

# Lean Tools to Raise Productivity Across the Value Chain

Utility companies are trying to find ways to reduce operating expenses without impacting service levels. Best-in-class utilities have reduced operating and maintenance costs by 15-25% in as little as six months and have continued to improve performance out to 18 months. What drives these high levels of operating performance and productivity are “lean” concepts and tools that make organizations more nimble, efficient, and productive.

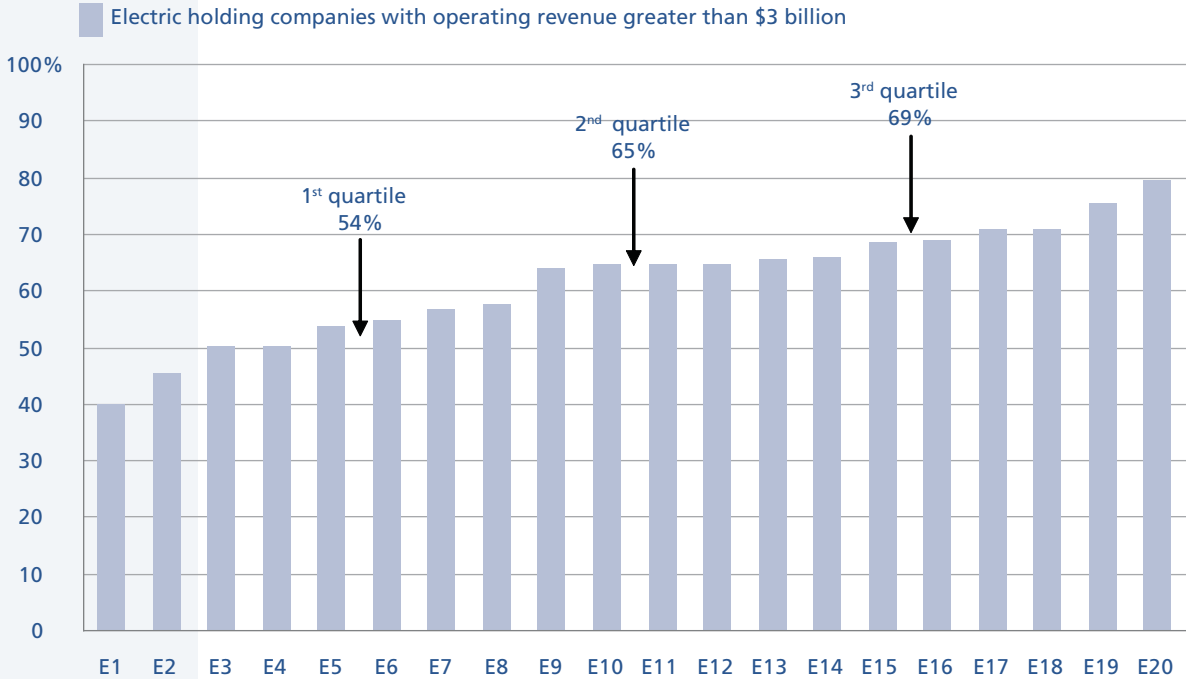
### Leaders and Stragglers

There is a large gap between productivity leaders and stragglers in the industry. The bottom quartile

of electric utilities are performing with ratios of operating and maintenance (O&M) expenses to operating revenue that are 1.7 to 2.0 times that of the 1st-quartile benchmark.

While O&M expenses of electric utilities range from 40% to 80% of operating revenue, the best performers are operating in the 40-54% range. Laggards can increase profitability through an operational lean transformation, and even solid performers can rise to the next level by using lean techniques to fine-tune their operating model.

