be trend setters within a specific sector. From the participant perspective, strong communications increase public recognition of a facility's progress and, in so doing, strengthens reputation and brand. Each of these goals implies different information content, presentation and communication methods. The ways stakeholders assimilate and

utilize information are highly variable. No one size fits all in the communication of sustainability performance.

How might a facility, EPA or state agencies think about fashioning messages for various audiences?

For this purpose, some basic differences exist between messages developed for internal audiences versus those developed for external audiences. Internal messages refer to messages directed at employees at the facility and colleagues within the larger company, assuming it operates multiple facilities at different sites or, from a program perspective, colleagues within EPA and state agencies. External messages are targeted at any party external to the facility, its parent organization, EPA, or state agencies. Determining priorities among these stakeholders is part of the communication strategy development process

NEXT GENERATION PBEPS

But if PBEPs are to remain not just a component but a dynamic contributor to advancing the country's sustainable business agenda, they must correct certain design weaknesses and, moreover, adapt to changing societal needs and expectations of business enterprise. But what form should corrections take?

Since their conception more than a decade ago, the conditions in which business operates have changed dramatically. Sustainability—operating with the eye toward the long term and accounting for multidimensional impacts encompassing environmental, social and economic—is now generally accepted as integral to responsible business practices. Stakeholder management and, to a lesser degree, stakeholder governance, have emerged to challenge orthodox views of business that position shareholder interests above those of all other stakeholders. Those at the cutting edge management theory and practice now view stakeholders not as burdens to be minimize but assets to tap to advance the long-term prosperity of the enterprise.

Moving beyond an exclusive focus on the dominant environmental and cost saving outcomes of current programs, next generation programs will need to stretch beyond their traditional boundaries in terms of both outcomes and constituencies. They must embrace the notion that one time or occasional environmental improvements are no substitute for shifting the culture of facility managers toward continuous improvements that span the multiple dimensions of sustainable business practices. A shift of this nature is not only in the long-term interests of participating facilities. Equally, it is essential for the long-term competitiveness of PBEPs via a vis the multitude of voluntary initiatives available to companies now and in the future.

1. INTRODUCTION

Background

Nearly four decades have passed since the inception of the modern environmental era in the US. Until the 1990s, command-and-control regulations served as the foundation for environmental management. Setting limits, defining technologies, and establishing enforcement mechanisms to achieve such limits underpinned programs for controlling air, water, and land pollutants. This was the core of both federal and state activities.

While impressive gains have been achieved by setting minimum standards—i.e., a floor—for permitted facilities, a second, complementary approach began to take shape in the early 1990s. This approach, based on voluntary commitments to move facilities toward beyond-compliance practices, sought to overcome what was becoming an increasingly obvious obstacle to further environmental gains: command and control does not foster a culture of innovation that would lead to continuous improvement and a "race for the top" in contrast to an incremental and minimalist mindset whereby compliance is the primary driver of company behavior. Further, command and control was costly. Limitless need for government to police and enforce compliance associated with ever more facilities and ever more stringent standards seemed increasingly disconnected from the reality of resource constraints facing public agencies.

To achieve the next level of pollution reduction, federal and state programs would have to find ways to encourage and invent, to recognize and reward, beyond-compliance behavior and begin to make pollution prevention, rather than pollution control and compliance, an integral part of the business operations. This, in turn, would require a new generation of programs that move companies toward a deep transformation in management culture in which they define, manage, and reduce waste throughout the product lifecycle.

Voluntary environmental programs were first implemented in the early 1990s in the United States, Europe, and Japan. The Environmental Protection Agency's (EPA) first voluntary program, 35/50, was established in 1991 and focused on 17 high-priority chemicals reported to the Toxic Release Inventory. 33/50 emphasized pollution prevention as the preferred environmental management technique. The program's goal was to reduce 33 percent of toxic releases by 1992 below a 1988 baseline, and 50 percent by 1995. Other early examples include the EPA's Climate Wise program, Common Sense Initiative, Project XL, and the Green Lights program.

While program details varied, all were rooted in the emerging consensus that command and control alone would not produce results required to achieve the long-term goals the environment needs and the public expects. Moreover, government-driven programs represented only a portion of the burgeoning number of voluntary environmental initiatives world wide. A wide spectrum of industry-sponsored voluntary programs, which either focus on a single industrial sector or across multiple sectors included the

Business Charter for Sustainable Development, the Sustainable Forest Initiative, and dual and tri-sectoral partnerships such as the Marine Stewardship Council, the Forest Stewardship Council, and the Global Reporting Initiative. These programs illustrate a rising tide of voluntary programs that respond to the unwillingness, or inability, of government or business or civil society to take action by themselves to address an environmental opportunity or risk (Carmin et al., 2003).

A major milestone in the evolution from mandatory to voluntary was achieved on June 26, 2000, when the EPA launched the National Environmental Performance Track (PT) program. PT recognized and encouraged facilities to go beyond regulatory requirements to attain continuously higher levels of environmental management and performance. Notably, the Office of Enforcement and Compliance Assurance (OECA) integrated enforcement requirements as well as other experience into the PT framework (Loffler and Parker, 1999). A number of state programs emerged at this time, designed around the same concepts provided by the Environmental Leadership pilots led by OECA. EPA consulted closely with states, NGOs, and the business community while designing PT, and has continued to do so as part of routine program management.

Seven years after its launch, the program's membership includes (as of October 2007) about 495 participating facilities from 49 states and Puerto Rico, and represents every major manufacturing sector, as well as public-sector facilities at the Federal, State, and local levels (EPA, 2007). Approximately one-half of the states have mounted some type of Performance-based Environmental Programs (PBEPs) during the last decade. The current number of participants in state programs exceeds 800 facilities.

Observers point to both achievements and limitations of PT. Overall, the relatively low participation rate—495 facilities out of a universe of tens of thousands of regulated facilities—raises questions about the capacity of PT-type programs to scale up and penetrate a significant portion of US facilities. Is PT an effective way to achieve the intended goal of continuously raising the bar and eventually mainstreaming such continuous improvements in environmental practices? Are barriers to entry too demanding and/or too rigid? Is diffusion of innovation among participants occurring at a satisfactory rate?

Before approval for PT participation, facilities must demonstrate adoption and implementation of an independently verified environmental management system, previous environmental achievements, compliance with existing regulations, commitment to continuous environmental improvement, and commitment to public outreach and performance reporting (EPA, 2005). These criteria, of course, limit the entry of potential member facilities to facilities already on the road to beyond-compliance practices. On the other hand, if the goal is not to register thousands of members but rather to scale up better practices through the example of a few leadership facilities, then the number of participating facilities may, in fact, be deemed adequate for achieving the program's goals. At this juncture, no definitive studies indicate that such a demonstrated effect is, in fact, occurring.

For most of their existence, PBEPs such as PT have tended to focus on direct environmental outcomes, such as reduced emissions, generating fewer tons of hazardous waste, lower discharges of toxics to water, and higher standards of energy efficiency rather than operationally based input measures such as the number of inspections or permits issued, as measures of the facilities' success. PBEPs strive to foster monitoring and reporting systems to measure the efficiency and effectiveness of the programs. Measurement and reporting of direct reductions in the environmental footprint of facilities has been held up as a hallmark of PT, even though this comes at a considerable cost to program participants and agencies. These outcome measures are viewed as more meaningful than input measures such as the numbers of inspections, permits, or enforcement actions.

Stepping back from the performance of individual facilities, the aggregate environmental improvements across all PBEP members are, not surprisingly, limited compared to regulatory programs which set minimum performance standards for thousands of facilities nationwide. Even those improvements that have occurred during PBEP participation may not necessarily be solely attributed to such participation.

Voluntary programs, which seek to build a culture of beyond-compliance practice among participants, may be more effective in changing the internal structure of facilities in the direction of self-generating innovation leading to continuous environmental improvement. Indeed, one may argue that the goal of PBEPs is to work themselves "out of a job," that is, foster behaviors that lead to continuous improvement such that the facilities do not need program incentives and, in fact, gradually leave behind the minimum standards and rigidities of regulatory mandates.

As PBEPs have matured, indirect indicators of success have emerged as a complement to environmental and cost-saving results. As PT evolved, along with programs in a few dozen states, program designers increasingly have sought to understand and measure indirect effects of an organizational and institutional nature. Outcomes such as shifts in a company's or facility's management culture, and relationships with regulatory bodies and communities, are now recognized as benefits that both participants and agencies value. These social benefits, no less than the direct environmental outcomes, should inform the design of future PBEPs.

Beyond the direct benefits accruing to the facilities, PBEPs, like any government program, should be justified in terms of net social benefits in addition to the environmental improvements and attendant costs savings. For example, do PBEP members demonstrate strong job creation and job stability? Are their supply-chain relationships more productive and fair? And is their contribution to the fiscal health of communities superior to that of non-participant facilities? These social and economic outcomes to date have rarely appeared in the analysis of program benefits.

Objectives

Given the trajectory of PBEPs in recent years, it is an opportune moment to ask a fundamental question: Is the design of these programs equipped for the coming decade and beyond? Substantial federal and state resources support PBEPs management and, barring a dramatic reversal in policy, such support will continue in the foreseeable future. The shared belief by government, business, and civil society in the merits of "soft" voluntary approaches as a complement to "hard" regulation is unlikely to disappear anytime soon. That being the case, how can the design of future programs effectively address the needs and expectations of agencies, business, and the public in the early years of the 21st century?

