



# ERCOT Strategic & Organizational Assessment Presentation to the Board

June 15, 2010

# Agenda

## Project Approach

Situation Analysis

Capability Model

Staffing

Organization Design

Governance

Charter, People Strategy and Other Deliverables

Implementation Plan

## The Strategy and Organizational Assessment project consisted of seven work streams.

Workstream	Key Deliverables
1. <b>Situation Analysis</b>	<ul style="list-style-type: none"> <li>• Situation Analysis</li> </ul>
2. <b>Definition of Market Roles and Responsibilities</b>	<ul style="list-style-type: none"> <li>• Industry Capability Model</li> <li>• ERCOT Capability Model</li> <li>• Charter Analysis and Recommendations</li> </ul>
3. <b>Capability Assessment</b>	<ul style="list-style-type: none"> <li>• Staffing Approach</li> <li>• Bottom-Up Analysis and Panel Briefing</li> <li>• Benchmarking Overview and Results</li> <li>• Top-Down Analysis</li> <li>• Staffing Recommendations</li> </ul>
4. <b>Strategic Planning &amp; People Strategy</b>	<ul style="list-style-type: none"> <li>• Strategic Plan Feedback</li> <li>• Recommendations on Strategic Planning process and KPI Framework</li> <li>• People Situation</li> <li>• People Strategy</li> </ul>

## The Strategy and Organizational Assessment project consisted of seven work streams.

Workstream	Key Deliverables
5. Operating Model Development	<ul style="list-style-type: none"><li>• Organization Structure</li><li>• Governance Recommendations</li><li>• Other Improvement Recommendations</li></ul>
6. Fee Structure Analysis	<ul style="list-style-type: none"><li>• Fee Structure Options and Recommendations</li></ul>
7. Implementation Planning	<ul style="list-style-type: none"><li>• High-Level Implementation Plan</li></ul>
...plus	<ul style="list-style-type: none"><li>• Final Report and Executive Summary</li><li>• Presentation to Board</li><li>• Testimony to PUCT</li></ul>

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Project Approach

**Situation Analysis**

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# The Situation Analysis was focused on synthesizing internal and external perspectives based on interviews and a review of documents.

Internal Interviewee	Title/Department
<b>Executives</b>	
Roy Bowman	Interim CFO
Betty Day	Interim COO
Nancy Capezzuti	CAO
Mike Cleary	CTO
Trip Doggett	Interim CEO
Mike Grable	General Counsel
Charles Manning	CCO
Mike Petterson	Controller
Richard Morgan	CIO
Kent Saathoff	System Planning & Grid Ops.

<b>Key Managers</b>	
Paula Feuerbacher	Organizational Strategy
Andy Rinaldi	Nodal Project
Grady Roberts	C.A. & Procurement

External Interviewee	Organization
<b>PUC</b>	
Ken Anderson	PUC
Donna Nelson	PUC
Barry Smitherman	PUC

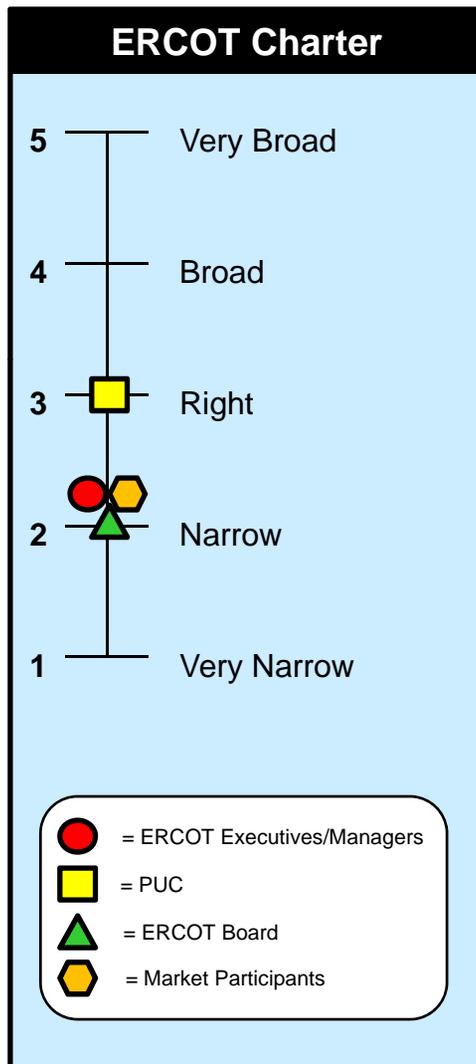
<b>ERCOT Board</b>	
Miguel Espinosa	The Riverview Group, LLC
Michael Gent	Vice-Chairman
Bob Helton	International Power America
Jan Newton	Chairman
Alton Patton	Associated Power Analysts, Inc.

<b>Independent Market Monitor</b>	
Dan Jones	Potomac Economics
Beth Garza	Potomac Economics

<b>Market Participants</b>	
Marianne Carroll	Texas Competitive Power Advocates
Steve Davis	Alliance for Retail Markets
John Fainter	Association of Electric Companies of Texas
Brad Jones	Luminant



**Most interviewees expressed a desire for ERCOT to take on a more assertive role, but many questioned ERCOT's readiness to take on such a role.**



### ERCOT Executives & Managers

- ERCOT's charter is too narrow.
- ERCOT is missing opportunities (e.g., market design) to take a leadership role.
- Need an independent organization to chart the course, take input from the market participants, and lead them.

### PUC

- The PUC felt the scope of ERCOT's responsibilities was about right, but felt that ERCOT should assume a more expansive, leadership role. However, improvement is required in ERCOT's capabilities and leadership in order for it to carry out such a role.

