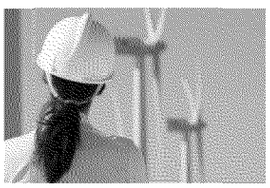
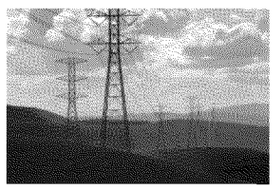
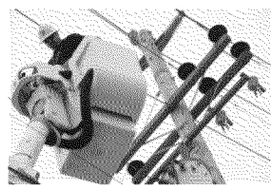
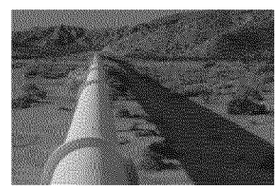
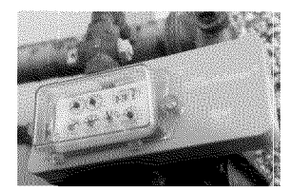
PG&E Corporation

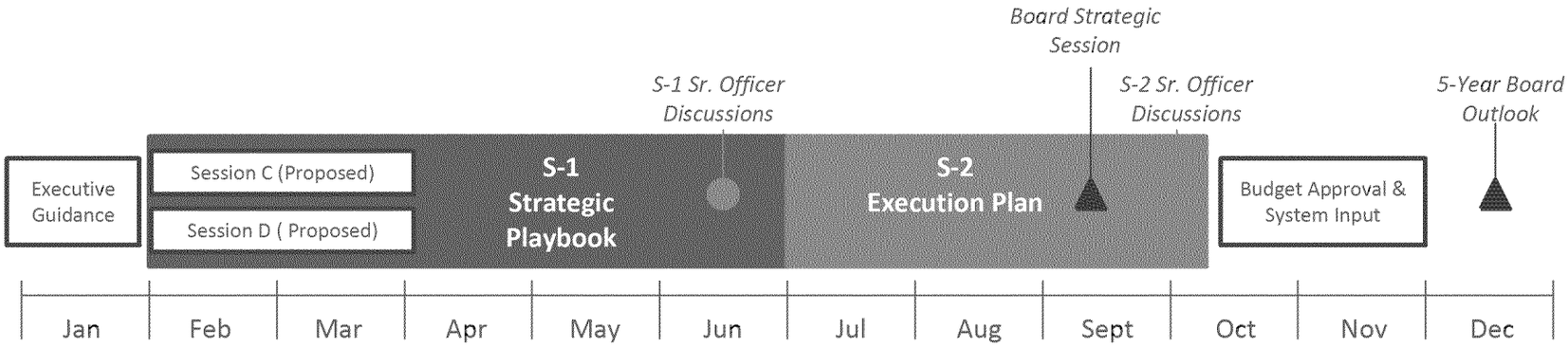
Pacific Gas and Electric Company®

Pacific Gas & Electric Company Strategic Playbook



The Integrated Planning Process



A rolling year-over-year approach . . .starting the next year based on the previous year's results

Process overview

- **CEO-led effort** – multi-year planning process modeled on GE best practices
- **Strategic planning drives execution** – bottoms up strategic decision making prior to execution and budget planning
- **PG&E's operating rhythm** – integrates all major governance and regulatory processes, including human resources, risk, compliance, and governance

Key components

- **S-1 Strategic Playbook** – overview of LOB goals & strategies, emphasizing a 5-year horizon
- **S-2 Execution Plan** – translation of the S-1 into an execution plan and budget request
- **Session C** – HR talent review and succession planning for key roles
- **Session D** – review of key LOB compliance requirements and enterprise-wide risk mitigation plans

Process to position PG&E for long term success

Key Focus Areas

Public Safety

Improve operations that will have the biggest impact in terms of improving system safety and reducing potential risk to the public

Employee Safety

Reduce serious injuries and preventable motor vehicle incidents

Reliable Operations

Move operational performance aggressively towards first quartile by identifying and closing gaps using benchmarking and continuous improvement

Customer Trust

Deliver on commitments made to customers

Affordable

Reduce unit costs while completing all planned work safely with quality

Back to basics . . . with a sense of urgency ⇨ Operational Excellence

Operating Model to be the Leading Utility

Operating Model drives achievement of 1st quartile performance

PG&E's S-1 Strategic Playbook

Strategic Business Units: deliver safe, reliable, and affordable electricity & natural gas

Electric Operations

- Zero public safety incidents
- 1st quartile employee safety performance
- 100% compliance
- 1st quartile SAIFI & 2nd quartile SAIDI
- 95% customer commitments met
- 1st quartile customer satisfaction
- 2nd quartile O&M cost per customer

Gas Operations

- Zero public safety incidents
- 1st quartile employee safety performance
- 100% compliance
- Cold winter day / abnormal peak day performance at design pressure and flow rate
- 1st quartile customer satisfaction

Energy Supply

- Zero public safety incidents
- 1st quartile employee safety performance
- 100% compliance
- Value Base Reliability implementation
- Increase Employee
- 5%
- A comprehensive

Support Services: improve effectiveness & reduce cost of services provided

Customer Care

- Deliver customer satisfaction processes that are consistent and simple
- Engage with local communities and deliver programs to help customers save