Our objective in this paper is to depict an alternative vision for future PBEPs, with special emphasis on redefining, measuring and communicating success. It puts forward program design principles to inform EPA's and the states' design of the next generation of PBEPs, learning from past successes and shortcomings while formulating approaches that align with the trends that redefine normative business behavior in the early 21st century. We seek to frame critical issues and chart general directions, with the help of illustrative examples, for next generation PBEPs. Although our focus is on government-initiated PBEPs, many aspects of the vision and the tools presented herein are applicable to PBEPs for which business and/or civil society, alone or in collaboration with government, are the driving forces behind the initiative.

The paper structure is as follows. Section 2 sets the stage for developing a vision of future PBEPs by summarizing key findings of the companion research paper prepared by Coglianese, Nash, and Borck (2007). Section 3 presents, in broad contours, a vision for future PBEPs that proposes a substantial expansion of their purview in line with policy trends and expectations of business during the next decades. Integral to the vision are five principles of program design that serve as a touchstone for future decision-making. Section 4 explores the measurement implications of the proposed vision, and Section 5 examines the communications approaches in terms of audiences, instruments, and messages. Finally, Section 6 offers brief concluding remarks to recapitulate key arguments in support of a new vision of PBEPs. Overall, our assessment should be viewed as a platform for debating the future form of PBEPs, leaving details of program design for future inquiry.

2. SETTING THE STAGE

As a genre, voluntary environmental programs are highly heterogeneous. Three main types have emerged during the last decade: unilateral agreements, public voluntary programs, and negotiated agreement. PBEPs are a type of public voluntary program, initiated by government, wherein firms are invited to establish the level of beyond-compliance performance they seek to achieve within a framework established by the host

agency. Typically, such programs involve a set of entry criteria for participating facilities and a set of benefits offered by the agency to attract, retain, and recognize participants.

PBEPs operate as a complement to, not a substitute for, regulatory mandates. In theory, they should motivate facilities to undertake actions they may not choose to initiate in the absence of incentives offered by PBEPs. In their best form, they may catalyze internal change that leads to embedding a beyond-compliance mindset in facility culture. If such beyond-compliance practices evolve into an industry norm, higher standards of environmental performance will evolve, saving agency resources that would otherwise be allocated to promulgating new regulations and saving the facility the opportunity costs of complying with regulatory mandates. In this form, PBEPs may help reduce the adversarial quality of facility-agency relationship, avoid the costs of enforcement on the part of both parties, and lead to mutual learning and trust-building between the agency and regulated facility.

To set the stage for our assessment, we consider some of the findings of Coglianese, Nash, and Borck (2007) in their companion paper that assesses the state-of-play of goals, activities, communications, and data collection of PBEPs hosted by EPA and the states. By what criteria and why are some PBEPs successful? What are the measurement and communication tools they use to manage the program and publicize results? What gaps exist in understanding success and the availability and deployment of various tools? Building on each set of findings, we follow with some thoughts on implications for shaping future PBEPs in terms of their content, measurement, and communication.

Through both interviews with program managers and secondary data analysis, Coglianese, Nash, and Borck explored 18 well-established state and federal PBEPs, all with histories spanning five or more years. Each program has a different set of goals, activities, communication strategies, and data collection practices, which are divided into six major categories: program goals, activities required to join, activities required to maintain membership, activities undertaken by the agencies, communication, and data collection.

Program Goals

The environmental goals, including improving environmental quality and reducing costs, are considered along with any social and economic goals of the programs, such as improving participant-agency and participant-community relationships, shifting the environmental performance curve toward a higher level, changing culture at facilities and agencies, and cost savings.

Major Findings:

a) Environmental improvement is the most commonly cited goal.
b) Reduced costs for facilities and agencies is also cited by some program managers, though PBEPs' activities (e.g., Environmental Management System implementation) might not always be cost-effective for the facilities.

c) Indirect and non-environmental goals are rarely emphasized by host agencies without prompting during interviews of staff.

Implications:

a) Expanding PBEPs' design from an exclusive emphasis on environmental or quantitative benefits to include social goals should occur. This is a formidable task as many current, established PBEPs do not include social benefits in the program goals. Diversifying goals will elevate intangibles in the eyes of facility managers and help achieve a more holistic, systemic view of how facilities should be managed.
b) Diversification of goals implies new measurement approaches, with allowance for qualitative approaches to complement existing quantitative measurement techniques.

Activities Required To Join

PBEP members are required to demonstrate certain characteristics before approval to participate. Programs have established varying levels of stringency of entry criteria, in order to engage the right facilities that will achieve the programs' goals. Five common activities required for facilities to join the reviewed PBEPs are: compliance with environmental regulations, implementation of an Environmental Management System (EMS), independent certification of the EMS, specific commitments to environmental performance, and specific commitments to community engagement.

Major Findings:

a) 85.4 percent of all program tiers require potential members to be in compliance with environmental regulations.
b) Most program tiers and all program tiers in the highest two tier categories require potential members to have an EMS in place.
c) 85.4 percent of all program tiers require potential members to make environmental performance commitments.
d) 41.7 percent of higher program tiers require members to make community engagement commitments.

Implications:

a) The ability to demonstrate environmental impacts and improvements form the core of the requirements necessary for potential members. Other activities, such as community engagement commitments, which could improve stakeholder engagement, are often only required for higher tiers within the PBEPs. Since indirect outcomes can influence positive internal changes, they should not be constrained to higher program tiers only. Criteria for participation should reflect both environmental and social benefits. Demonstration of a minimal understanding of both types of benefits and outcomes before a facility can join a program should be an entry requirement.

b) Successful PBEPs should balance the quantity and quality of members. Imposing an appropriate level of stringency to entry criteria will help select the right facilities yet at the same time have enough leverage to encourage others to follow. Future programs should be attractive to facilities that already are among the top performers in the sector, but still allow entry of others that have shown environmental compliance and commitment to a broader set of improvements, including social and economic performance (see next section).

Activities Required To Maintain Membership

Facilities are required to meet certain requirements even after they have been admitted. The five typical requirements identified to maintain membership are: continued compliance with environmental regulations, continuation or development of an EMS, reporting on performance, progress toward achieving any commitments made in the facility's application, and community engagement.

Major Findings:

a) 75.6 percent of all program tiers and 91.7 percent of program tiers in the highest two tier categories required continued compliance with environmental regulations.
b) Performance reporting is required for almost all programs' continued membership, though reporting format varies according to different programs.
c) A minority of program tiers expected members to show progress toward achieving commitments. Facilities usually are also required to explain why no progress has been made if that, in fact, is the case.

Implications:

a) The percentage of all program tiers that require environmental compliance as a requirement to join (85.4 percent) is higher than the number of programs that require continued environmental compliance after facilities are admitted (75.6 percent). Continued compliance should become a condition for continued participation, and all programs should eventually aim to request 100 percent of all program tiers to maintain compliance with environmental regulations.
b) Variations in the content and format of performance reporting either by the same facility or among different facilities will pose a problem in the long term, in particular for cross-facility and sectoral analysis. Without consistent reports, there can be little or no usable baselines or benchmarks. Progress and program benefits will thus be difficult to measure as no good comparison will exist. A standardized reporting system would correct this deficiency. The structure of the performance reports should also capture progress in achieving social, economic, and institutional (organizational-change outcomes), in additional to environmental. Expanded coverage of this kind need not lead to an undue burden provided a limited number of key performance indicators are put in place.
c) Regardless of what type of standardized reporting evolves, it should be aligned with emerging external standards; in particular, the Global Reporting Initiative

(GRI) and the Facility Reporting Project (FRP)[1]. This alignment, one of the principles of program design described below, is essential for both credibility and maximum usability of performance reporting.

Activities Undertaken By Agencies

In addition to establishing tiered entry requirements, selecting members, and ensuring their continued adherence to program requirements, agencies should undertake a number of complementary activities. These should include, for example: creating opportunities for interactions among participating facilities, agencies and communities; and providing mentoring opportunities, and disseminating information among participants in regard to the experiences, successes, and challenges of other participants.

Major Findings:

a) All programs offered incentives to members.
b) Most programs provided opportunities for members to interact with representatives of government, other participants and the community.
c) All but one of the programs surveyed encouraged information sharing, particularly in areas of pollution prevention and EMS development.
d) A bare majority of the programs offered mentoring activities, wherein active participants help prospective participants improve their environmental performance.

Implications:

a) Although it is important for government agencies to provide incentives for facilities to participate in PBEPs, facilities in the future articulate their own incentives without the guiding hand of government (Nash and Larson, 2007). In general, agency-sponsored incentives should not be viewed as time unlimited. They are most effective in attracting new participants but, over time, the benefits of beyond-compliance behavior should become self evident and not need continuing agency incentives.
b) Agencies should provide incentives for participating facilities to measure and report social and economic outcomes as a way to align program incentives with a redefined vision of PBEPs.
c) In the long term, the ultimate success measure is the termination of agency involvement and continuation and further enhancement of the improvements initially spurred by PBEP membership. It may be beneficial to create a performance tier along the lines of a "PBEP alumni," facilities that for, say, five years have met all their commitments and are now positioned to carry on primarily as mentors to newcomers. Such a designation would honor outstanding performance while managing the administrative burden on agencies.