### ERCOT Board

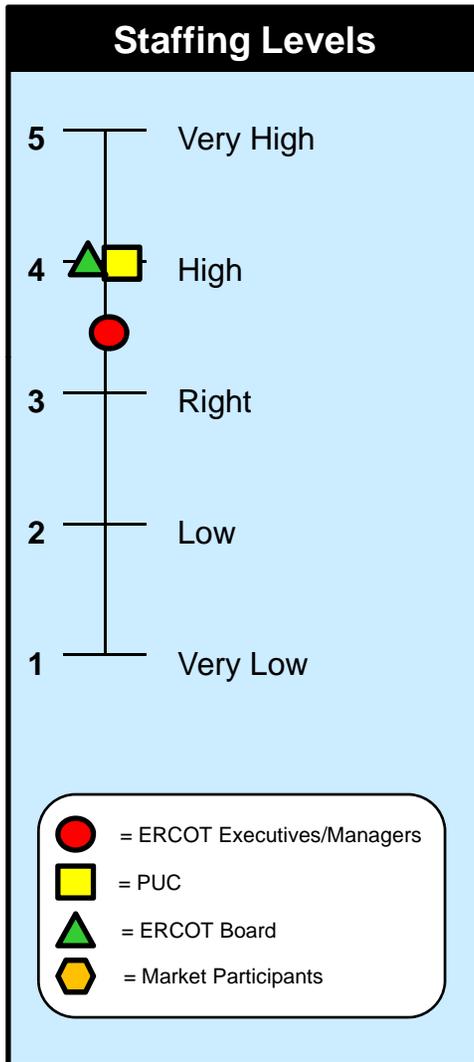
- Market participants mostly run the market.
- Consensus is that ERCOT's charter should be expanded, but also that ERCOT does not yet have the maturity, mindset, and leadership to play an expanded role.

### Market Participants

- Some want ERCOT to lead more; others want it to make fewer decisions.
- Participants want more transparency and fewer manual interventions.



Interviewees generally believe ERCOT is overstaffed, particularly in the support areas, and often because of staff skill deficits. Weakness in performance management exacerbates the overstaffing.



### ERCOT Executives & Managers

- Generally believe that staffing levels are high in some support areas.
- Conversely, believe that a few core operational areas are understaffed.
- Poor employee quality in some areas necessitates the need for more staff.

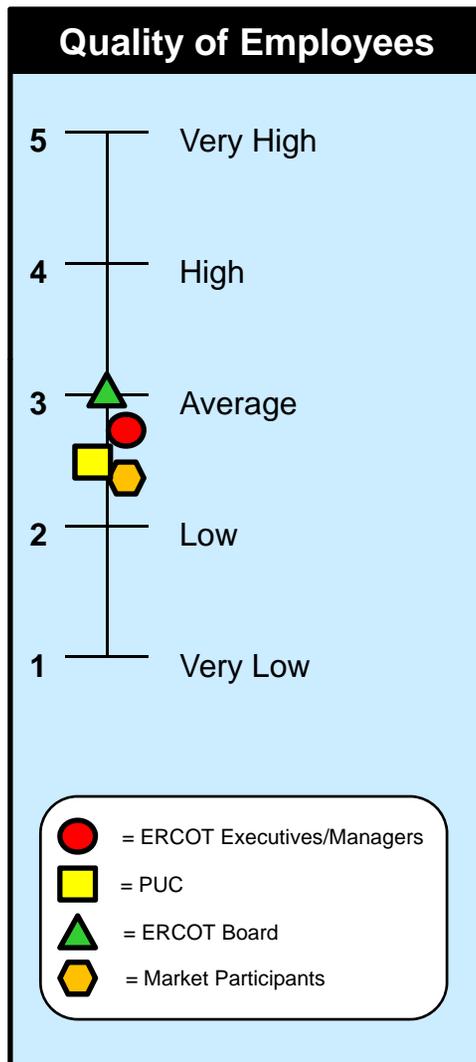
### PUC

- General feeling is that ERCOT is overstaffed, and that the drivers are poor corporate governance, leadership and culture, leading to an overall below-average quality of people.

### ERCOT Board

- ERCOT is overstaffed. The drivers are a below-average quality of people and lack of efficiency programs/incentives.

**Most interviewees believe that ERCOT needs to upgrade its people, but is hampered by a broken performance management process, compensation issues, and excessive leadership turn-over.**



### **ERCOT Executives & Managers**

- Quality is very good in some technical areas. Many areas of weakness.
- The inability to offer competitive compensation has negatively impacted staff quality– can't attract talent; top performers leave.
- Poor performers have not been effectively managed/rationalized.
- A lack of incentive compensation and ineffective performance management system have contributed.
- Executive turn-over and a lack of good managers has also negatively impacted quality.

### **PUC and ERCOT Board**

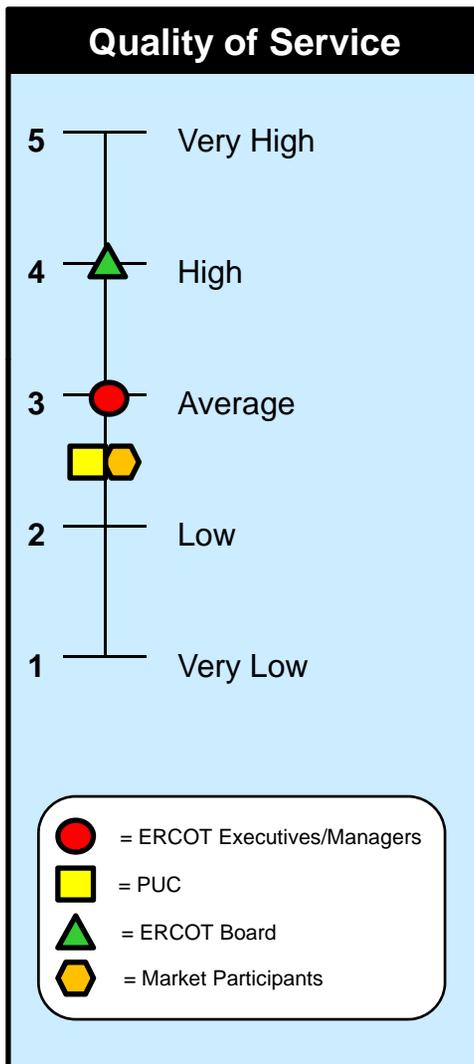
- Acknowledged that there are a lot of good people, particularly in system operations, but that there was likely a lot of dead wood and no process for handling poor performers.