IT

- Deliver technology across the 13 Strategic Business Objectives
- Build foundational technology to support the business strategy

Shared Services

- Implement a comprehensive new approach to safety
- Deliver cost effective & timely products & services

Regulatory Relations

- Obtain approvals needed to deliver safe, reliable service
- Shape energy policies with the intent of minimizing rate increases

Finance & Risk

- Streamline and enhance planning effectiveness
- Build out enterprise risk and compliance programs

Human Resources

- Improve employee and contractor safety
- Shape culture & engagement
- Address changing workforce

Corporate Affairs

- Rebuild trust in PG&E
- Drive policy
- Engage in the community

General Counsel

- Focus on providing effective legal advice
- Develop and implement more rigorous resource utilization and budget controls

Benchmarking & continuous improvement increase performance levels across the company

Leading utility . . . measured by top quartile performance

Strategic issues raised in the S-1 process

Top Strategic Issues Requiring Company Examination

Identifying & Shaping Policies	Reducing Regulatory Complexity	Resource Integration	Change Management	Employee Engagement	Capital Availability	Cyber Security
Distributed Generation / NEM	Electric Vehicles	Competitive Transmission	Capacity Markets	Clean Energy Policy	Dynamic Pricing / Rate Design	Safety Climate

Strategic Issues by LOBs

Electric Operations

- Distributed generation
- FERC 1000 - transmission competition
- Energy storage
- Alternative fuel prices / incentives
- Renewable resource penetration
- Demand-side management, net energy metering
- Electric vehicle adoption

Energy Supply

- Renewables integration
- Declining natural gas prices
- UOG portfolio optimization
- Market exposure to renewables prices
- Long term impact of AB32

Gas Operations

- Skilled labor availability
- Industry-wide regulatory policies and mandates
- Risk of materials and services supply availability as the industry increases investment in gas integrity work

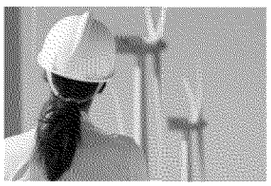
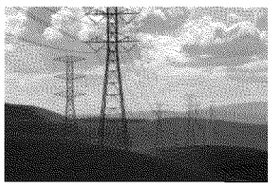
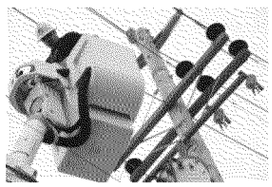
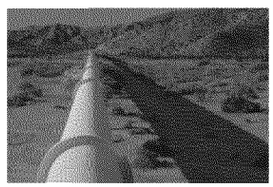
Support Services

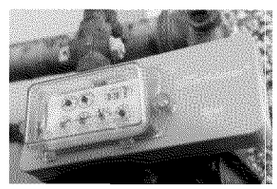
- Fukushima impact on nuclear industry in CA
- Growth opportunities
- Shaping capacity markets
- Reducing regulatory complexity/ changing regulatory paradigm
- Rate design/vision for dynamic pricing
- Technology innovation, Standardization, and Integration
- Customer data/privacy issues
- Cyber Security
- Capital availability
- Rising costs of services and materials
- Improving availability and unit costs of materials and services

PG&E Corporation

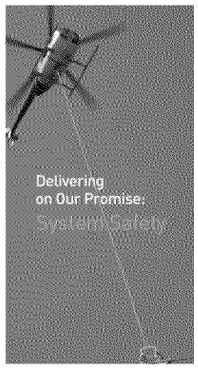
Pacific Gas and Electric Company®

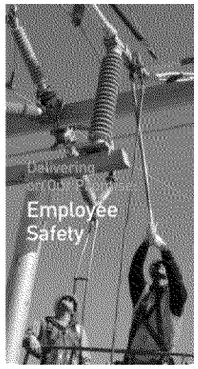
Electric Operations Strategic Playbook

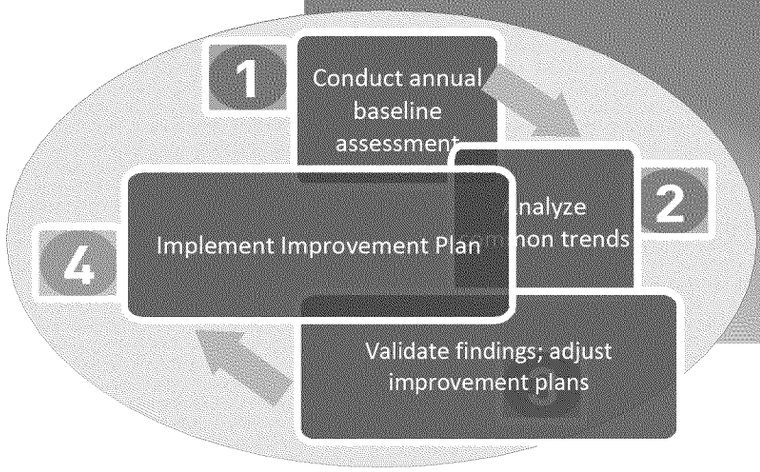







Improvement Plan

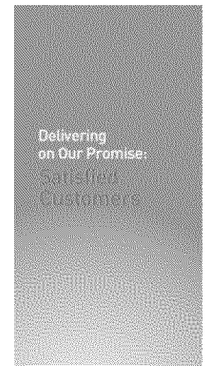


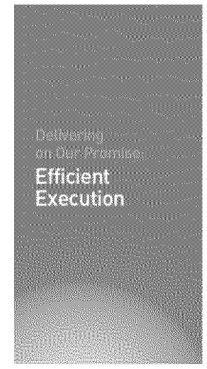




Delivering on Our Promise

- Employee Safety
- Public/System Safety
- Reliable Electric Service
- Full Compliance
- Satisfied Customers
- Efficient Execution