[1] Disclaimer: Tellus Institute played a major role in the development of the Global Reporting Initiative (GRI) and the Facility Reporting Project (FRP).

Communication

Agencies expect members to communicate performance information and engage in various networking and recognition activities that help foster learning and diffusion of information and, ultimately, innovation. Methods of communication vary across agencies but the most common are: publishing annual reports about the program on program websites; posting data on individual members on program websites; holding public meetings; and issuing press releases.

Major Findings:

a) The most common communication method is through press releases.
b) 61 percent of the programs surveyed posted information about individual members on their websites.
c) Inconsistent tracking and monitoring of program benefits made it difficult for the agencies to publicize the program.

Implications:

a) Communication strategies should be better defined to identify the target audiences, the information to communicate, and the means of communication. A flexible but coherent strategy would help facilities disseminate program results as well as share the process, and the organizational learning, underlying their achievements.
b) A standard set of guidelines should be established to monitor project benefits consistently across all facilities. This will allow comparison of results between different facilities, and will motivate facilities based on comparisons with peers.
c) Both participating facilities and agencies ought to utilize new, advanced technologies to deliver their messages. Suggested outreach tools should include audio and video technologies, e.g., Wal-Mart use of video clips to broadcast its corporate sustainability efforts and other messages on its website and YouTube.
d) Regardless of medium, key messages on program performance should be closely aligned with principles of program design and with specific facility commitments.

Data Collection

Data collection is an important step essential for good measurement of progress, and the data shared could also serve as a reflection on the facilities' internal operations and commitments. Data collected by the 18 surveyed programs are reviewed according to their relevance, quality, aggregational value, inferential value, and accessibility.

Major Findings:

a) More data measuring "direct environmental benefits" than for any other goal.
b) Quality of data vary, more tiers scored "medium" or "low" on data quality than scored "high."
c) Lower aggregate and inferential data on environmental impact.

d) No program collects data that measures progress toward the goals of shifting the environmental performance curve and changing internal cultures.
e) Low data accessibility for some state programs.

Implications:

a) A standardized data collection strategy, at least within a program, should be developed to allow better documentation of program results and progress, and for accurate comparison among facilities. A standardized data collection system also would lower the cost of data collection. Data collection strategy should be aligned with redefined program goals that expand the scope of benefits beyond direct environmental outcomes and cost reductions.
b) Training should be provided to ensure high-quality data.
c) Indicators should measure progress related to shifting the environmental performance curve and changing the culture of facilities and agencies. Such indicators will mostly be qualitative and could be obtained through surveys and interviews.
d) Accessibility of data will continue to be a challenge, unless the facilities are required to report their environmental impacts and have the incentives to do so.

3. CONTOURS OF A NEW VISION OF PBEPS

PBEPs specifically, and voluntary programs in general, have assumed a prominent and permanent position in driving environmental improvement at both the facility and company level. In little more than a decade, the EPA launched 33/50, Climate Wise, Common Sense Initiative, Project XL, Green Lights, and Performance Track. In addition, at least two dozen states have launched programs of a similar genre, all aimed at complementing regulatory mandates with programs that invite and reward beyond-compliance behavior. In parallel, a generation of business-driven and multi-sectoral (usually business + government + civil society) initiatives with the same or similar goals are operating at both the company and facility levels.

This rich assortment of approaches attests to the vitality and staying power of voluntary programs in the first decade of the 21st century. There is little doubt that the voluntary-mandatory mix will continue into the foreseeable future. The same motives that led to their creation in the first place—encouraging continuous improvement, fostering innovation and shared learning among participants, and controlling enforcement costs and bypassing the static nature of traditional regulatory approaches—are as relevant today as they were at the time PBEPs were conceived more than a decade ago (Fiorino, 2001).

Yet while the rationale for PBEPs remains as strong as ever, public expectations of business have shifted dramatically. A decade ago, concepts such as sustainable business practices and corporate social responsibility (CSR) were in their infancy. Now, in a few short years, they have moved to the mainstream in terms of their general acceptance as

frameworks for business conduct even as their definition and scope remain unsettled and their implementation remains highly uneven across companies and sectors. In the same vein, the concepts of "stakeholder management" and "stakeholder governance" now challenge the dominance of "shareholder value" as mantra of management theory and practice (White, 2006; Speth, 2008).

Meanwhile, the boundaries of accountability have shifted from the narrow confines of the factory walls and products directly controlled by a facility to the much wider boundaries that define an organization's supply or value chain. Conditions in contract factories thousands of miles away and risks to health and safety to the ultimate consumers of products are now regarded as part of the accountability sphere of toy manufacturers, general retailers, and apparel brands. The factory walls no longer delimit the extent of a facility's responsibility. Now, such a narrow definition of responsibility incurs great risks to a company's reputation and brand. For this reason, elaborate schemes for monitoring, measuring, and reporting performance at various stages of the supply chain are now commonplace in the business world. The labor standard SA8000, the forest products standards of the Forest Stewardship Council, and the Electronics Industry Code of Conduct exemplify such trends.

If PBEPs are to continue to exercise leadership in driving beyond-compliance behavior, their future design must embrace the trends that are redefining 21st business. In the PT case, diversifying and enlarging the participant base beyond its current level of approximately 500 facilities spread across roughly half that many companies (Eisner, 2007, 191) will require PT to adopt a fresh approach that aligns with the trends that redefine contemporary business practices.

As is the case for business itself, standing still is not good enough. To remain competitive vis a vis the plethora of voluntary program options facing companies every day, PBEPs must make the case that participation carries with it a set of benefits that are both distinctive in their own right as well as synergistic with those associated with parallel initiatives, if any, in which a company participates. This vision is not intended to abandon key existing goals of PBEPs; namely, scaling up good practices and shifting the curve of environmental performance toward continuously higher levels. Nor does it shift the emphasis away from cultivating leadership firms which, unlike many other voluntary initiatives that focus on large footprint companies, is a core attribute of PBEPs. But, at the same time, we offer a vision that does stretch beyond these existing goals to align the PBEP future with trends that are redefining the business landscape during the next decade.

To illustrate the changes of this nature, consider the case of climate change. A decade ago —indeed, even five years ago—climate change in the US with a few exceptions was not taken seriously by American companies. In a few short years, the issue now is a critical strategic focus of many corporations, ranging from insurance and automotive to oil and chemical firms. "Peak oil," "clean development mechanisms," "carbon offsets," and "carbon cap and trade systems" are appearing daily in the business press. Dozens of major US companies along with several environmental organizations, in an action

unthinkable even a few years ago, have formed the Climate Action Partnership to demand government action in setting firm carbon reduction targets to eliminate the uncertainty that is anathema to sound business planning. Individually, firms such as GE, Wal-Mart, and Nike are building carbon reduction into core strategy and new product design. Venture capitalists are pouring hundreds of millions of dollars into clean energy start-ups, and Wall Street firms are slowly integrating "climate risk" into their asset management strategies.

Whether the issue is climate change, supply chain, or accountability, all signals point to the need to rethink the design of PBEPs, such that they position themselves as forward-looking and leading-edge initiatives. To do so does not require that all participants be environmental leaders. A wise program design will accommodate a range of participants that are operating at various points along the performance spectrum, and do so in a way that minimizes transaction costs for both the agency and facility (ECOS, 2005). However, underlying the design framework that follows is the premise that all participants, regardless of their current performance level, commit to the pursuit of beyond-compliance practices and, along the way, aspire to leadership relative to their peer group.

Whether for large or small facilities, we suggest that a new vision should be grounded in a set of design principles, each of which reflects an aspect of emerging, leading-edge practices. In short form, these principles seek the following outcomes:

- A shift from single-bottom-line (financial) orientation to triple-bottom-line (environmental, social, economic) orientation in defining a facility's behavior and performance.

- A movement toward a more expansive definition of a facility's stakeholders; expanding the scope of accountability to reach up and down the facility's value chain.

- An alignment between PBEP designs and emerging, generally accepted norms of business conduct.

- Tier-based structures to encourage facilities at various performance levels to participate in PBEPs provided that the goal of becoming a leader is not lost in the process.

- Creation of strong learning mechanisms such that the capacity to continuously innovate both during and post–program participation is secured.

We use the following shorthand for the five principles, each of which is elaborated in the following section:

- Sustainability
- Multi-stakeholder

- Alignment
- Tiering
- Learning

Sustainability

Ample evidence demonstrates the competitive benefits of sustainability management strategies (Paine, 2003; Esty and Winston, 2006; and Savitz, 2006). In the future, successful companies and, by implication, successful facilities will be those that adopt a holistic, long-term and multi-dimensional view of the different kinds of value they create. Myopic focus on short financial results and compliance-driven environmental management that neglects opportunities for long-term, multi-faceted value creation may create short-term share price advantages to investors. But such rewards are no substitute for management practices that maintain an eye on building multiple types of value—environmental, human, social, and economic capital—over the long term. That is the pathway to strengthening long-term competitiveness of the firm while meeting societal needs and expectations. A new vision of PBEPs should be built on such a sustainability perspective, even as it allows for its gradual, incremental adoption by program participants through a tiering process, as described below.

