

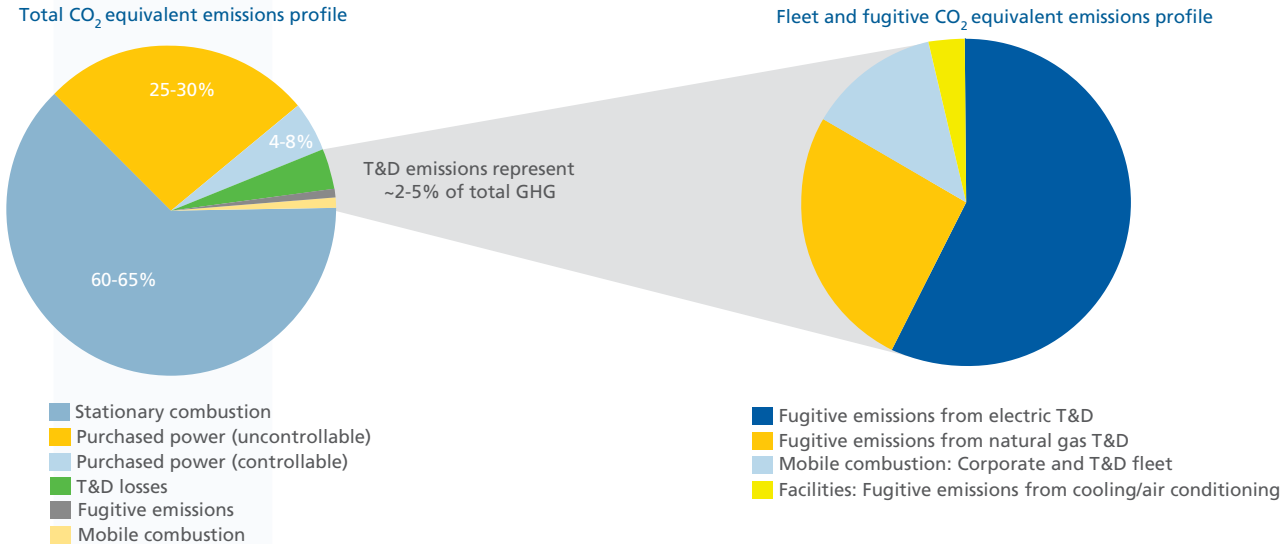
# The Real Point of Being a “Green” Distribution Utility

## Beyond good corporate citizenship, there are tangible benefits

Within the broad context of improved social responsibility and corporate citizenship, many utilities are undertaking major efforts to become green, particularly to reduce their carbon footprint. They’re motivated by changes in the regulatory landscape, customer sentiment and perception and, in fact, the effects of green initiatives on the bottom line.

The principal strategy in this regard has been to launch initiatives to reduce greenhouse gas (GHG) emissions. To date, these initiatives have focused primarily on generation operations, since that’s where most of the carbon comes from, as shown in Exhibit 1.

Exhibit 1 For a typical vertically integrated utility, 2%-5% of CO<sub>2</sub> equivalent emissions come from T&D operations



Source: Disguised, composite data from several utilities.

However, Transmission and Distribution (T&D) emissions are not insignificant in absolute terms, and there is real customer, regulatory, and economic

value in becoming a green T&D delivery unit or distribution utility.

## Advantages of Going Green

The environmental impact of T&D organizations is highly public because the infrastructure is so close and visible to customers. But the traditional rationale for green T&D initiatives, which revolves around social responsibility, is being joined by the reality that green initiatives can create significant financial, operational, and organizational advantages. Such T&D carbon footprint initiatives, when done right, tie directly to key components of performance including productivity, safety, regulatory treatment, and customer satisfaction (Exhibit 2).