### **Market Participants**

- ERCOT has many good staff; however, there are areas where ERCOT is woefully under-skilled. Compensation issues desperately need to be addressed.



**Opinions on ERCOT service level vary widely. All agree that System Operations provides high quality service. Opinions about RMO vary widely, while wholesale market generally rated lower in quality.**



### ERCOT Executives & Managers

- Service is generally meeting expectations.
- Past fraud, Nodal, and cost justification resulted in a loss of reputation and confidence in ERCOT's ability to lead.
- ERCOT is missing opportunities to lead, though.

### PUC

- Service varies a lot depending on the area. TSO was viewed as generally very good. WMO was viewed as OK at day-to-day operations, but not policy and design, and prone to hide behind the veil of reliability to rationalize poor market outcomes. Views on RMO varied from quite positive to somewhat negative.

### ERCOT Board

- Overall service is considered high, but varies across functions. TSO is viewed as providing best service. Some concerns expressed about WMO, legal, and overall pro-activity.

### Market Participants

- Overall, service is good.
- Some feel that ERCOT runs system too conservatively and does not pay attention to the market.
- Market Participants want more transparency and control.

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Project Approach

Situation Analysis

**Capability Model**

Staffing

Organization Design

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## An ERCOT Capability Model was derived from Market Reform's Industry Model. This provides the basis for 'apples-to-apples' comparisons of staffing.

- **Industry Model** used to identify current and potential future ERCOT capabilities
- The **ERCOT Capability Model** summarizes the capabilities that ERCOT should possess, including potential new capabilities.
- Consists of 151 individual capabilities, grouped into 49 Capability Groups
- Used the Capability Model as the **basis for analyzing ERCOT staffing** levels.
- Staffing levels were assessed at the Capability Group level, except for IT, which was assessed at the (more granular) capability level.
- Staffing recommendations were made for a total of 61 Capability Groups or capabilities.

# Sample Extract from Capability Model

1 TRANSMISSION SYSTEM OPERATION		
1.1	System Planning	
1.1.1	Transmission Adequacy Assessment	Assessing the adequacy of the transmission system to meet current and future needs.
1.1.2	Transmission Planning	Planning future transmission system enhancements, including upgrades and new transmission lines.
1.1.3	Interconnection Planning	Planning of transmission connections with other jurisdictions' systems, including upgrades and new inter-jurisdictional transmission connections.
1.1.4	Generation/Resource Adequacy Assessment	Assessing the adequacy of the existing and planned generation to meet current and future load needs.
1.1.5	Generation & Load Planning	Planning of generation resources required to meet current and future load needs, including identification of preferred geographical locations of future generation sources.
1.2	Transmission Connection Management	
1.2.1	Connection Analysis	Conducting Initial and Detailed Connection Studies.
1.2.2	Connection Scheduling	Scheduling new connections to the transmission system.
1.2.3	Connection Construction & Management	Managing new connections, from project management and compliance perspectives.
1.2.4	Connection Commissioning	Managing the steps required to commission a connection including commercial, technical considerations.

# Capability Groupings – Overview (1)

<b>1</b>	<b>TRANSMISSION SYSTEM OPERATION</b>
1.1	System Planning
1.2	Transmission Connection Management
1.3	Grid Security Management
1.4	Outage Coordination/Planning
1.5	Real-Time System Control
1.6	Scheduling & Dispatch
1.7	Forecasting
1.8	Operational Testing and Performance Management
1.9	Commercial Management
1.10	Operations Analysis & Training
1.11	Compliance Monitoring & Reporting
<b>3</b>	<b>WHOLESALE SPOT/CASH MARKET OPERATION</b>
3.1	Participant Registration
3.2	Bidding, Scheduling and Pricing
3.3	Wholesale Metering, Data Collection and Data Aggregation
3.4	Settlement & Billing
3.5	Credit Management
3.6	Market Information
3.7	CRR/FTR Management
3.8	Wholesale Market Development
3.9	Market Oversight/Monitoring
3.10	Dispute Management

<b>2</b>	<b>RETAIL MARKET OPERATION</b>
2.1	Retailer Registration
2.2	Customer Switching/Registry
2.3	Load Profile Determination and Management
2.4	Accumulation Metering, Data Collection and Data Aggregation
2.5	Interval/Smart Metering, Data Collection and Data Aggregation
2.6	Bulk Transfer Management
2.7	Market Information
2.8	Retail Market Development
2.9	Market Oversight
2.10	Dispute Management
<b>4</b>	<b>RENEWABLE ENERGY CREDITS</b>
4.1	REC Definition
4.2	Facility Accreditation
4.3	Determine REC Obligations and Verify Compliance
4.4	Facility Registration
4.5	REC Issuance and Retirement
4.6	Verify REC Validity
4.7	REC Title Tracking
4.8	Information Publication



# Capability Groupings – Overview (2)

<b>5</b>	<b>CUSTOMER CARE</b>
5.1	Training & Education Delivery
5.2	Helpdesk Management
5.3	Account Management
<b>6</b>	<b>INFORMATION TECHNOLOGY</b>
6.1	IT Application Services
6.2	IT Infrastructure Services
6.3	IT Support
6.4	IT Strategy & Planning

<b>7</b>	<b>OTHER SUPPORT &amp; MANAGEMENT FUNCTIONS</b>
7.1	Corporate Management
7.2	Administrative Support
7.3	Strategy & Business Planning
7.4	Internal Audit
7.5	Legal
7.6	Finance
7.7	Human Resources
7.8	Facilities/Security
7.9	Stakeholder Relations
7.10	Project / Program Management



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## The charge of the staffing analysis was to use multiple methods to 'triangulate' on the most appropriate staffing levels for ERCOT.