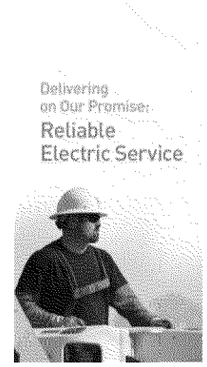


Key Enablers

Continuous Improvement
Workforce Strategy
Technology Roadmap

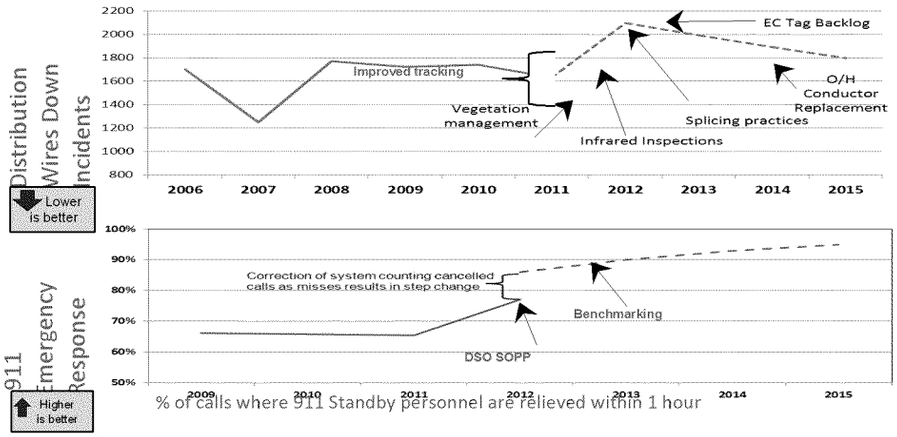
Anticipated Results

First quartile employee safety performance
No public safety incidents
No missed compliance obligations
> 95% customer commitments met
First quartile customer satisfaction
First quartile SAIFI / Second quartile SAIDI
Second quartile cost position



Improvement Plan Areas

Public Safety



Employee Safety

Metric	2011 Performance	2014 Target	2015 Target

Note: Arrows indicate when improvement plan actions begin; dotted lines indicate directional improvement

Overview / Long Term Goals

- Use a risk-based approach to develop investment strategy with emphasis on public safety to plan, design, maintain and operate our electric system safely and reliably
- Significantly improve our system-wide data management capabilities to utilize risk-based approach

Tactics

Implement risk-based framework

Develop/implement a methodology that better prioritizes system safety risk

Benchmark to know what success looks like

Continue "no regrets" actions

Mitigate known issues including wildfire mitigation

Improve data quality

Emergency Response

Engage customers and communities

Overview / Long Term Goals

- Develop a safety climate where all employees demonstrate a commitment to safety and have the skillset to safely execute work

Tactics

Create Ownership of Safety & Accountability

Reach Every Employee

Shift the Safety Focus to Recognizing & Controlling Exposure & Risk

Hazard identification & risk exposure reduction

Enhance Human Performance and Training

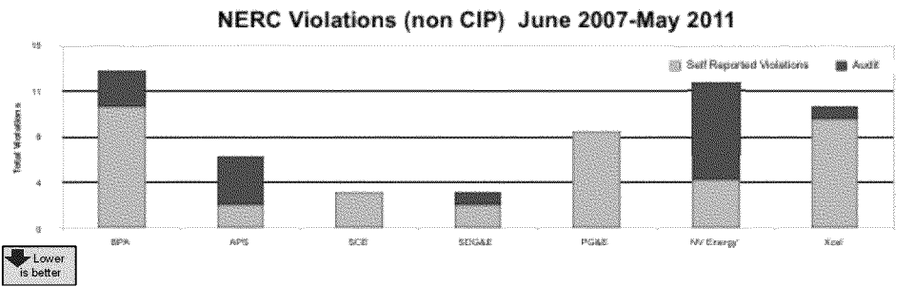
Continuous Improvement via Assessment Learnings & Best Practices

Knowledge and skills assessment

Red = New Initiative beginning in 2012 or beyond

Improvement Plan Areas (cont.)

Compliance



Overview / Long Term Goals

- Meet compliance obligations in four major areas:
  - NERC/WECC
  - CPUC General Orders
  - Environmental regulations
  - Other regulatory requirements
- Infuse both the letter and spirit of compliance requirements into all work
- Identify all compliance obligations, analyze our processes, determine gaps, evaluate risk and implement initiatives with priority based on risk

Tactics

Confirm compliance obligations

Focus on risk management / public safety

Analyze and identify gaps

Define core processes, document and understand handoffs

Assess effectiveness of controls

Evaluate risk and prioritize initiatives to close gaps

Analyze risks and compliance requirements associated with assets and all core processes

Execute improvement initiatives including preventive and detective controls

Reliability

Metric	2011 Quartile	2014 Target	2015 Target

Overview / Long Term Goals

- Implement a data-driven approach to initiate system-wide and local actions to improve reliability
- Partner with Customer Care and Corporate Communications to communicate reliability information to our customers and the public

Tactics

Improve Asset Performance

Reduce Outage Frequency and Duration

Develop programs to reduce customer interruption, reduce the size and duration of customer interruptions

Improve System Safety and Integrity

Accelerate plans to reduce infrastructure related backlogs

Influence Customer Satisfaction

Reduce the number of customers who experience multiple interruptions (CEMI)

Red = New Initiative beginning in 2012 or beyond

Improvement Plan Areas (cont.)