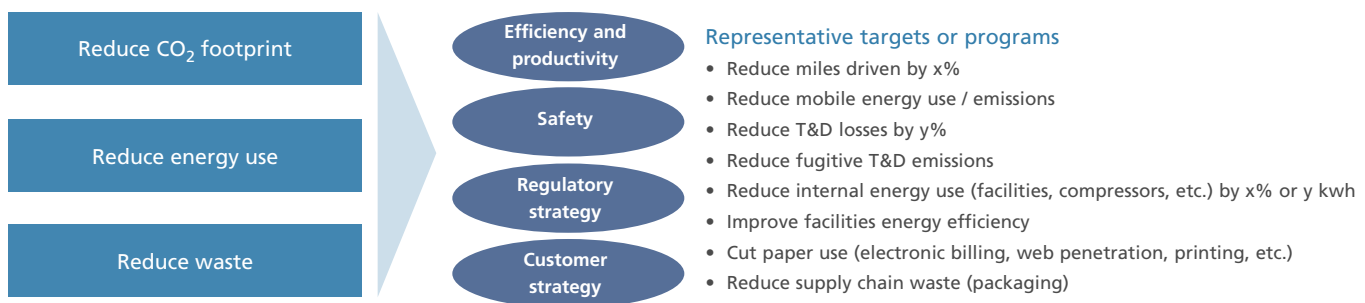
Beyond the operational and financial benefits, becoming a green T&D organization has other advantages. Customer expectations regarding environmental issues have risen in the past few years, and customer perceptions have become increasingly important to manage-

ment, regulators, and ultimately to the distribution utility's enterprise value. Evolving into a green utility thus is becoming one common element in various strategies to increase shareholder value.

In addition, looming shortages of certain skilled workers worldwide have sparked a sharper focus among companies in a variety of sectors to try to attract the highest-quality employees. Social responsibility and a green brand can become key strategies for attracting and retaining qualified younger employees.

Given the numerous advantages of going green, how can T&D organizations successfully implement carbon footprint reduction programs?

Exhibit 2 How green or carbon footprint T&D initiatives tie to corporate objectives



Source: Oliver Wyman analysis.

## Green Program Alternatives

T&D utilities can take a number of tactical and strategic approaches to reduce GHG emissions. Exhibit 3 describes a range of green programs, from significant system redesign (resizing conductors to reduce losses on T&D lines) to less

costly operational changes (updated gas blow-down procedures). These measures vary significantly in their cost to implement and their potential for reducing a carbon footprint.

Exhibit 3 Operational programs to address the sources of T&D emissions

Fugitive electric T&D Factors: SF <sub>6</sub> /line losses	Fugitive gas T&D Primary emission: CH <sub>4</sub>	Mobile combustion Primary factor: CO <sub>2</sub>	Fugitive heating, cooling Primary factor: HFCs
<ul style="list-style-type: none"> <li>• SF<sub>6</sub> leakage and repair programs</li> <li>- Transformer design specs</li> <li>- System and component evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Assess and work down gas leak backlogs</li> <li>• Review gas blow-down practices</li> </ul>	<ul style="list-style-type: none"> <li>• Mileage reduction</li> <li>- GPS and automated dispatch</li> <li>• Operating practices:</li> <li>- Speed controls</li> <li>- Idle reduction</li> <li>- Preventive maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Employee practices</li> <li>- Conservation</li> <li>- Recycling</li> <li>- Vehicle pooling</li> </ul>
<ul style="list-style-type: none"> <li>• Design reviews and potential design basis changes:</li> <li>- Conductor losses/circuit design and resizing</li> <li>- Transformer losses/design specs</li> <li>- Operating voltages</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate/change pipeline/meter specs:</li> <li>- Coated steel (protected) pipe</li> <li>- Plastic pipe</li> <li>- Residential/commercial meter types</li> <li>• Examine LNG plant emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Vehicle right-sizing</li> <li>• Alternatively fueled vehicles:</li> <li>- Ethanol (E85), CNG, diesel hybrids</li> <li>• Automated meter reading (eliminate the need to drive)</li> </ul>	<ul style="list-style-type: none"> <li>• Facilities footprint reduction (scope and space planning):</li> <li>- Unused space</li> <li>- Sq. ft. per employee</li> <li>- Hoteling</li> <li>• Energy efficiency measures</li> <li>• Vehicle cooling</li> </ul>

Source: Oliver Wyman analysis.