- Staffing estimates were determined by capability or capability group.
- Key considerations/assumptions included:
  - **Nodal:** Staffing estimates are for *post-nodal, steady-state*.
  - **Change in charter.** Considered the staffing impact of ERCOT's changed charter.
  - **Project work:** Estimate is for base operations; did not consider capital project work.
  - **Activity volume:** Commensurate with activity levels at other ISOs/MOs, unless there were defensible reasons for assuming a different activity level.
  - **Organizational and process efficiency:** A level of organizational and process efficiency that may not presently exist in some areas at ERCOT.
  - **Staffing Quality:** Quality of employees similar to what we have seen at other ISOs/MOs.
- During the project, the MR team conducted 200+ meetings with 87 employees and stakeholders – PUC, Board, IMM, Market Participants, and ERCOT employees – to gather the information needed for the staffing analysis.

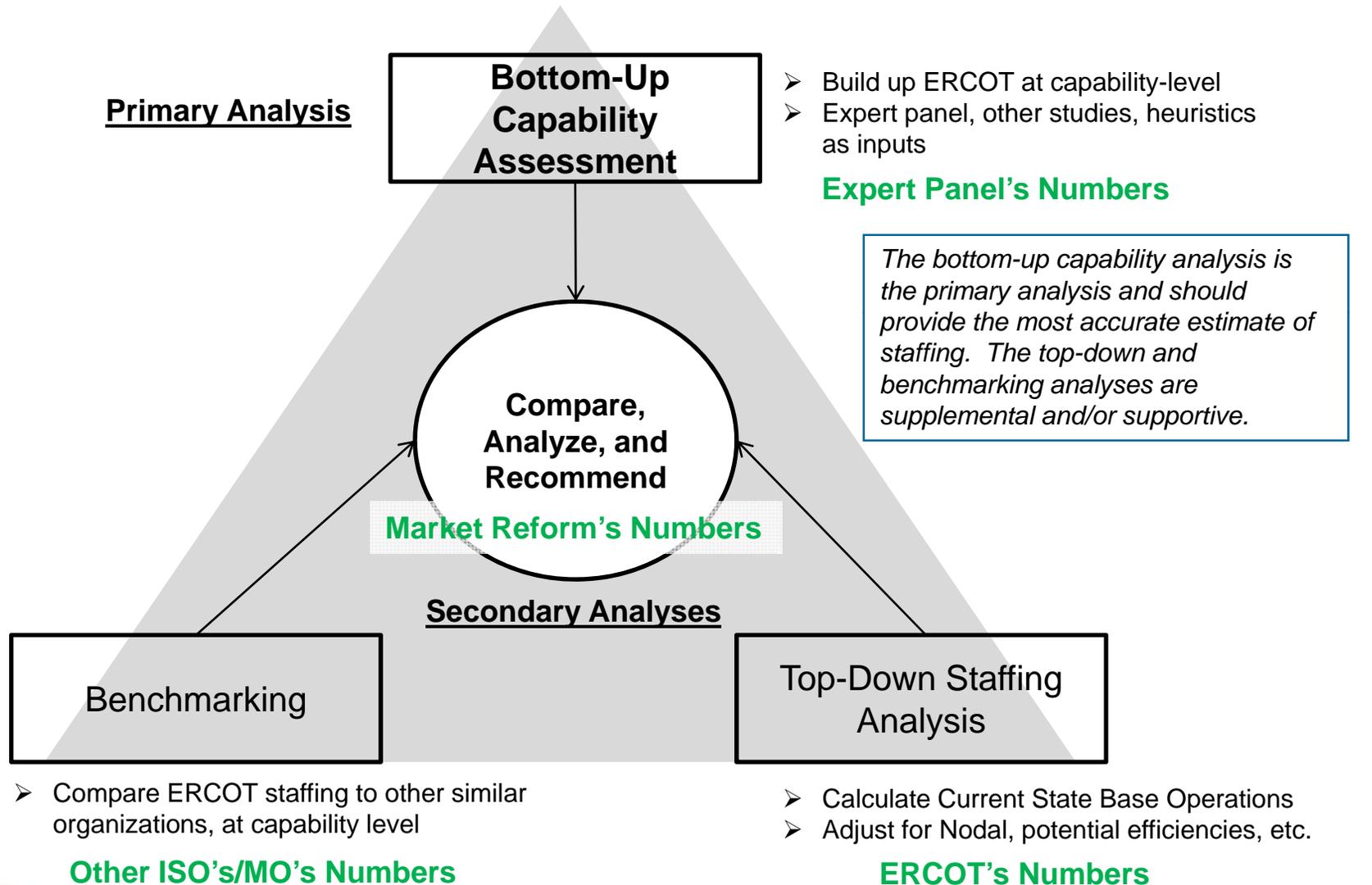
**ERCOT must address several overarching issues. Our staffing estimates assume that ERCOT has mitigated these issues.**