Applying this principle to the future of PBEPs implies that a program design that encourages and recognizes behaviors that concurrently build various kinds of value. In a fundamental sense, positioning future PBEPs within a sustainability framework represents evolutionary thinking, not a sharp departure from past practices. It amounts to codifying trends already characteristic of PBEPs in the sense that members already understand the many potential social benefits that accrue to PBEP membership, e.g., improved relations with regulators, consumers, investors, and environmental groups (Khanna, 2001). These may include, for example: community cohesion fostered by a respected, high-performing facility; stronger relationships between the facility and public authorities in negotiating new regulatory actions; employee loyalty and retention; and attraction of top talent owing to a facility's reputation for operational excellence.

The essence, then, of a sustainability framework applied to PBEPs is the encouragement of value creation that blends environmental, social, and economic returns into profitable enterprise. The notion of blended value in practice means implementing a PBEP design that invites and rewards participants for decision-making that concurrently yields multiple benefits including, but not limited to, profitability. A facility that continuously seeks new processes, markets and management systems will co-create environmental, social and economic capital. Shifting to the production or use of wind power and high-efficiency engines that reduce carbon emission, to food products for external markets that reduce obesity, to reduced packaging and high-efficiency water use technologies that reduce waste streams, and to employee training programs that deepen and diversity existing skills—all these are examples of blending the profitable with the sustainable. In their requirements for both program entry and continuation, PBEPs should be advocates

of moving participants toward such blended business/public benefit management strategies.

Stakeholders

Inseparable from the concept of sustainability is the expansion of stakeholders' material to such facilities. The notion of stakeholder management—conducting business affairs based on a systematic assessment of all parties that affect, or are affected by, a company's operations—has taken its place as a generally recognized sound business practice (Post et al., 2002; Freeman et al., 2007). For PBEPs in general, the concept is hardly a new one. Historically, PT participants already tend to be those who understand and value the benefits of external recognition, a goal that can only be realized by attentiveness to the interests of the diverse parties with a stake in a facility's operations (Coglianese and Nash, 2006).

The reason is straightforward: In an increasingly global operating environment, risk management and new product and market opportunities faced by managers are becoming increasingly complex and interconnected. For example, a facility operator that ignores the labor and environmental conditions of its major suppliers runs serious risk of incurring the reputation loss and production interruptions occasioned by contractor failures in the form of environmental mishaps or child labor practices. Conversely, partnering with suppliers to create the conditions for continuous improvement in social and environmental performance throughout the supply chain will yield rewards for all parties in terms of quality components delivered in a timely fashion.

In general, understanding and attending to stakeholder interests will enable good management of risks that may otherwise remain hidden, as well as the identification of opportunities that might otherwise remain untapped. Taking the step from stakeholder management to stakeholder governance through such devices as standing facility advisory councils, further embeds stakeholder interests into company operations. Shift toward stakeholder management closely aligns with the EPA goal of achieving cultural shifts within participating facilities. When the mindset of management shifts from seeing stakeholder engagement as a cost to be minimized to an asset to be deployed, the prospects for long-term success are substantially enhanced. Future PBEPs can play an active role in this transition by strengthening what is already commonplace program entry and continuation of requirements that recognize stakeholder engagement as integral to achieving long-term business success.

Alignment

The proliferation of voluntary initiatives, on top of government mandates, has created a cluttered landscape in the eyes of company managers. With limited discretionary resources and a multitude of options for participating in voluntary initiatives, why should managers opt for a PBEP among the multitude of government, business and civil society initiatives?

To maintain a competitive position in the future, PBEPs must align program elements—e.g., incentives, data requirements for tracking progress, reporting expectations—as closely as possible with other initiatives in which a facility is already involved or may choose to engage in the future. Assume, for example, a company considering membership in PT already participates in one or more climate initiatives—e.g., Carbon Disclosure Project, World Business Council for Sustainable Development (WBCSD)/World Resources Institute (WRI) Greenhouse Gas Protocol, or GRI—all of which involve some form of greenhouse gas accounting and disclosure. If a PBEP requires greenhouse gas (GHG) reporting that includes the same sources of emissions, the same boundary protocol to delimit responsibility for upstream and downstream emissions, and the same units of measurement as an initiative in which a facility already participates, then managers will be able to economize on data collection, analysis. and reporting to meet PBEP requirements. The same applies to data on other environmental issues such as water use and waste generation, as well as social issues such as lost work days due to occupational-related illness and expenditures on worker training.

High costs of entry and continued participation are known to discourage participation, even when program benefits increase. The greater the opportunity for existing management systems, metrics and disclosure practices to perform double duty for both PBEPs and other voluntary or regulatory activities, the less resource requirements will act as an impediment to program participation. Future PBEP program design should conscientiously apply this alignment filter as agencies vet potential new design elements.

Tiering

Tiering refers to the creation of stages, or levels, for entry and/or continuation in program design. It may refer to either cross-facility requirements at a point in time, e.g., large versus small facilities, or single facility requirements over time, e.g., setting differential standards at the time of entry versus those applicable to the same facility several years after entry in the PBEP.

PBEPs have long welcomed a broad mix of facilities, from the large to the small, and the extractive, manufacturing and service sectors. While all programs establish entry conditions for all participants—e.g., PT's Environmental Management System (EMS), a system for demonstrating past achievements, sustained compliance, commitment to continuous improvement, public outreach and reporting—tiering is typically built into the program design in some fashion. PT, for example, distinguishes between small and large

facilities by setting variable requirements for documenting past achievements and for making commitments to future improvements. Though PT sets no absolute levels of either requirement, large facilities are distinguished from small facilities by the number of past achievements and the number of improvements which the type of facility demonstrates and to which it commits.

As a device for encouraging maximum numbers of program participants, tiering is a sensible approach in that it recognizes the wide variation in the skills and resources across facilities of different sizes and levels of sophistication. Tiering can help overcome barriers to entry associated with stringent entry requirements even when program benefits are plentiful. By establishing variable levels for joining, PBEPs may effectively open the doors to an array of firms that, once they become participants, may take advantage of the program benefits offered to all participants. Then, a tiering structure may be applied to both entry and continuation criteria, allowing for variable levels of stakeholder engagement, measurement, reporting, and other requirements, depending on the skills and resources of the members.

Of course, tiering is no guarantee of either high numbers of new entrants or high levels of retention. In PT, where the number of program members is approximately 500, roughly 70 percent of the total is represented by about 63 multi-facility organizations; that is, those with more than one facility (EPA, 2008). Firms such as Johnson & Johnson (38 facilities), Forever Resorts (27), and Covanta Energy (16) *each* account for three percent or more of the total number of program members. In recent years, PT participants have shifted steadily in the direction of smaller facilities (<99 employees) after a period of domination by larger ones (>500 employees), suggesting that tiering may be working in moving the program toward greater diversity, at least in terms of facility scale, in its participant mix (Eisner, 2007: 191-192).

How the principle of tiering should be applied to the design of future PBEPs depends in large part on how program goals are defined. If a PBEP strives to maximize its attraction to all levels of beyond-compliance performance—beginners, intermediates and leaders—then tiering requirements for entry make sense. This could continue in the mode of PT's variable requirements for small versus large facilities in relation to documenting past achievements and for making commitments to future improvements.

Extending the principle to the program implementation phase, a PBEP may set variable standards to demonstrate continuous improvement toward beyond-compliance behavior, expansion of its stakeholder engagement activities, and annual performance reporting. Thus, to illustrate, during implementation a tiering may contain the following elements:

- Stakeholder engagement
    - Large facilities: Demonstrated outreach to suppliers within one year after joining that transfers advanced, beyond-compliance practices implemented during PT participation.

- Small facilities: Demonstrated outreach to suppliers within three years after joining that transfers advanced, beyond-compliance practices implemented during PT participation.

- Performance Reporting
  - Large companies: Preparation of annual performance report equivalent to GRI Application Level C within one year after joining and Level B within three years.
  - Small companies: Preparation of annual performance report equivalent to Application Level C within three years after joining.

Application of the tiering principle on future PBEPs design ultimately depends in large part on program goals. At one end of the spectrum, the primary goal may focus on moving leadership facilities to continuously higher levels performance and using such performance as the basis for inspiring others to follow suit. At the other end of the spectrum is a primary goal of maximizing the number of participants in the program on the premise that agency resources are best spent in mobilizing such large numbers—not hundreds, but thousands, of facilities—to gradually adopt and slowly advance their beyond-compliance practices across the entire economy.

Both in theory have the potential to shift the curve of sustainability performance, but each has dramatically different implications for tiering. In Option 1, the leadership focus, the bar for entry may be set high or moderately high (consistent with performance expected of leadership firms), and the bar for implementation would be aggressive in terms of continuous improvement toward specific milestones. In Option 2, the participant maximization focus, the bars for both entry and implementation would be more modest, with the latter establishing specific but less demanding milestones over a longer time period.

To some degree, the launch of PT's Corporate Leaders program is a step in the direction of Option 1. This program invites whole corporations (not just facilities) with demonstrated beyond-compliance accomplishments that already have at least 25 percent of their facilities in PT (or state equivalents) to accelerate the diffusion of such activities in both additional facilities within the firm and to firms that comprise links in the value chain of the parent company. Companies such as Baxter, Johnson & Johnson, Xanterra Parks and Resorts currently are designated Corporate Leaders.