Customer Satisfaction			
Metric	**2011 Performance**	**2014 Target**	**2015 Target**

Work Efficiency			
Metric	2011 Quartile	2014 Quartile Goal	2015 Quartile Goal
FERC T&D O&M Per Customer	3rd	3rd	2nd
FERC T&D Capital Spend Per Customer *	4th	4th	4th
FERC T&D O&M Per Primary Conductor Mile	2nd	2nd	1st
FERC T&D Capital Per Primary Conductor Mile	1st	2nd	2nd

* Capital spend per customer to remain in 4th quartile based on current capital investment plan

Overview / Long Term Goals

- Fundamentally revise our customer order fulfillment mindset by setting objectives, designing operating procedures and coordinating construction work to efficiently give customers exactly what they want, when they want it

Tactics

Become much easier to do business with

Make our processes and documentation much simpler

Commit to the customer's schedule

Deliver as promised

Leverage technology to streamline workflow

Keep the customer informed

Focus on truly satisfying the customer

Energize the workforce to provide great customer service

Red = New Initiative beginning in 2012 or beyond

Overview / Long Term Goals

- Electric Operations is less cost competitive than high performing peers and its previous structure did not enable efficient work execution
- Implement a data-driven approach to reduce costs, develop more executable work plans and increase efficiency in field & support operations

Tactics

Reduce Cost Structure

Review and adjust labor and contracting strategies

Identify and capture opportunities for improved alignment and reduction of shared costs and direct costs / internal overheads

Improve Operational Efficiency

Prioritized focus on high cost programs

More efficient internal resource utilization via specific initiatives

Improvement Plan Enablers

Identify & Prioritize Projects

Performance against benchmarks
Business pressure
Areas of cost growth
High spend programs

Drive & Implement Change

Govern & Sustain Results

LSS standard methodology

D M A I C

Internally resource teams
Monthly review
Monitor changes & impact

Significant Projects

2012

Unit Cost
Distribution poles unit cost
Emergency unit cost
New Business unit cost
SCADA unit cost
Work Methods
Planned shutdown reduction (Hot Work)
Labor Optimization
Crew size standardization
Central contracting

2013

Work Methods
Planned outage reduction (Hot Work)
Labor Optimization
Crew size standardization – ph2
Estimating improvements
Schedule Optimization
Bundling work
Location redeployment

2014

Labor Optimization
T200/T300 work mix
OT/DT management
Schedule Optimization
Location redeployment
Design Optimization
Design standards simplification
Equipment variety rationalization

Asset and Records Management

- Implement technologies to collect, manage and provide access to accurate asset information
  - Condition Based Maintenance
    - Substation
    - Network
  - Electric Distribution GIS/AM
  - Field Asset Inventory
  - Convert Records to Electronic

Workforce Mobilization

- Implement mobile technologies to support customer service, maintenance, inspection, construction, and emergency work; focus mobile technologies on improved records accuracy, reduced administrative work, and improved workforce efficiency
  - MobileConnect – Electric Dist. Compliance
  - MobileConnect – Maintenance & Construction Scheduling/Dispatch System Upgrade

Electric System Operations

- Equip operators with tools to safely and reliably operate the evolving and more complex electric T&D system; Support the effective consolidation of Distribution Control Centers
  - T&D SCADA Data Historian
  - Distribution Management System
  - Transmission Outage Mgmt System
  - Emergency Outage Response Technology

Design and Work Management

- Implement design and work management tools to support increased efficiency and improved customer satisfaction with service planning and design activities
  - Substation Engineering Design Tools
  - Customer Connections Online Tool
  - Generation Interconnection Tools
  - Graphic Work Design Tool
  - Work Mgmt Systems Integration

Labor Trends

Work Demands

Work Mix & Volume

Supply vs. Demand

Understand long term workforce needs and develop pipeline of skilled leaders and workers

2012 — Workforce Solution Roadmap — **2013**

Talent Acquisition

2012	2013
Pre-apprentice program	Targeted talent acquisition to address attrition risks
D&I hiring strategy	
Custom supply model	Critical workforce long term pipeline development (e.g. entry level engineers)
Journeymen/Linemen hiring strategy	

Training

2012	2013
Supervisor & manager leadership programs	Crew lead training
Rubber glove	Enhanced apprentice cable splicer program
Safety initiative	Rubber glove and hot stick / live line phase 2
Hot stick / live line	
NERC certification	Establish training governance process
Crew lead tailboards	

Organizational Development

2012	2013
Line / support and span of control analyses	Labor contracting strategy
Labor agreement	Optimize line / support and span of control