## Overarching Issues

<b>Overarching Issues</b>	<b>Description</b>	<b>Areas/Capabilities Impacted</b>	<b>Possible Mitigation</b>
IT Release Cycle	Monthly or less release cycle means constant and expensive change	Many in IT but also in Systems Operation, Market Operations	Plan now to move to 3/6 cycle as soon as Nodal reasonably stable
Application Architecture	Consequences of best of breed, customization, and integration decisions	Many in IT	While principal features of architecture are fixed, review looking for improvements
Level of Controls	ERCOT strives to explicitly demonstrate probity	The consequences of, for example, controls culture felt throughout ERCOT	ERCOT's controls should be reviewed to ensure that they are reasonable and prudent
Volume of Stakeholder requests	ERCOT's workload in a number of areas is driven by unconstrained MP demand	Stakeholder process; many capabilities in Market Operations (e.g., Market Information), IT	ERCOT should consider actions to constrain demands within realistic resource levels. e.g., user pays



# Approach to Staffing Analysis



## Bottom-Up Staffing Analysis: Approach

- Derives staffing from a zero-base.
- Analysis based on the Capability Model for ERCOT.
- Based on expertise of an Expert Panel consisting of five SMEs and four core team members.
- Panel Process:
  - Provided a detailed briefing pack describing ERCOT's nodal, steady-state roles and responsibilities, for each capability.
  - Initial estimates were gathered from panelists and collated.
  - Convened a meeting of seven panelists in Philadelphia on March 27, 2010 to perform a peer review and develop a consensus.
- Additional research was performed to explain and resolve estimate gaps.

# Expert Panel – Membership and Experience

Market Reform’s Expert Panel drew upon industry professionals with deep experience across multiple markets.

## Panel

## Experience

### SMEs

- Todd Bessemer
- Fran Shields
- Robert Northcutt
- David Luedtke
- Keith Alyea

Each SME has experience spanning:

- multiple markets, both in the US and internationally
- a breadth of system and market functions
- market implementation, and ongoing market development initiatives

### Core Team

- Dave Warner
- Tim Becker
- Jonathan Jennings
- Rick Kanemasu

The markets covered by the Panel’s collective experience include:

- ERCOT
- ISO New England
- PJM
- Midwest ISO
- SPP
- NY ISO
- California ISO
- Alberta ESO
- AEMO Elec./ NEMMCO
- AEMO Gas/VENCorp
- EirGrid/SONI/SEMO
- Elexon/E&W Pool
- Amsterdam PX
- NYMEX



## Benchmarking Approach (1)

- Long-list of 14 candidates, with markets and responsibilities comparable to ERCOT
- At the time of the staffing analysis, full benchmarking had been completed for five respondents.
- Respondents represent:
  - Transmission system operators, wholesale market operators and retail market operators – sometimes within the same organization and sometimes as separate, standalone entities.
  - US and international entities.
- As of June 8, 2010:
  - Benchmarking has been completed for nine (9) entities (excl. ERCOT).
  - Benchmarking is in progress for two entities (one active, one stalled).
  - One entity declined to participate.
  - Two candidates are still being recruited.

Results from this analysis will be included in a final Benchmarking Report.



## Benchmarking Approach (2)

- In-depth discussions were conducted with each respondent to ensure accurate and complete staffing estimates that would provide valid comparisons with ERCOT staffing.
- Comparisons are made at the capability group level (vs. capability level) – representing ~40 data points for each market.
- Where an organization does not possess a particular capability, it is not included in the benchmark analysis for that capability.
- Comparisons were made using raw data on FTEs
- However, additional data was collected on factors that might skew comparisons, so that these factors could be considered in Market Reform's staffing analysis.
- Follow-up discussions were conducted with respondents to clarify any significant variances in staffing among respondents.

## Benchmarking Conclusions

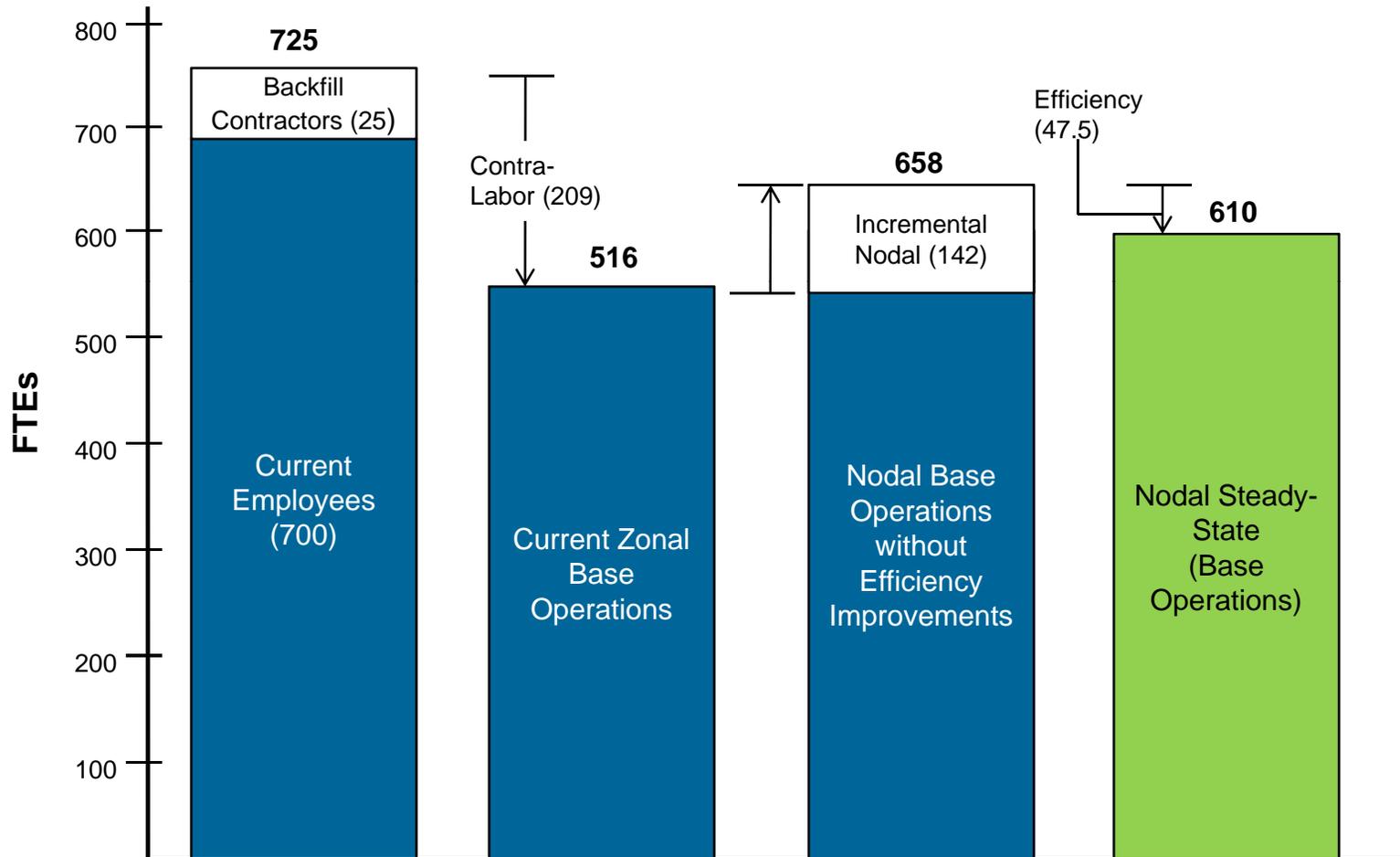
- At an aggregated level, ERCOT's staffing significantly exceeds the benchmark ranges in the areas of Wholesale Market Operation and Information Technology
- Significant gaps between ERCOT and benchmark staffing are also observed at a more detailed level for:
  - TSO – Operations Analysis & Training
  - TSO – Compliance Monitoring & Reporting
  - Legal
  - Finance
  - Project/Program Management
  - WMO – Participant Registration
  - WMO – Bidding, Scheduling and Pricing
  - WMO – Settlement and Billing
  - WMO – Market Information
  - WMO – Dispute Management
- Variations are sometimes explained by differences in role and scope of responsibilities. To the extent possible, we have accounted for such differences in our recommendations.