Both Options 1 and 2 are costly, requiring oversight, monitoring, and administration of benefits. However, it is likely that Option 2, participant maximization, would be the most costly in the event it succeeds in substantially enlarging the pool of participants from the hundreds to the thousands. In a decade that promises to see major political battles over federal and state budgets, sustaining such costs is likely to encounter substantial obstacles. Option 1, the leadership focus, will not be inexpensive either. But it does have the possible advantage of using facility and company differentiation among its competitors as a market mechanism to attract those firms that seek to distinguish

themselves through PT membership. The paradox of large numbers (Option 2) is that as more facilities join the program, the more diluted the PT "brand advantage" will become.

We paint these two options in rather starkly different tones to stress their differences. However, as is currently the case, the leadership and participant maximization strategies can be blended through introduction of various tiering schemes, e.g., the Corporate Leaders program. They also can be blended by a PBEP strategy that shifts the program structure from one dependent on agency action to one in which business associations play a far greater role as implementers than is the case under association partnership arrangements PT has with various business groups. The next section includes this possibility as part of its exploration of the last design principle, "Learning."

Learning

Learning refers to the process by which an organization acquires the competency to continuously identify, scope, and address problems and opportunities that lead to ever-higher standards of performance. Senge (2006), in his seminal work on learning organizations, identifies three core learning capabilities of a team: (1) aspiration—personal mastery and shared vision; (2) understanding complexity—systems thinking, and (3) reflective conversation—mental models and dialogue. When these capabilities are in place, one tends to witness "…openness, reflection, deeper conversations, personal mastery, and shared visions [that] uniquely energize change…where people continually expand their capacity to create the result they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 2006: xvii, 3). Unfortunately, for most business organizations such a learning culture is suppressed by the dominance of traditional command and control, top-down management practices.

In future PBEPs, the idea of creating conditions that foster learning organizations should be central to program design. Why? Because in the best of outcomes, a PBEP will have a transformative effect on corporate culture such that sustainability innovation becomes deeply ingrained and self-perpetuating in the organization, obviating the need for continuous—and costly—agency oversight, administration and benefits stream. In this world, participants become part of a project in which building learning skills becomes *the* focal point and *the* paramount benefit of joining a PBEP, thereby creating transformative change that transcends any single metric or outcome that might occur in the short term. This kind of self-sustaining system propels companies forward to continuously higher levels of sustainability performance that, in the most positive way, reduces dependency on program benefits while strengthening the organization's market competitiveness.

Operationalizing this principle, as in the case of others discussed above, does not represent a radical departure from current practice. Already, PT and many state programs have arranged forums for the exchange of best practices and innovations that have emerged as a result of participating in a PBEP. In future PBEPs, a more explicit and

aggressive commitment to elevate collaborative learning should take its place alongside the quantitative environmental results which traditionally have been core program goals.

Measuring of changes in the company's movement toward a learning organization introduces complex challenges compared to the relative straightforward challenge of tracking reductions in costs and emissions. But this is no reason not to strive for such an outcome.

Consider the following possibilities:

- **Facilitated dialogues**: Adding facilitated dialogues with organizational learning professionals assisting group learning. This includes both within-facility dialogues and inter-facility dialogues. Such experiences would go well beyond the mere exchange of information on innovation, and focus on "generative dialogues" that uncover the *process* by which innovations emerged and are implemented. In so doing, the emphasis is on how breakthroughs occur and how the quality of conversation determines the quality of learning that flows from it.
- **Expanded role of business associations**: PT, through its PT Network, has working relationships with a number of trade associations such as the American Chemistry Council, the American Textile Manufacturers Institute, and the National Paint and Coatings Association. Some have proposed greatly strengthening these relations, even to the point PT effectively delegates to such associations program implementation and oversight in a kind of self-enforcement or enforced self-regulation framework (Eisner, 2007: 275). That is, analogous to practices in the Netherlands, the agency would negotiate sector-wide goals for beyond-compliance performance, and leave it to the associations to work with its members to achieve such goals.

There is no question such an arrangement that empowers trade associations is fraught with political obstacles. Objections to outsource voluntary program implementation can be expected from those who view such action as an abdication of government's role in advancing the environmental and broader sustainability agenda.

Whether or not such policies are adopted, associations can play a substantially stronger role in the propagation of learning that occurs within PBEPs. This may occur, for example, through letters of agreement between the agency Network Partners to implement, and perhaps co-fund, facilitated dialogues of the type described above. Such arrangements can easily be positioned as win-win situations—the agency benefits from accelerated diffusion of organizational learning and the partner association benefits by providing added value to its members, including those that are not PBEP participants, through engagement in dialogues.

In sum, we suggest that the five principles outlined above provide the pillars for the design of future PBEPs. Collectively, they would go a long way toward providing a leading-edge, next generation approach to PBEPs, with the promise of avoiding the fatigue that tends to afflict many voluntary programs once they have been operational for

several years. The challenge is to build into future programs a dynamism and resilience from the customer that, from the facility's perspective, will position PBEPs at the vanguard of continuous sustainability innovation and learning. We believe that a program built on the principles of sustainability, stakeholder engagement, alignment, tiering, and organizational learning will go a long way toward achieving that vision.

How would these five principles look in an operational setting? We turn to two specific areas to explore how they might manifest themselves in two key program activities: in Section 4, measurement and reporting; and in Section 5, communication.

4. MEASUREMENT AND REPORTING

Performance measurement in business means far more than a technical exercise. It is the mirror of a program's goals and priorities, and a key instrument for determining program efficacy. The oft-repeated axiom that "what gets measured, gets managed" applies equally to the design of future PBEPs as to business operations in general.

PT and state programs already address measurement in a variety of ways. Public outreach and performance reporting is one of five elements in PT's set of qualifications for program participation. Once in the program, facilities are expected to produce an annual performance report (APR) to demonstrate progress toward its commitments. APR contains both qualitative and quantitative information aimed at informing stakeholders with information pertaining to the facility's EMS, progress metrics, outreach activities, and self-certification that compliance with entry criteria are being met. With respect to metrics, PT uses the GRI framework in guiding facilities toward a selection of categories (a class of environmental impacts) and indicators (an activity that interacts with the environment, e.g., air emissions, effluent discharges). Facilities select categories and indicators according to the significant impacts that emerge from their EMS. APR assesses past achievements and future commitments, with differential requirements for large versus small facilities.

In the context of future program design, measurement and reporting should continue to play a crucial role in bringing both credibility and rigor to PBEPs. Performance tracking will continue to be a critical instrument for both internal and external purposes. Internally, managers benefit from the discipline that measurement imposes in relation to setting priorities and assessing results. Externally, the credibility of PBEPs will always depend in large measure on the availability of information delivered within a framework that itself has evolved through an inclusive process in which key stakeholders are engaged. While the practice of tiering measurement and reporting expectations according to size of facility is sound in view of variable skills and resources, future PBEPs should encourage all facilities to move toward measurement and reporting and excellence in accordance with emerging best practices.

The aforementioned five principles of program design (Section 3) provide a compass for rethinking how measurement and reporting might evolve in the future. In overview form, some implications are as follows:

- **Sustainability** - expanding measurement and reporting to reach beyond the current focus on environmental indicators to include social and economic indicators, including indicators that capture the intangible outcomes, such as the capacity to innovate and problem solve, quality of agency-participant-community relations, and culture shift toward embedding beyond-compliance mindset into facility decision-making. Further, using the sustainability approach to encourage experimentation with lifecycle analysis and environmental foot-printing techniques.
- **Stakeholders** - expanding stakeholder engagement in both selection of categories and indicators and in setting boundaries that define a facility's accountability limits throughout its value chain.
- **Alignment** - selecting measurement and reporting frameworks that are generally recognized for their legitimacy and rigor, and using such assets to move toward a minimum of standardized data points to enable intra- and inter-facility performance tracking.
- **Tiering** - creating a framework that accommodates variable skills and resources across different facility types while protecting the core premise that all participants, regardless of size or sector, should be held to strong standards of accountability.
- **Learning** - encouraging and enabling participants to apply measurement and reporting to strengthen the learning capabilities of the organization.

The discussion that follows seeks to frame some of the key issues in measurement and reporting in future PBEPs, using the five principles as touchstones for shaping structure and content of reportable information.

The Sustainability Perspective at Work

What does it mean, in concrete terms, to apply a sustainability perspective measurement and reporting?

Consider the case of materials throughput, an indicator in the FRP framework whose architecture mirrors GRI (Ceres, 2005). Owing to its GRI roots and its own multi-stakeholder consultative process, FRP meets the test of a generally accepted framework for facility-based measurement and reporting. Using a traditional approach, materials throughput, a facility may be measured across all materials other than water, by type, including hazardous and non-hazardous. Tracking such data over time would provide a profile of aggregate materials use by weight and/or volume at the facility. If reductions per unit of product output occurred over time, a community group or other stakeholder likely would conclude that the process efficiencies have been put in place that yield per-

unit product materials savings, that is, less non-product output, or waste, per unit throughput.

In the short term, such reductions would represent a notable advancement in eco-efficiency. But in the long term, an even more impressive gain, one more aligned with sustainability principles, would occur if the designers were able to dematerialize production at the facility, and not just use existing material inputs more efficiently. Such dematerialization may occur, for example, through materials substitution (e.g., shifting from heavy to lightweight inputs) or by redesigning a product altogether such that the same (or greater) functionality is achieved with less material input.