### O&M expense as a share of operating revenue



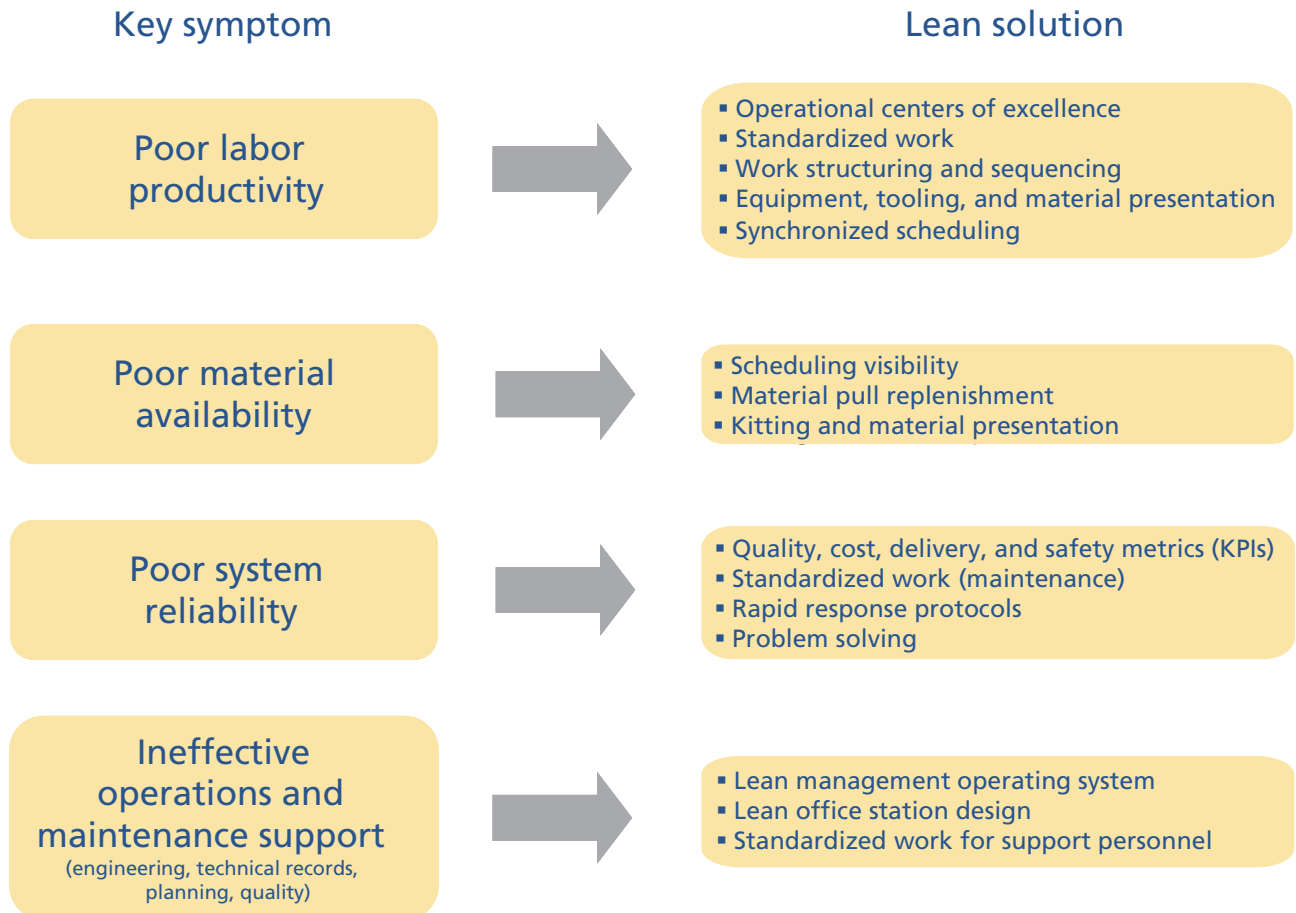
Source: FERC Form 1 - 2003 Data

## Lean solutions

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Although lean concepts have been around since the 1980s, adoption outside the automotive industry has been sporadic. Lean tools drive waste and inefficiencies out of the value chain to drive improvements that flow to the bottom line.