## Top-Down Staffing Analysis: Approach

- Provides ERCOT's estimate. Based on inputs from by executives and management. Market Reform facilitated the analysis.
- The estimate's basis is post-nodal, steady-state base operations. Does not include capitalized project work.
- ERCOT's base operations FTEs were allocated to the Capability Model.
- Adjustments were then made to account for the impact of:
  - New nodal processes
  - Infrastructure changes
  - Technology changes
  - Charter changes
  - Efficiency improvements



# Top-Down Staffing Calculation



Note: Excludes capital project work



## Market Reform's Recommendations – Recap of Our Brief

- Market Reform was engaged to perform an independent and objective assessment of ERCOT's staffing.
- Market Reform was NOT hired to facilitate a consensus (ERCOT and Market Reform) staffing estimate.
- Our recommendation is not the best case answer, but rather, what Market Reform believes is a reasonable and defensible answer.
- Market Reform will only testify to its numbers.
- These estimates are predicated on a number of base assumptions (e.g. nodal steady-state), discussed earlier.



# Market Reform's Recommendations – Summary and Comparisons

	Major Capability Grouping	Bottom-Up Analysis	Benchmarks			Top-Down Analysis	MR Recommendations
			Min	Mean	Max		
1	Transmission System Operation	90.0	96	140	179	158.9	145.0
2	Retail Market Operations	30.5	N/A	23	N/A	29.5	30.0
3	Wholesale Spot Market Operations	69.0	39	62	99	115.5	84.0
4	REC Registry	2.5	0	0	0	3.0	3.0
5	Customer Care	13.5	8	13	24	14.5	14.5
6	Information Technology	148.5	67	113	147	170.4	160.5
7	Other Support & Management	81.5	55	89	134	119.1	97.5
		<b>435.5</b>	<b>265</b>	<b>440</b>	<b>583</b>	<b>610.9</b>	<b>534.5</b>

- In most areas, MR recommendations are close to ERCOT estimate:
  - System Planning
  - Transmission Connection Management
  - Outage Coordination Planning
  - Real-Time System Control
  - Scheduling & Dispatch
  - Commercial Management
  - Forecasting
  - Operational Testing & Performance Management
  - Operations Analysis & Training
  
- However, there are a few areas of wide divergence between MR recommendations and ERCOT estimates of future staffing:
  - Grid Security Management
  - Compliance Monitoring & Reporting

	Staffing
ERCOT Estimate	158.9
MR Recommended	145.0
Benchmark (Low/Mean/High)	96 / 140 / 179

*ERCOT does no detailed connection studies, no commercial requirements management (e.g. Connections Agreements) and no active interconnector management.*

# Transmission System Operations: MR Staffing Recommendations by Capability Group

1

Ref.	Capability Group Name	ERCOT	MR	Delta
	<b>TOTAL</b>	<b>158.9</b>	<b>145.0</b>	<b>-13.9</b>
1.1	System Planning	35.0	35.0	-0.0
1.2	Transmission Connection Management	6.9	8.5	+1.6
1.3	Grid Security Management	28.2	23.0	-5.2
1.4	Outage Coordination/Planning	10.7	10.0	-0.7
1.5	Real-Time System Control	21.9	27.5	-2.1
1.6	Scheduling & Dispatch	7.6		
1.7	Forecasting	4.5	5.0	+0.5
1.8	Operational Testing and Performance Management	5.1	3.0	-2.1
1.9	Commercial Management	0	1.0	+1
1.10	Operations Analysis & Training	13.3	11.5	-1.8
1.11	Compliance Monitoring & Reporting	25.6	20.5	-5.1



- ERCOT overall staffing estimate is appropriate.
- MR recommended staffing includes an enhanced role for ERCOT in market development.