An even more dramatic shift in the direction of a sustainability-based mindset is the option of substituting knowledge for materials. This involves a mindset which starts with the function, or service, the product provides, and then asks: How do we deliver that service to our customers in ways that minimizes its environmental footprint? Thus, for example, for a chemical producer that sells paints and solvents to the auto industry, the shift would involve reconstituting its business model from manufacturing paints and solvents to selling coating and cleaning services (White, Stoughton, and Feng, 1999). A contract between the chemical services company and the automaker would compensate the former on a per-unit (e.g., per-vehicle) basis, thereby providing incentives to minimize materials use throughout the coating and cleaning process. A business model of this nature is known as "servicizing."

In a similar vein is a company offering domestic washing and drying services that charges customers on a per-pound or per-cycle basis, or a company offering document printing services to commercial clients on a cost-per-page basis. All such arrangements present incentives to service providers to build durable equipment, maximize efficiency in the use stage of such equipment, and take the advantage of electronic monitoring to observe consumers' demand patterns. In short, the system is geared to minimize material consumption per unit of service delivered, an approach strongly aligned with a core aspect of sustainable business practices.

In sum, while all three approaches to reduce material use have merits, it is the third—servicizing—that represents the greatest promise for long-term advances in eliminating materials over the product lifecycle. It is, in other words, the approach most closely aligned with sustainability outcomes—systemic change coupled with a long-term perspective. It is cutting-edge practices of this nature that warrant a high priority in the measurement and reporting activities of program members. They also suggest opportunities for creating new applications of the tiering principle. For example, one may envision a scheme along the following lines for manufacturing facilities:

- Year 1: For an environmental category chosen by the facility, demonstration of reduced environmental impact via higher efficiency processes applied to existing materials.

- Year 2: For an environmental category—the same or different from the Year 1 choice—demonstration of reduced impact through materials substitution or product redesign.
- Year 3: For an environmental category—the same or different than Years 1 and 2—demonstration of a new business model based on the concept of performance contracting and per-unit-of-service pricing in lieu of traditional products sales.

A scheme of this nature, of course, will be applicable only to certain types of PBEP facilities in which the product-to-service transition holds promise. But we present primarily to demonstrate how two of the program design principles—sustainability and tiered—may be linked to nurture innovation in participating facilities. Measuring and reporting results of activities, including the process behind selection and implementation of the various material throughput approaches, can serve as a powerful impetus to build a culture of continuous innovation among PBEP members.

Materiality

At the foundation of any new measurement and reporting approach is the concept of materiality. Materiality applied to financial accounting and reporting refers to the provision of information necessary to support informed decision-making by investors. That is, information without which a reasonable investor would be unable to make prudent decisions regarding the financial prospects of a company.

In conformance with the stakeholder principle of program design, the definition of materiality is expanded beyond purely investor needs to include information that meets the needs of all stakeholders, e.g., employees, suppliers, communities, agencies, with legitimate interests in performance of a member facility. Such expansion implies reaching beyond the confines of cost savings and environmental performances to encompass a broader range of issues and outcomes. Thus, a rigorous PBEP measurement approach will ensure that information is adequate for multiple stakeholders to judge the sustainability performance of the facility based on a complete and accurate statement of the facility's environmental, social, and economic impacts (Epstein, 2008, 236).

But how should materiality be determined? The universe of potential performance indicators, of course, is virtually unlimited. Overloading stakeholders with too much information is as ill-advised as reporting too little. The former leads to confusion and frustration, while the latter leads to distrust and disillusionment. Such outcomes may only intensify in a PBEP vision that expands the range of possible categories of information and the number of stakeholders deemed to have a legitimate interest in a facility's operation.

The solution to this dilemma lies in applying the test of materiality. Among the virtually limitless indicators that describe facility performance, only a small subset meets the test

of being truly material. The remainder falls into the category of “interesting” or “nice to have,” but non-essential to inform stakeholder decision-making.

Moving from the universe of possibilities to a manageable subset requires two points of reference: (1) a standardized benchmark representing the best collective judgment of a multi-stakeholder process that has defined a set of indicators widely relevant to stakeholders; and (2) a facility-specific process to further winnow and refine the generally applicable to the specifically applicable, that is, applicable to a specific facility. In general, it is fair to say that PBEP performance measurement is making progress on the first reference, but that progress on the latter is uneven.

At present, using the GRI’s environmental segment as a point of departure, PT identifies four categories as candidates from which participants’ may select for reporting purposes —upstream (e.g., material procurement, supplier performance), inputs (e.g., material use, energy use), non-product outputs (e.g., emissions, waste), and downstream (e.g., product information). One may infer from this structure that environmental outcomes are the only ones that matter. If PBEPs are to evolve along the lines we have described, this one-dimensional focus will no longer suffice to capture the full range of outcomes—environmental, social, economic, and institutional—that next generation PBEPs should rightfully consider part of its benefits domain.

The logical next step, then, taking into account the sustainability, stakeholder, and tiering principles of program design, and with an eye on the alignment and learning principles as well, future PBEPs should construct a measurement and reporting architecture that encourages members to move incrementally forward from a minimalist to more robust measurement and reporting practices.

To illustrate how this might occur, consider a menu of aspects covering five areas of information: facility overview, economic, environmental, social, and institutional.

Table 1. Illustrative Reporting Framework for Future PBEPs

Performance Indicators	Aspects
Facility Overview	Total Production
	Sales
	Employee (broken down by status and type)
Economic	Payroll and Local Procurement
	Taxes and Subsidies
	Donations
	Local Infrastructure (non-core business)
Environmental	Materials
	Energy
	Water
	Biodiversity and Natural Habitats
	Emissions, Effluents and Waste
	Compliance
	Nuisance and Quality of Life
Social	Employment
	Labor/Management Relations
	Health and Safety
	Training and Education
	Diversity and Opportunity
	Human Rights and Discrimination
	Society and Community Development
Institutional	Facility-agency Relationships
	Facility-community Relationships
	Facility-peer Facility Relationships
	Within Facility Culture Change
	Within Agency Culture Change
	Agency-trade Association Collaboration

Source: Portions adapted from the Facility Reporting Project's (FRP) Sustainability Reporting Guidance (Ceres, 2005).

For many of the above, specific technical protocols are available as part of GRI's G3 Framework released in 2006. These protocols provide detailed guidance to reporters and report users on approaches to calculate each of the above indicators, thereby strengthening the prospects for comparable information across multiple facilities.

Table 1 is illustrative of the *potential* material information applicable to a specific facility. Determination of *actual* material information can only be determined through the second point reference, namely the results of a process of stakeholder engagement in which issues of interest to a facility's stakeholders are revealed through various instruments such as surveys, workshops, focus groups, and advisory panels. Both EPA's

PT and the Multi-State Working Group (MSWG, 2004) offer guidance on such approaches. EPA currently is working with Ceres/FRP in testing a stakeholder engagement guide. GRI's G3 Framework also offers useful guidance through its explication of "stakeholder inclusiveness," a key ingredient in producing high quality, credible reports (GRI, 2006).

Key Performance Indicators

Implementing a two-step process, which melds a generally accepted framework, such as FRP/GRI, with the results of a facility-specific stakeholder consultation helps guide program members to identify a set of key performance indicators (KPIs). KPIs present those indicators that, when taken together, provide the foundation profiling facilities' sustainability performance over time.

No consensus exists on how many KPIs is the "right" number. Certainly, the term "key" suggests a number less than dozens but more than a handful. In the PT guidance, small facilities must commit to measure at least two indicators from two categories of environmental improvement. All other facilities are asked to measure four indicators from two or more categories (EPA, 2005). As a point of reference, FRP lists 20 environmental indicators, while emphasizing that reporting on all is not required. However, for facilities aspiring over time to achieve the highest standard of disclosure—"in accordance" with FRP, managers must at least consider each of the 20 and either (1) report, or (2) explain why they do not (e.g., data systems do not yet allow such reporting, or stakeholder consultation indicates the indicator is of little or no interest). The FRP "in accordance" process is a direct adaptation of the GRI's framework.

In shifting toward a sustainable, multi-stakeholder perspective in future program design, the number of PBEPs logically will expand to some extent. With the addition of social and economic content in future PBEP reporting, KPIs for each of these two areas plus those for environmental performance translate into an expanded overall set reflecting the emergence of a sustainability perspective to the facility's measurement and reporting effort. Thus, if a program member has identified, say, four KPIs to cover the environmental aspects of its performance, an equal number of KPIs for social and economic aspects would bring the total KPIs to 12. For a serious reporter earnestly committed to practices supportive of sustainable development, this figure seems like a reasonable target to be gradually attained over time.

Agencies have a strong self-interest in supporting the development of a consistent set of KPIs across member facilities. While facilities understandably value flexibility and customization of measurement and reporting, a higher public purpose is served through consistency across reporting entities. Such conditions yield multiple benefits:

- the ability to compare performance at a point in time, and over time, across facilities within industry sectors;

- the ability to compare performance at a point in time, and over time, across sectors;
- the ability to identify which dimensions of sustainability performance are leading and which are lagging in terms of continuous improvement, thereby assisting agencies to prioritize their technical assistance efforts; and
- the ability of policy makers to assess the overall efficacy of PBEPs relative to alternative policy options for achieving specific outcomes.