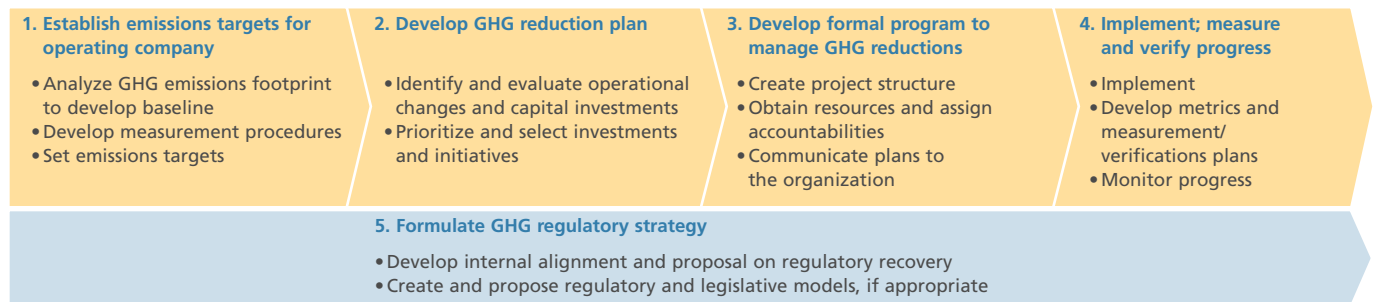
## A Structured, Two-Tiered Approach

It is most effective to employ a disciplined, two-tiered approach to explore and evaluate options and develop a comprehensive strategy for GHG reductions. As shown in Exhibit 4, the operational part of the equation involves establishing a GHG baseline and reduction targets, selecting the initiatives and investment plans to pursue, and developing a project structure and set of metrics to manage and track progress. Developing a strong GHG reduction program should involve a thorough assessment of existing internal green programs within the company, at other utilities, and with pioneers in other industries that

have created sound strategic imperatives for environmental stewardship and have distinguished themselves through superior execution.

At the same time, forming a regulatory strategy must complement the operational piece. Evaluation of potential rate-recovery options for GHG reduction expenditures and assessment of risk exposures associated with impending regulation help inform the development of a company's operational approach and regulatory strategies.