	Staffing
ERCOT Estimate	29.5
MR Recommended	30
Benchmark	23

# Retail Market Operations: MR Staffing Recommendations by Capability Group

2

Ref.	Capability Group Name	ERCOT	MR	Delta
	<b>TOTAL</b>	<b>29.5</b>	<b>30</b>	<b>+0.5</b>
2.1	Retailer Registration	1.7	3.5	+1.8
2.2	Customer Switching/Registry	8.5	6.5	-2.0
2.3	Load Profile Determination and Management	1.1	3.5	+2.4
2.4	Accumulation Metering, Data Collection & Data Aggregation	0.8	1.0	+0.2
2.5	Interval/Smart Metering, Data Collection and Data Aggregation	0.2	1.0	+0.8
2.6	Bulk Transfer Management	1.1	0.5	-0.6
2.7	Market Information	3.8	2.5	-1.3
2.8	Retail Market Development	6.9	7.0	+0.1
2.9	Market Oversight	1.2	1.5	+0.3
2.10	Dispute Management	4.3	3.0	-1.3



- ERCOT overall staffing estimates in some areas is appropriate:
  - CRR/FTR Management
  - Market Oversight/Monitoring
  - Wholesale Metering, Data Collection and Data Aggregation
  - Credit Management
  - Dispute Management

	Staffing
ERCOT Estimate	115.5
MR Recommended	84
Benchmark (Low/Mean/High)	38.5 / 62 / 99

- However, there are a some areas of wide divergence between the MR recommendation and ERCOT allocations:
  - Participant Registration
  - Bidding, Scheduling and Pricing
  - Settlement & Billing
  - Market Information
  - Wholesale Market Development

*ERCOT has a similar scope of responsibility to other Market Operators, except in its role in market development.*



# Wholesale Market Operations: MR Staffing Recommendations by Capability Group.

3

Ref.	Capability Group Name	ERCOT	MR	Delta
	<b>TOTAL</b>	<b>115.5</b>	<b>84.0</b>	<b>-31.5</b>
3.1	Participant Registration	5.7	2.5	-3.2
3.2	Bidding, Scheduling and Pricing	20.3	16.0	-4.3
3.3	Wholesale Metering, Data Collection and Data Aggregation	14.2	11.5	-2.7
3.4	Settlement & Billing	18.4	12.0	-6.4
3.5	Credit Management	5.8	6.0	0.2
3.6	Market Information	17.7	10.0	-7.7
3.7	CRR/FTR Management	6.3	6.0	-0.3
3.8	Wholesale Market Development	18.2	14.0	-4.2
3.9	Market Oversight / Monitoring	3.5	2.0	-1.5
3.10	Dispute Management	5.4	4.0	-1.4



# REC Registry Management Summary

*MR Recommended Staffing: 3*

*ERCOT Staffing: 3*

4

- **MR Recommended staffing aligns with ERCOT existing staffing.**

	L	M	H
Panel	2	2.5	3
ERCOT		3	
Benchmark			

## Rationale:

- We do not have a benchmark with which to compare.
- Our staffing recommendation of 3 FTEs assumes:
  - 2 FTEs to manage accreditation, approvals, reporting etc. (1 Manager and 1 Analyst).
  - 1FTE added to medium Panel estimate allow for audit of self-report arrangements (this is done by Internal Audit currently).



- **ERCOT overall staffing allocation is appropriate and closely aligned with MR recommended staffing.**

	Staffing
ERCOT Estimate	14.5
MR Recommended	14.5
Benchmark (Low/Mean/High)	7.5 / 13 / 24



# Customer Care: MR Staffing Recommendations by Capability Group

5

Ref.	Capability Group Name	ERCOT	MR	Delta
	<b>TOTAL</b>	<b>14.5</b>	<b>14.5</b>	<b>0</b>
5.1	Training & Education Delivery	2.8	3.5	+0.7
5.2	Helpdesk Management	0.7	3	+2.3
5.3	Account Management	11.1	8	-3.1



- MR has provided a recommendation for a Base Operations IT capability. Base Operations does not include capital work. Base Operations would include work such as:
  - Systems maintenance and operations
  - Some patching (OS, database)
  - Applications monitoring
  - Problem resolution (i.e., bugs)
  - Small enhancements (i.e., under 40 hours of developer work). This would include new reports, changes to the user interfaces, refinements to workflows, some business rule changes.
  
- MR's and ERCOT's estimates are very similar at the high-level. The largest gaps are in Systems Operations and Retail Applications.

	Staffing
ERCOT Estimate	170.4
MR Recommended	160.5
Benchmark (Low/Mean/High)	67/112/147

# Information Technology: MR Staffing Recommendations by Capability Group

6

Ref.	Capability Group Name	ERCOT	MR	Delta
	<b>TOTAL</b>	<b>170.4</b>	<b>160.5</b>	<b>-9.9</b>
6.1	IT Application Services	94.1	93.0	-1.1
6.2	IT Infrastructure Services	54.5	46.5	-8.0
6.3	IT Support	13.1	15.0	+1.9
6.4	IT Strategy & Planning	8.7	6.0	-2.7



➤ There are several areas where MR recommends more staff than ERCOT:

- Corporate Management
- Administrative Support
- Strategy & Business Planning
- HR
- Stakeholder Relations

➤ MR recommended significantly fewer FTEs in the following areas:

- Legal
- Finance
- Facilities
- Project/Program Management

	Staffing
ERCOT Estimate	119.1
MR Recommended	97.5
Benchmark (Low/Mean/High)	55 / 89 / 134