Comparability in facility sustainability reporting is, of course, inherently more complicated than comparability in financial reporting, which enjoys the luxury of a single metric (dollars) and a single stakeholder (investors). But these inherent complications are no justification for leaving facilities with exclusive and indefinite discretion in selecting performance indicators.

The next generation of PBEPs has the benefit which the current generation never did: an emerging set of generally accepted indicators that has been tested and refined for several years by companies throughout the world. This experience, coupled with a decade of practice and learning by agencies and facilities, provides a sound foundation for moving toward a set of KPIs that promises to yield the public benefits such as those articulated above.

5. COMMUNICATION

With a sound measurement and reporting system in place, the next challenge for future PBEPs becomes optimizing communication with all parties with a stake in facility performance. As in the case of measurement and reporting, a communications strategy should adhere to the design principles outlined in Section 3.

Communication from the facility and program perspectives consists of an internal and external dimension. Internally, strong communication within and across facilities enables facility managers to track progress, identify risks, and tap opportunities in relation to R&D, new product development, process improvements, and employee learning and skills development. Facility staff benefit from internal communication by sharing program results and tracking progress toward sustainability goals. Such internal communication is crucial to internal marketing of a PBEP program and for making the case for extending participation to other facilities within the same company.

Externally, communication is the foundation for bringing timely, credible, trust-building information to stakeholders. Such information lays the foundation for stakeholder engagement that helps turn potential adversaries into assets, and conflict into cooperation. Information empowers all parties to explore common interests and to resolve disputes that inevitably emerge in the course of business operations.

For agencies, external communication serves as a tool to promote the benefits of the program, share program results with other participants, and increase public awareness, as well as attract potential program members. Timely communication is also essential in fostering relationships between EPA and the states with PBEPs. In particular, it serves to harmonize efforts to maximize synergies and shared learning, and strengthen prospects for alignment of measurement and reporting practices that strengthen the agencies' capacities to track progress toward shared goals.

The history of communication in PBEPs points to both the value and the limitation of current practices. For PT and for most state programs, some type of public outreach and reporting form part of program expectations. In the case of PT, no fixed standards exist for communication; individual facilities are left to decide what approaches are most appropriate given the size, product line, location, and stakeholder expectations.

For facilities that are part of companies that subscribe to one or more initiatives such as Responsible Care, Ceres or GRI, public outreach is a well-trodden path. For facilities without such experience, outreach typically is limited to modest efforts such as a newsletter or website and gradually expands as mangers over time explore new communications modes and messages.

Typical communication activities by EPA include publicizing facility memberships through articles in local newspapers, letters to state environment agencies, bulletins on state environmental compliance websites, and facility events with EPA, the local community, and other public officials (Abt Associates Inc., 2007). EPA also has signed formal Memorandum of Agreements (MOAs) with states, sponsors monthly conference calls with state agency staff working on performance-based programs, and convenes annual state and regional conferences to promote performance-based programs (ECOS, 2005), in order to encourage communication and coordination with the states.

In general, it is fair to say that PBEP participants' communications have been relatively limited in scope and media. Most have been in the form of annual reports, press releases and public meetings. This is equally true for most of the communication measures initiated by EPA and the states. With a vision of PBEP that enlarges the domain of issues and stakeholders, effective communications will require diversification of media and messages relative to the limited few characteristic of current practice.

Consider, for example, the goals of shifting the curve of sustainability performance (upgraded from solely environmental performance) and diffusing best sustainability practices throughout the business sector to which a participating facility belongs. Transforming facility management into such a sustainability mindset requires a continuous flow of examples and benchmarks targeted at facility operators to inspire and guide deep change in the organizations.

From an agency perspective, such information helps meet two key goals of PBEPs: increasing program awareness and recruiting new participants, especially those that tend to be trend setters within a specific sector. From the participant perspective, strong

communications increase public recognition of a facility's progress and, in so doing, strengthen reputation and brand. Each of these goals implies different information content, presentation and communication methods. The ways stakeholders assimilate and utilize information are highly variable. No one size fits all in the communication of sustainability performance.

Stakeholders

Mulistakeholder engagement, consistent with the second program design principle, is integral to the success of any communications strategy. In a new vision of PBEPs, stakeholders are not passive recipients of information. Instead, they are active contributors—partners and collaborators—in shaping the communications itself. This is the difference between monologue and dialogue.

The traditional mode of communication is for the facility to decide, based on its own judgment, what stakeholders need in the way of performance information. Dialogue, in contrast, views stakeholders as assets capable of bringing fresh insights into facility sustainability management issues once provided with the information they—the stakeholders—define as material to interaction with management. Dialogue of this nature may entail the conduct of workshops, focus groups and electronic conversations to define priority information needs of the delivery mechanisms that will be most effective in providing it. Although identifying stakeholders willing to engage at this level is not inexpensive, the application of appropriate communication measures, such as web-based tools, allows economies once the engagement process begins.

To illustrate, consider four key stakeholder groups: community, supplier, agency, and employee. Table 2 suggests how communications instruments may vary across groups.

Table 2. Facility Stakeholders and Illustrative Communication Instruments

Stakeholders	Communication Instruments
Community	
Neighborhood or community groups	Public meetings, web-based tools
Trade unions, labor unions	Public meetings, focus groups
Non-profit, non-governmental organizations (NGO) that operate locally or regionally, or as field offices of national NGOs	Workshops
Major non-local NGOs with a specific interest in the facility	Workshops
Local media	Web-based tools, telephone interviews, public meetings
Local customers	Web-based tools, mail questionnaires
Suppliers	
Local or regional business suppliers	Workshops, web-based tools
International suppliers	Electronic questionnaires, web-based tools
Agency	
Local , regional or state government authorities	Focus groups, web-based tools
Federal , state, and local regulators	Workshops
Police and fire departments	Public meetings
Employees	
Workforce, direct and on-site contract employees	Electronic questionnaires
Facility management	Electronic questionnaires, Workshops
Corporate management	Workshops

Different instruments are used to engage and communicate with different stakeholders, including facilities at different levels of program participation. When selecting communication instruments, reporting facilities or agencies should ensure that all relevant stakeholders are involved. Appropriate communication instruments include public meetings, focus groups, workshops, one-to-one interviews, telephone interviews, mail questionnaires, electronic questionnaires, and other web-based tools, such as websites, webcasts, podcasts or video clips. Printed reports and materials could be distributed at public meetings, focus groups, and workshops. Public meetings provide a platform for stakeholder engagement and are effective in conveying messages to the local community, as meetings of such nature are generally open to the public and other interested groups, such as trade unions or environmental groups.

Workshops and focus groups provide an environment for detailed information in specific areas to be conveyed, and for situations that require higher levels of engagement. These instruments are best used for engaging suppliers, agencies, and employees. Such meetings can also help facilitate information to be shared among different stakeholders; for example. when facilities report their program results to their employees and agencies, or when facilities require certain data framework from their suppliers.

Any feedback on program effectiveness and success should be communicated on a regular basis and the use of questionnaires and interviews will be able to obtain direct, timely and reliable responses from member facilities and their customers, business partners and suppliers, as well as employees. Since web-based tools allow for greater access among a broader scope of audiences, they are best used to engage local community groups, media, customers, suppliers, and agencies in a cost-effective manner. Such tools also act as a supplement to workshops and public meetings in providing program results, success, and challenges throughout the implementation of the program, and annual reports.

Messages

How might a facility, EPA or state agencies think about fashioning messages for various audiences?

For this purpose, some basic differences exist between messages developed for internal audiences versus those developed for external audiences. Internal messages refer to messages directed at employees at the facility and colleagues within the larger company, assuming it operates multiple facilities at different sites or, from a program perspective, colleagues within EPA and state agencies. External messages are targeted at any party external to the facility, its parent organization, EPA, or state agencies. Determining priorities among these stakeholders is part of the communication strategy development process.

Internal Messages. Consider first the messages to internal audiences. For facilities, the overarching goal is to provide information to support decision-making in relation to replication of the improvements undertaken by the participant. Well-informed internal audiences, i.e., employees either within the facility or in sister facilities belonging to the parent company, play a major role in diffusing sustainability thinking throughout the organization. For EPA, internal messages should be targeted at colleagues within the agency or state agencies that are implementing PBEPs. To support such activities, information on process is central, especially how a facility or agency organized its human, information and financial resources to pursue a particular sustainability improvement goal or program outcome. Stories of what worked, what didn't, and why offer powerful learning opportunities for colleagues in the process of setting priorities for future initiatives. Case studies of this nature may be communicated via various mechanisms, e.g., intra-net postings of illustrative projects, both those that succeed and those that fall short.

The frequency of internal messages should be relatively high compared to external messages. Keeping internal audiences abreast of changes that are taking place from the earliest phase supports "real-time" learning: "Here is what we are doing, here are some early results, and here are the corrective adjustments we are undertaking and why." Bringing colleagues into the process as the process unfolds is vastly superior in terms of organizational learning than simply reporting outcomes at the end of change process as a

fait accompli. In fact, such engagement itself strengthens the prospects of success by enlarging the pool of human resources brought to bear on the design and implementation of a particular initiative.