Exhibit 4 Two-tiered approach to GHG emission reduction

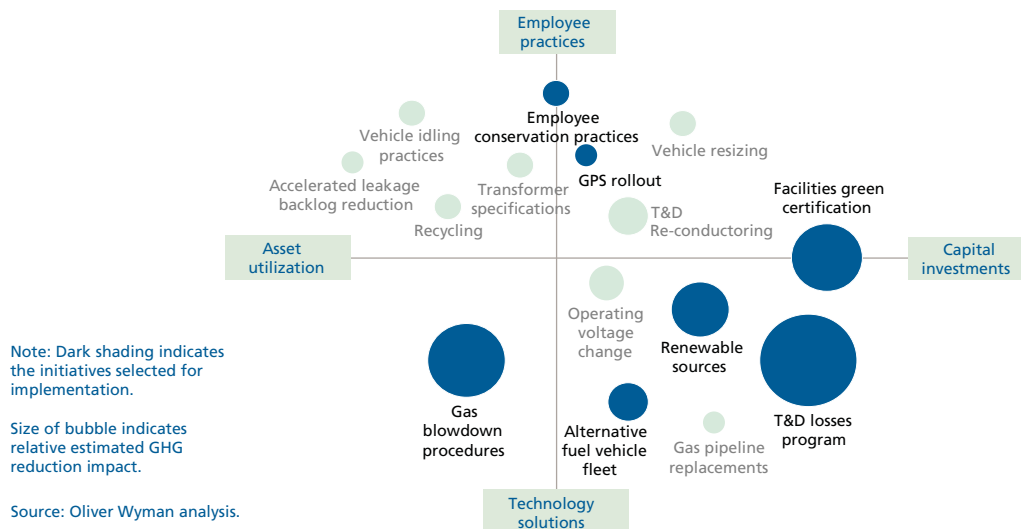


Source: Oliver Wyman analysis.

Once this two-tiered diagnosis has been completed, management can prioritize the available options based on their GHG impact, cost, operational and regulatory considerations, and other factors such as their fit with other corporate initiatives. Management can then establish the path forward and engage employees to plan and implement the chosen set of initiatives (Exhibit 5).

For T&D organizations, there are now direct links between achieving overall corporate objectives and transforming into a green utility. Performing a robust carbon footprint or GHG reduction evaluation provides a view of the full range of possibilities and forms the foundation for a GHG reduction strategy with real impact on the company's brand, operations, and economics.

Exhibit 5 Possible GHG emission reduction initiatives (illustrative)



## Questions for Managers

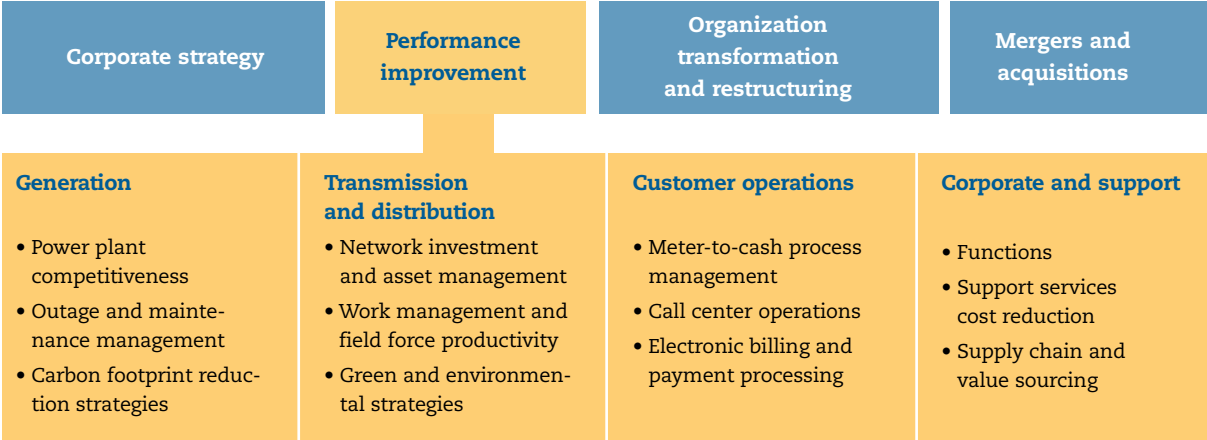
- How is the organization positioned for a green future?
- What is the company's green and GHG risk exposure”?
- Is the organization prepared to handle impending green regulation?
- Should the organization become a green utility?
  - What does that mean?
  - What are the benefits and costs?
- How much influence should being green have on the operating strategy? Investment choices?
- Has the organization maximized its potential to achieve intended regulatory outcomes?
- Is the organization ready to execute the necessary changes?

## About Oliver Wyman

With more than 2,900 professionals in over 40 cities around the globe, Oliver Wyman is an international management consulting firm that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, organizational transformation, and leadership development. The firm helps clients optimize their businesses, improve their operations and risk profile, and accelerate their organizational performance to seize the most attractive opportunities. Oliver Wyman is part of Marsh & McLennan Companies [NYSE: MMC]. For more information, visit [www.oliverwyman.com](http://www.oliverwyman.com).

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