Knowledge Management

2012	2013
Increase knowledge transfer process maturity	Sustainable knowledge repository
Knowledge transfer re-scan	

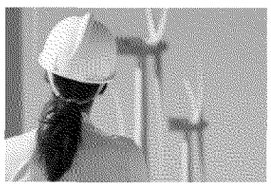
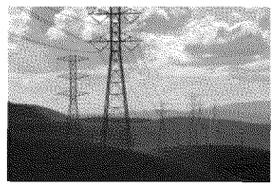
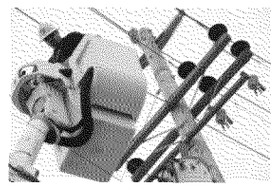
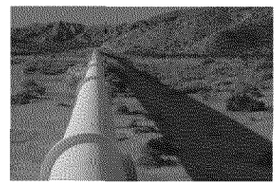
Retention

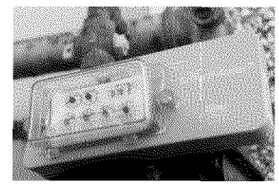
2012	2013
Attrition management strategy development	Implement attrition management strategy
Long term demand model	Critical workforce retention

PG&E Corporation

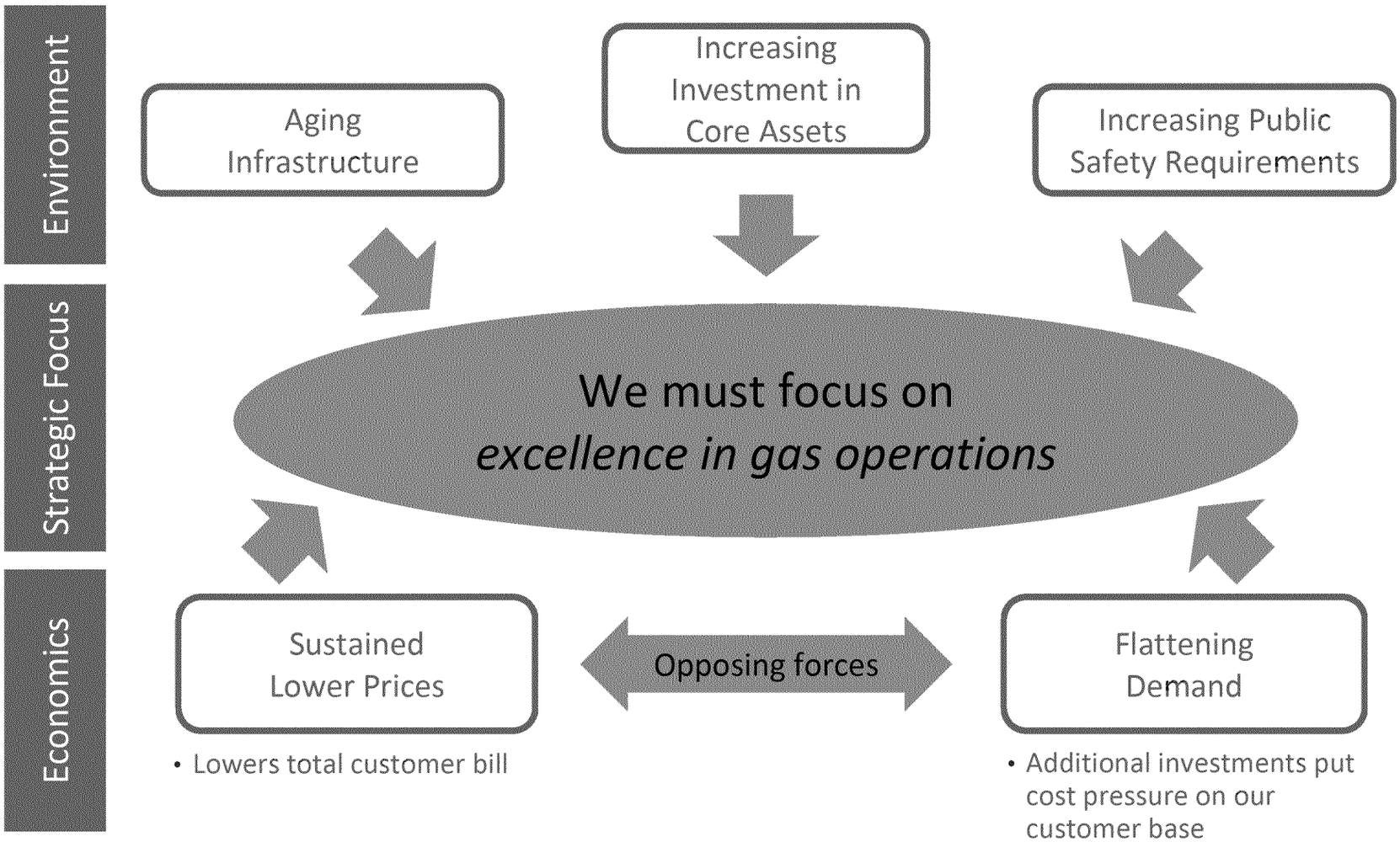
Pacific Gas and Electric Company®

Gas Operations Strategic Playbook

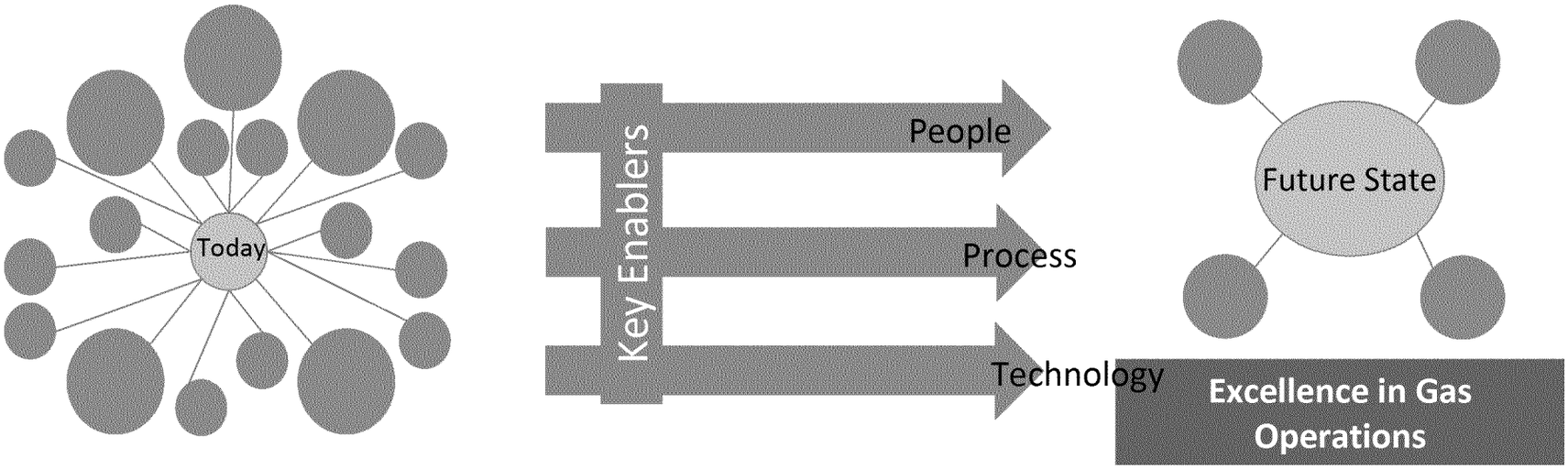







Current Operating Environment Leads to a Single Strategic Focus



Our Vision: Be the Safest, Most Reliable Gas Company



Strategic Objectives	Aspirational Results
• Public Safety • Employee & Contractor Safety • Compliance • Reliability • Customer Satisfaction • Efficiency	• Zero public safety incidents • Top quartile employee & contractor safety • 100% on compliance obligations • CWD / APD performance at design* • Achieve Utility Customer Satisfaction Goals • 1st Quartile Controllable Costs

* CWD: Cold Winter Day; APD: Abnormal Peak Day