Internal communications of PBEP-related initiatives should also be more in-depth in their content since recipients will be those who may, in the future, be asked to replicate the actions at the participating facility. Building knowledge of this nature, whether it pertains to an eco-efficiency initiative, an occupational health and safety improvement, or a training initiative to introduce stakeholder engagement skills—are all integral to the replication of the successes and avoidance of the mistakes as additional facilities join company-wide innovation campaigns.

DuPont is an example of a company that has effectively communicated sustainability metrics to mobilize organization-wide support for its sustainability initiatives. The company has integrated its environmental measures with business performance, and supported such integration with a framework that identifies multiple stakeholders pivotal to its sustainability goals, namely: stockholders, society, employees, and consumers (Global Environmental Management Initiative, 1998). It provides its employees with information on how increases in environmental performance enhance business performance and how environmental improvement should be viewed as a business opportunity. This vision is filtered across its business functions, including operations, sales, R&D, marketing, and finance.

External Messages. For external audiences, by definition more diverse than their internal counterparts, frequency, mode and depth of communications should be adapted to each group's needs and expectations. The following three different stakeholders illustrate this point:

- **Communities**: Communities—neighbors, community-based organizations, local authorities, and the general public—are primarily interested in how the facilities' operations are affecting local environmental and economic conditions. Since this stakeholder group represents the "front line" of impacts, frequent, sometimes real-time, impacts are optimal. For example, electronic posting of real-time (or hourly or daily average) air emissions benchmarked against national allowable limits or standards is an immediate concern. In the economic arena, regular information on job opportunities and terminations, and opportunities for local vendors to respond to requests for services are direct, here-and-now impacts of facility operations that PBEP participants should consider making accessible to community stakeholders. To supplement the web-based information, periodic public meetings that review the facility's performance and solicit feedback at the same time, are valuable supplements to the web-based information programs. EPA and state agencies can also publicize their respective roles in leading PBEPs, the benefits of PBEPs, program results, and to increase public awareness through public meetings and web postings.
- **Advocacy groups and unions**: Advocacy groups and unions tend to be less interested in near-term performance and more interested in mid-term—monthly,

yearly—trends in facility performance. How is a facility over the course of a year performing in terms of reducing carbon emissions relative to a year earlier or relative to emissions at comparable facilities in other states or regions? Are net changes in jobs on the downswing or the upswing relative to a year earlier or comparable facilities in other states or regions? For this audience, standardized data posted on the web, preferably audited by independent third parties, are likely to be most valuable.

- **Customers and consumers**: Customers and consumers above all seek assurance that products are of high quality and safe for their intended use. Missteps on either front may cause serious reputation damage that infects not only the specific facility in question but the entire brand a company has worked hard to cultivate. Ultimately, demonstration of quality and safety is tied to building and sustaining a track record of such high standards and managing failures quickly and convincingly. The classic case of Johnson and Johnson's massive and rapid recall of tainted Tylenol is often cited as the premier case of sound management practices. More recently, Mattel's deft, forthright handling of lead-tainted toys from Chinese contract factories is a similar demonstration of management acumen. In both cases, a combination of full and immediate disclosure of the problem, explanations of corrective actions, and rapid return to quality and safety standards associated with the brand actually fortified the brands these companies had spent many years cultivating. Annual reports published by the facilities that present their sustainability performance should also be accessible to all consumers. Innovative reporting measures have been implemented by Kingfisher, a leading home improvement retail group in Europe and Asia. The company reports on its environmental and social progress using an interactive online reporting tool that provides information and data by the country for each area of activity. This tool is supplemented by annual reports.
- **Existing and potential members**: Existing and potential program members are the main target for EPA and state agencies. Existing members require guidance or mentoring assistance to ensure a continuing stream of benefits. External messages for non-member facilities seeking additional information about the program or guidance regarding the application process from a current member is essential to enlisting new members. For example, the challenges involved in achieving program goals, the advantages of being a member facility, the level of desired engagement required from facilities, and any associated costs incurred are some key messages to communicate.

For both internal and external audiences, messages pertaining to sustainability performance are strengthened by the use of compelling, personal stories that complement quantitative information. Actual experiences told by real individual people affected by PBEP improvements make for high-impact messages. In addition to annual reports and press releases, the most common form of PBEP communications, interviews with local residents and other stakeholders may be communicated through written and video technology to demonstrate program benefits or challenges. For example, an anecdote told by a local resident may depict how an industrial process improvement resulted in the return of a local water body to recreational use. This message may powerfully

demonstrate in concrete terms how PBEPs produce measurable community benefits. In the same vein, an anecdote in which a neighboring, non-PBEP facility manager describes how a participating facility influenced her decision to implement the same or similar upgrade would demonstrate the diffusion of innovations made possible by PBEP membership. Of course, a series of anecdotes that communicate only positive results will be received with skepticism. Balanced messages, demonstrating the challenges and trade-offs of PBEP membership, are integral to building both the facility's and the program's credibility.

In sum, the key ingredients to effective communications are stakeholder needs, tailored messages, and multiple media. No single formula applies to all audiences. Internal audiences in general require greater frequency and depth, as well as a strong emphasis on *how* sustainability initiatives are conceived and implemented. In other words, they need information material to the decisions they make in executing their day-to-day responsibilities. At the core of such responsibilities is priority-setting among potential competing uses of scarce human and financial capital and excellence in the implementation of initiatives once the commitment is made to proceed. Both of these responsibilities necessitate frequent and intensive exposure to the experiences of colleagues within the participating facility in relation to identifying, designing and implementing various sustainability initiatives.

External audiences are of a different stripe. These groups, by and large, are less concerned about the process behind an initiative and more concerned about its outcome. They are, by definition, highly diverse, comprising, among others, neighbors, activists, customers, suppliers, and investors. Effective communication with these groups is less about frequency and depth and more about clarity and comparability of end results. Is the air cleaner, the product safer, the job more secure, and are the relationships with facility managers more constructive as a result of a particular initiative?

To answer questions of this nature requires customized information using multi-media techniques, from sustainability reports and hard-copy newsletters to podcasts and video clips that communicate and provide stakeholders with the information, understanding and, hopefully, confidence that their needs are fully accounted for in the decision-making of facility management. When such engagement occurs, the mindset of the managers with respect to stakeholder interests will shift from one of burden to benefit. They see that in the long term the interests of the facility converges, not conflicts, with the interests of its stakeholders. It is this shift in mindset that measurement and communication of sustainability performance helps achieve.

6. NEXT GENERATION PBEPS

PBEPs will remain a fixture on the landscape of voluntary programs for the foreseeable future. Their popularity, like the popularity of voluntary programs in general, flows from the widespread recognition of the inherent limitation of regulatory mandates. Principal

among these limitations is the static nature of regulations that fix technical and performance standards and, along the way, create major policing burdens on government that are increasingly unaffordable.

But if PBEPs are to remain not just a component but a dynamic contributor to advancing the country's sustainable business agenda, they must correct certain design weaknesses and, moreover, adapt to changing societal needs and expectations of business enterprise. Since the launch of PT and its many state counterparts since the year 2000, hundreds of companies have elected to participate in such programs. Anecdotally at least, much has been achieved. Thanks in part to PBEPs, environmental footprints have reduced and cost savings have been achieved. Facilities have enjoyed the benefits of recognition, reputation enhancement, and stronger, more productive relationships with federal, state and local authorities. While performance measurement has been hampered by lack of standardized reporting, comparable KPIs, and inconsistent measurement tools, it is fair to say that in the eyes of many net benefits that have been substantial enough to warrant continuation of PBEPs in some form.

But what form should that take? Since their conception more than a decade ago, the conditions in which business operates have changed dramatically. Sustainability—operating with the eye toward the long term and accounting for multidimensional impacts encompassing environmental, social and economic—is now generally accepted as integral to responsible business practices. Stakeholder management and, to a lesser degree, stakeholder governance, have emerged to challenge orthodox views of business that position shareholder interests above those of all other stakeholders. Those at the cutting edge of management theory and practice now view stakeholders not as burdens to be minimize but assets to tap to advance the long-term prosperity of the enterprise.

Trends like these have spawned a plethora of frameworks, standards, and tools to help companies navigate an increasingly complex and risky landscape. GRI, FRP, value chain models, lifecycle analysis, and verifiable workplace practices are all part of the new generation of instruments that companies cannot afford to ignore. In the same vein, PBEPs, too, cannot afford to stand still and ignore both the larger trends that are redefining business practices and the specific instruments by which such trends are brought to bear on corporate and facility operations.

Next generation PBEPs, to maintain and deepen their role in driving beyond-compliance behavior, must embrace the sustainability and stakeholder perspectives that are increasingly finding their way into core business strategy. Further, underlying all program elements should be an adherence to the principles of alignment with generally accepted norms, tiering to accommodate participants of various skill and resource levels, and institutional learning to infuse a beyond-compliance mindset in the culture of participating organizations.

Moving beyond an exclusive focus on the dominant environmental and cost saving outcomes of current programs, next generation programs will need to stretch beyond their traditional boundaries in terms of both outcomes and constituencies. They must embrace

the notion that one-time or occasional environmental improvements are no substitute for shifting the culture of facility managers toward continuous improvements that span the multiple dimensions of sustainable business practices. A shift of this nature is not only in the long-term interests of participating facilities. Equally, it is essential for the long-term competitiveness of PBEPs vis a vis the multitude of voluntary initiatives available to companies now and in the future.

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