### Common utilities problems and lean solutions



### How lean works by reducing inefficiencies

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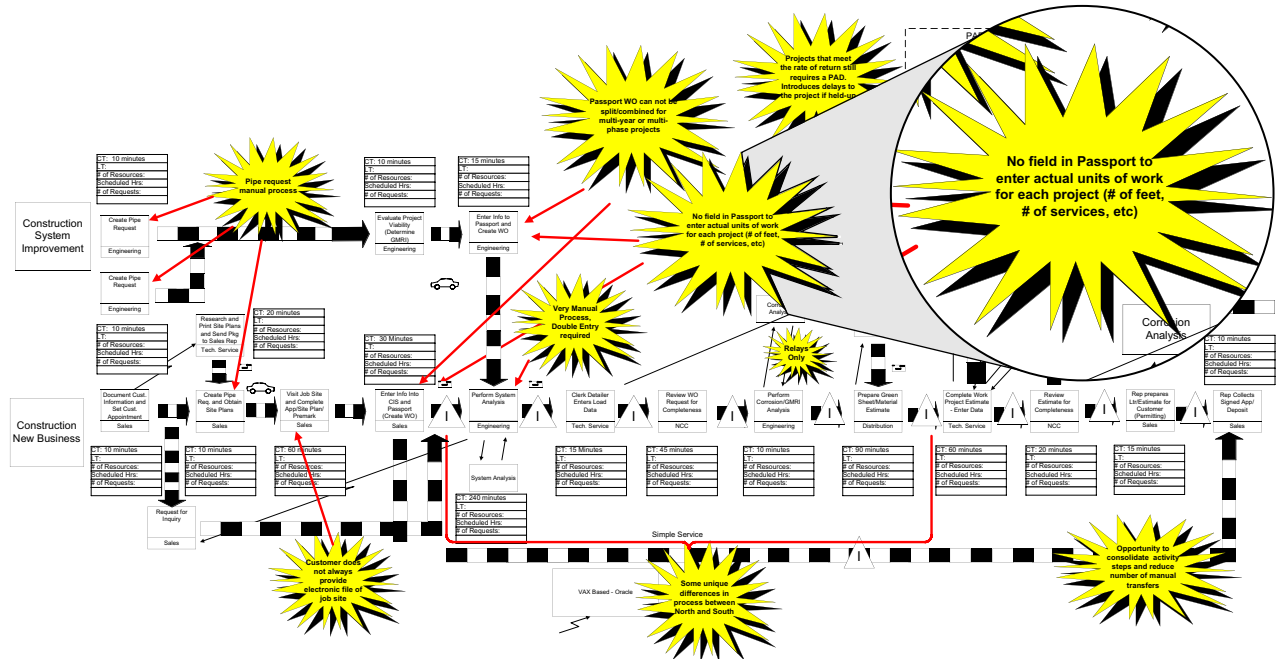
Sample field observations of work crews have revealed non-productive time of as much as 50-60%. This wasted time is often driven by factors outside the worker's immediate control, such as waiting for material, poor sequencing of work tasks, or delays in arrival to the job site.

By establishing work standards, pre-staging and kitting material, efficiently sequencing work activities, and measuring performance against established work standards, companies can dramatically reduce wasted time and cost while they improve productivity.

## Measuring and targeting inefficiencies

The effectiveness of functional groups (engineering, technical services, planning and scheduling) in supporting the field is an important factor in resource utilization. Completing a mapping analysis of their work streams helps to identify inefficiencies and improvement opportunities, which are shown as starbursts in the exhibit below. Management can then target these inefficiencies through an action plan to eliminate temporary solutions, excessive hand-offs, and interruptions in the flow of work, information, and material to the field. The goal of the action plan is not only to increase labor productivity in the back office, but also to drive efficiency in the field.

### Sample value stream mapping analysis



## Oliver Wyman case study

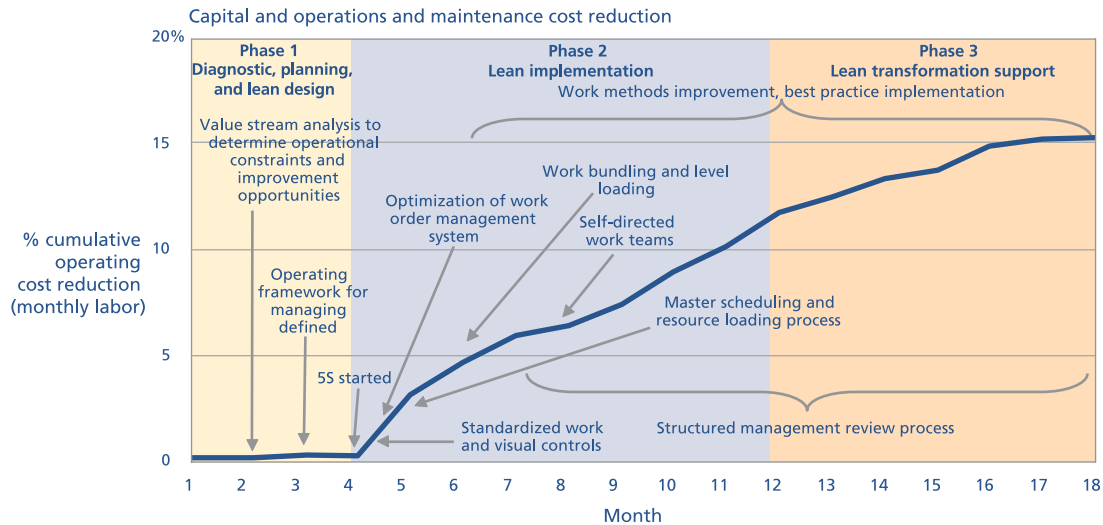
Applying lean methodologies and tools to transmission and distribution operations can deliver significant results, as shown with an Oliver Wyman utilities client below.