Gas Operations Evolution

San Bruno (9/2010) — Q1,2011 — We are Here — 2014

Stabilize (Address Immediate Safety Risks)

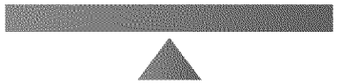
- Implemented immediate pressure reductions
- Performed accelerated system safety assessments
- Built and executed contingency plans to avoid service interruptions
- Collected and reviewed strength test records for all HCA transmission lines

Remediate (Build the Foundation)

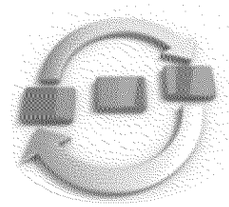
- Continue to identify gaps and prioritize their remediation
- Execute Pipeline Safety Enhancement Plan
- Rewrite and implement Gas Operations standards and procedures
- Improve integrity management process
- Leverage technology to improve accessibility and reliability of asset information
- Develop Risk Register & risk-based investment prioritization
- Continue to improve Process Safety Management

Improve (Achieve Excellence in Gas Operations)

- Achieve and sustain PAS 55 certification that leads to a world class asset management system
- Rebuild long-term trust with our stakeholders (customers, regulators, and shareholders)
- Achieve 1st quartile performance across critical benchmarks
- Improve operational efficiency without compromising safety



Build excellence in *fundamental gas operations*

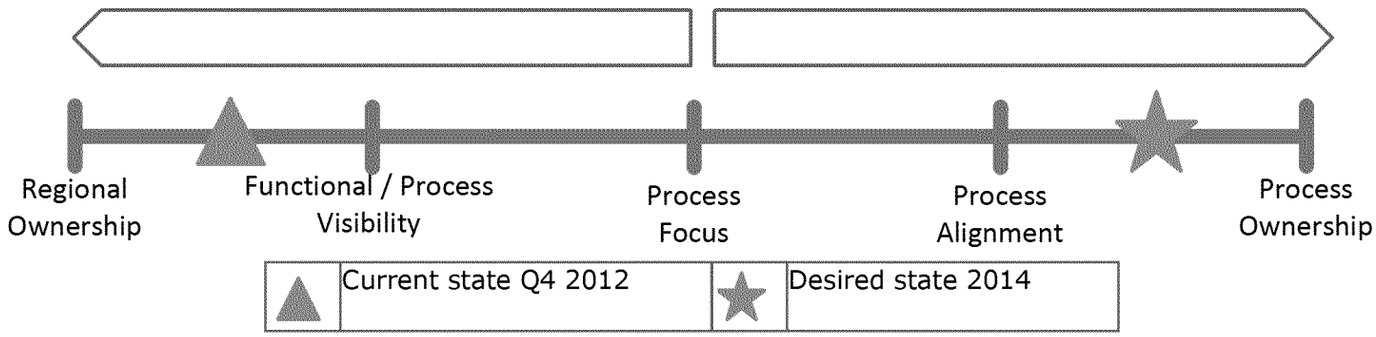


Key Enabler – Process

Developing Asset Management System consistent with the requirements of PAS 55

Overview

Develop standardized end-to-end processes with clear accountabilities for performance and focus on driving safety, compliance, efficiency, reliability and continuous improvement in our operations



Current State:
- Dominant functional orientation with regional differences in ownership for process steps
- Process owners assigned, varying levels of maturity in initiating and developing process improvements

Future State:
- Centralized, functional organization aligned to support standardized processes
- Clear responsibilities and dual accountability for process & functional results

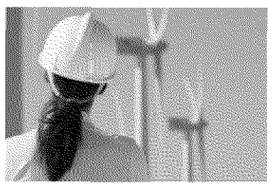
Challenges

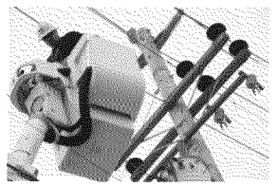
- Significant disparity in regional process execution
- Cultural resistance to central, standardized efforts

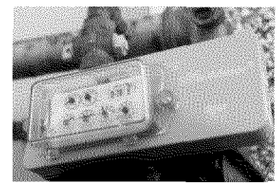
PG&E Corporation

Pacific Gas and Electric Company®

Energy Supply Strategic Playbook





Energy Supply S-1 Playbook

Playbook Objectives

- Safe and Reliable Operations
- Implementation of Regulatory Requirements
- Affordability and Value
- Investment in Human Talent
- Renewable Integration
- Policy Shaping and Influence

Anticipated Results

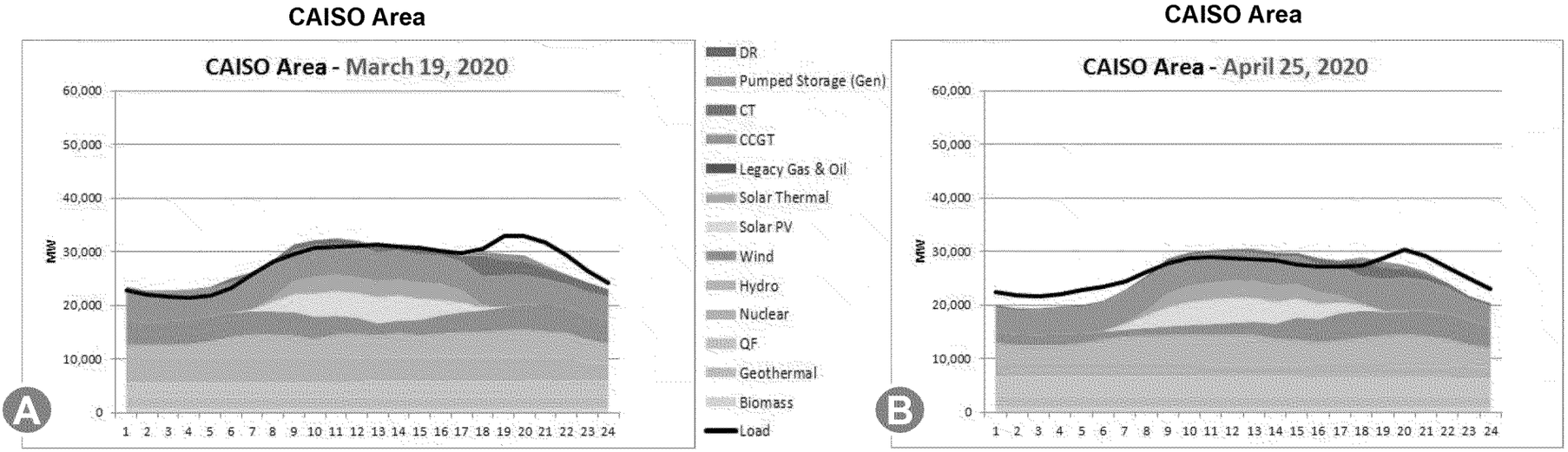
- No significant public safety incidents associated with our generation assets
- All compliance obligations met
- A safe, reliable, affordable, and clean energy supply mix
- Successful implementation of Value-Based Reliability
- Improved level of employee engagement
- A comprehensive state clean energy policy