### Impact of Oliver Wyman lean project

	Beginning of project	End of project	% change
Annual labor spend	\$20 million	\$17 million	-15%
Project lead time, new construction	52 days	33 days	-37%
Work order process steps	31 steps	20 steps	-35%
Work order process cycle time	20.7 hours	12.4 hours	-40%

These results were achieved through a series of lean initiatives, with significant improvement in operating performance in the first six months and continuous improvement out to 18 months and beyond.

### Lean impact on O&M expense



Adopting and implementing a lean operating system provides a structured approach and the leverage necessary to drive high levels of operating performance and support future growth. Oliver Wyman has worked with leading companies in many industries to provide lean expertise that delivers breakthrough business results.

### Questions for Managers

Is your company lagging in operating performance? Or if a solid performer, do you want to move to the next level?

Are you bogged down by:

- Poor crew utilization and labor productivity?
- Construction cost overruns and delays?
- Excessive construction lead time (engineering, transmission, and distribution)?
- Poor service levels?
- Excessive administrative hand-offs?
- Complex and cumbersome work management systems?

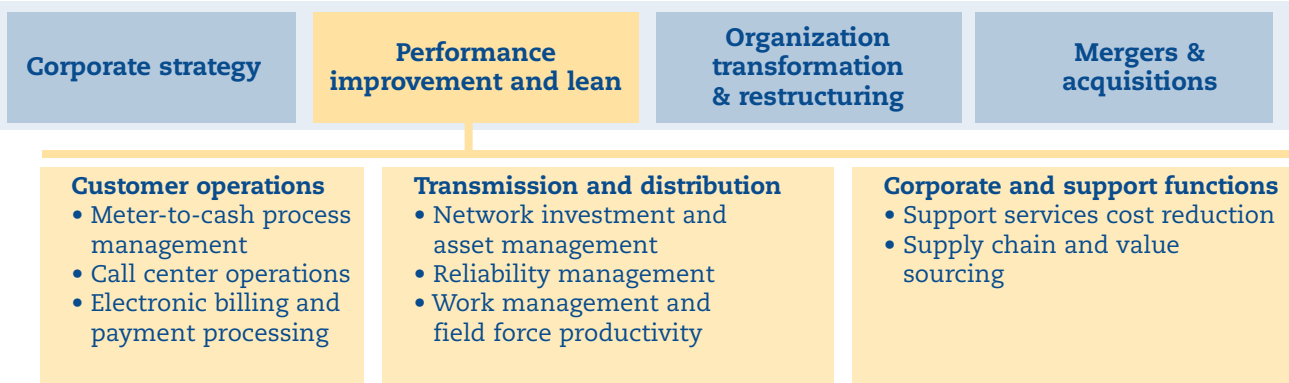
## Oliver Wyman

Oliver Wyman is building the leading global management consultancy, combining deep industry knowledge with specialized expertise in strategy, operations, risk management, organizational transformation, and leadership development. The firm works with clients across a range of industries to deliver sustained shareholder value growth. We help managers to anticipate changes in customer priorities and the competitive environment, and then design their businesses, improve their operations and risk profile, and accelerate their organizational performance to seize the most attractive opportunities.

## Oliver Wyman's Energy Practice

Our dedicated consultants have significant experience in the energy and utilities sector. Previous clients include more than 75 electric and natural gas utilities in North America and Europe, as well as a range of unregulated service providers to energy companies and utilities.

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