Operating Model

Key Enablers

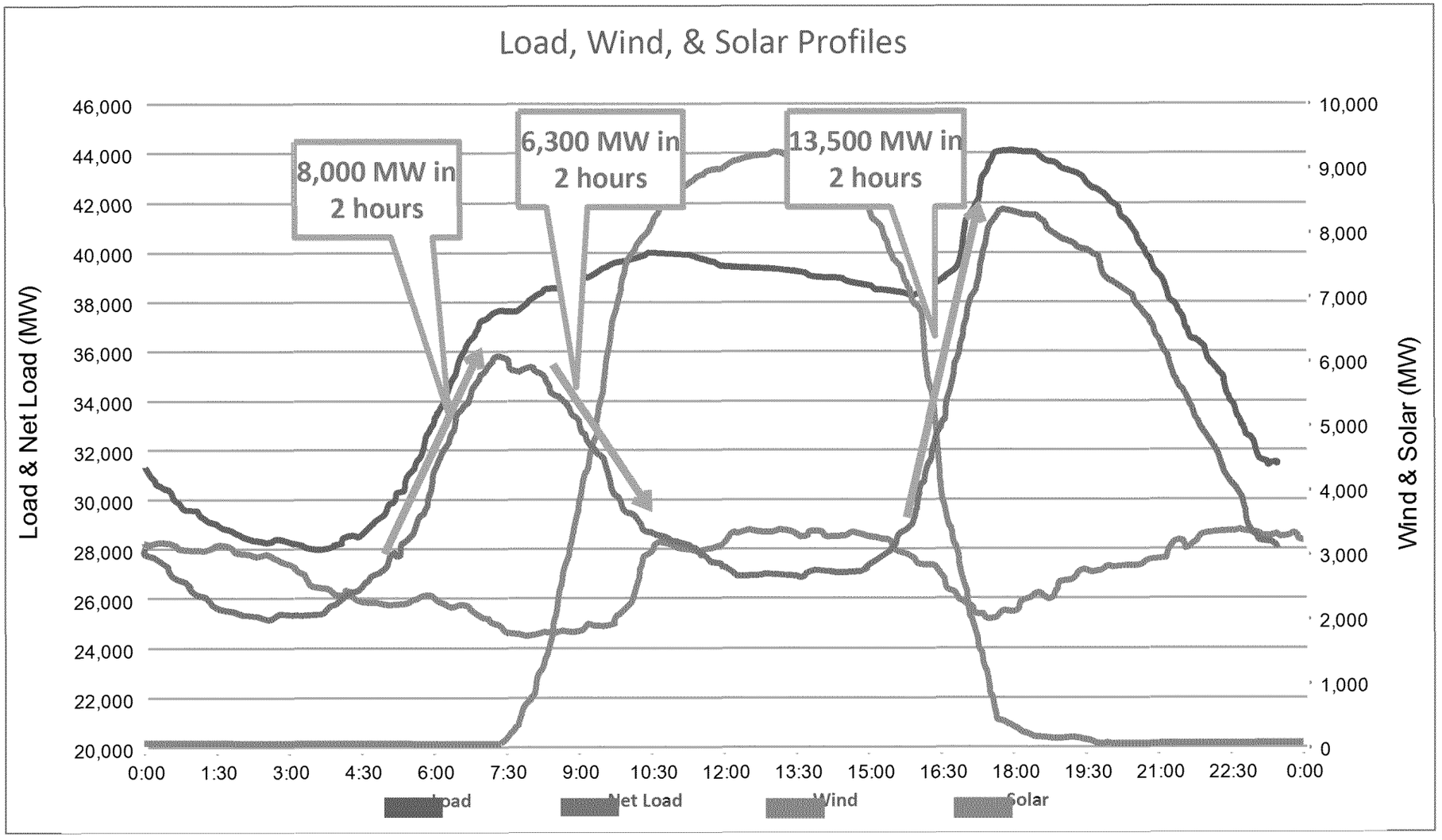
- Continuous Improvement
- Regulatory & Government Relations
- Technology Roadmap
- Human Capital

The Challenge of Resource Integration: Balancing Electricity Supply and Demand



- CAISO analysis based on IOUs 2010 public RPS filing
- Solar PV supply potentially understated
- Over-generation is forecast on more than 50% of days in the year

Change in Net Load Shape



Energy Supply Strategy

Gas Fleet

Current Profile
- Colusa: 530 MW GS
- Gateway: 530 MW GS
- Humboldt Bay: 163 MW GS

Pending
- Oakley: 624 MW GS

Key Activities
- Reliability
- Flexibility

Renewables - PV

Current Profile
- PV Solar Stations: 102 MW

Pending
- 50 MW under development in Program Year 3

Key Activities
- Complete Program Year 3 development

Nuclear

Current Profile
- Diablo Canyon: 2 Units, 2,240 MW

Pending
- DCPP License Renewal application

Key Activities
- Fukushima and Emergency Plan rulemaking
- DCPP 5-year comprehensive cost and efficiency plan
- Refueling outage planning and execution

Energy Procurement

Current Profile
- $3.7 billion electric procurement portfolio managed by 275 employees

Pending
- Market Redesign

Key Activities
- Greenhouse Gas / AB32 Strategy
- Value Based Reliability initiative
- IT Compliance Related projects
- Flexible procurement contracting strategy

Hydro Fleet

Current Profile
- Helms Pumped Storage: 1,212 MW
- Conventional Hydro: 67 powerhouses, 106 units, 2,684 MW

Pending
- FERC relicensing.
- Currently 3 major projects in progress: Upper North Fork Feather River, McCloud-Pit, and Drum-Spaulding

Key Activities
- Hydro Public Safety initiative
- Improve Reliability and Facility Material Condition initiative
- Hydro ERM and Asset Mgmt program