## Other Support & Management: MR Staffing Recommendations by Capability Group.

7

Ref.	Capability Group Name	ERCOT	MR	Delta
	<b>TOTAL</b>	<b>119.1</b>	<b>97.5</b>	<b>-21.6</b>
7.1	Corporate Management	2.5	4.5	+2.0
7.2	Administrative Support	9.9	17.5	+7.6
7.3	Strategy & Business Planning	0.3	2.0	+1.7
7.4	Internal Audit	7	6.0	-1.0
7.5	Legal	16.9	10.0	-6.9
7.6	Finance	27.3	18.5	-8.8
7.7	Human Resources	5.8	8.0	+2.2
7.8	Facilities/Security	21.9	20.0	-1.9
7.9	Stakeholder Relations	4.2	6.0	+1.8
7.10	Project / Program Management	23.4	5.0	-18.4



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# Organization Design – Key Considerations

## ERCOT-Specific Design Factors

- Closer Integration of System Operations and Market Operations
- Organizational Efficiency
- Managerial Efficiency
- Ensuring Leadership
- Charter Changes
- Clean Slate

## General Design Factors

- Span of control and depth of management hierarchy
- Centralisation vs. Decentralisation
- Alignment with Business Processes
- Alignment with Capabilities

# Organization Design – Broad Options

## Options for Reliability and Market Functions

### Option 1: Service-Oriented Structure

*Organizational structure based on the services provided by ERCOT.*

#### **Key Advantages:**

- Clearly defines services
- Would fit with existing organization structure relatively well.

#### **Key Disadvantages:**

- May not address current silo issues.
- Will not encourage strong system operations/market integration.

Similar to:



### Option 2: Competency-Oriented Structure

*Organizational structure based on the skills required by ERCOT to undertake its role.*

#### **Key Advantages:**

- Encourages integration of system and market operations
- Eliminates existing silos
- Uses skills to support multiple functions
- Aligns with revised charter emphasis

#### **Key Disadvantages:**

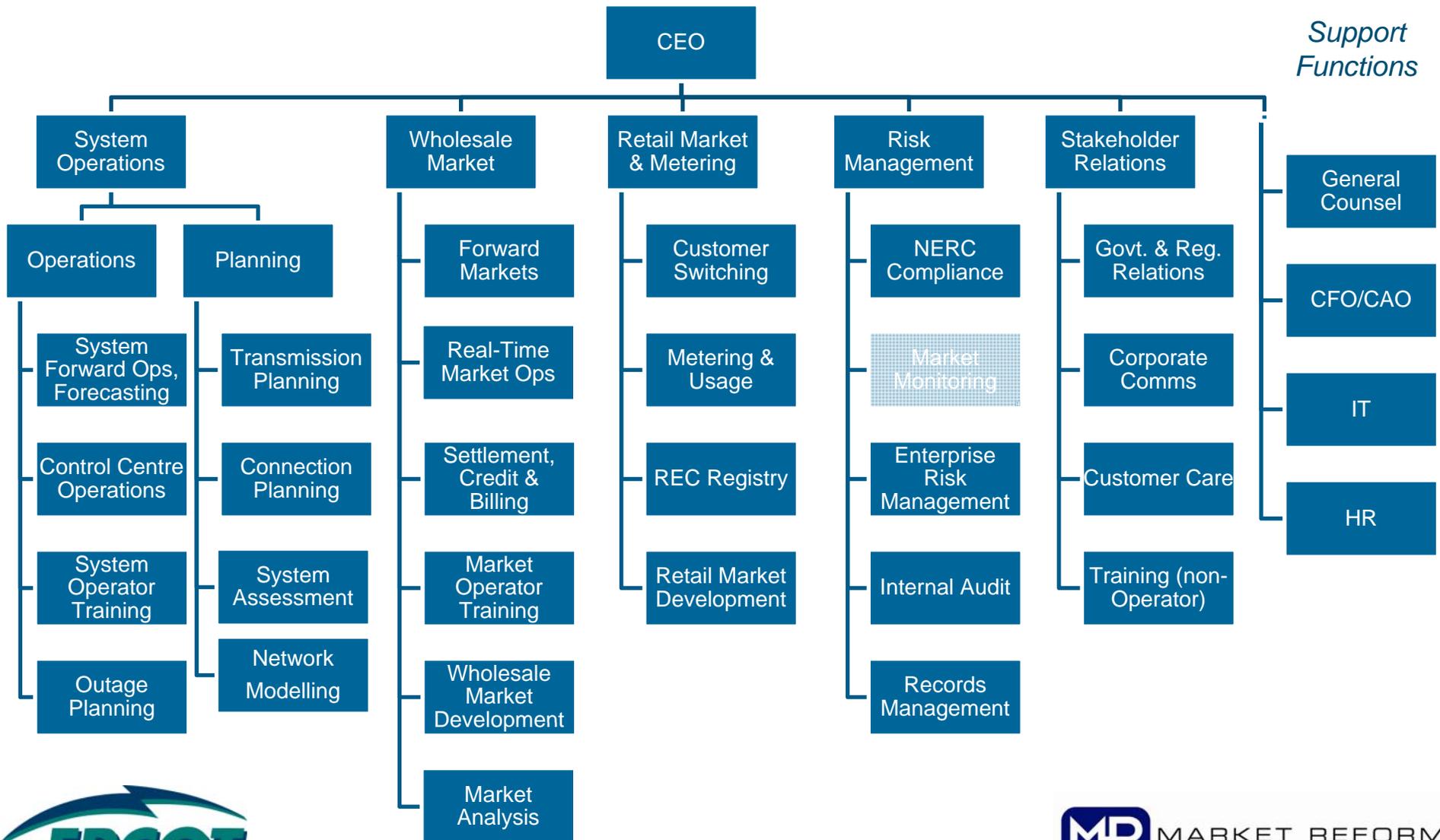
- More significant organizational change.

Similar to:



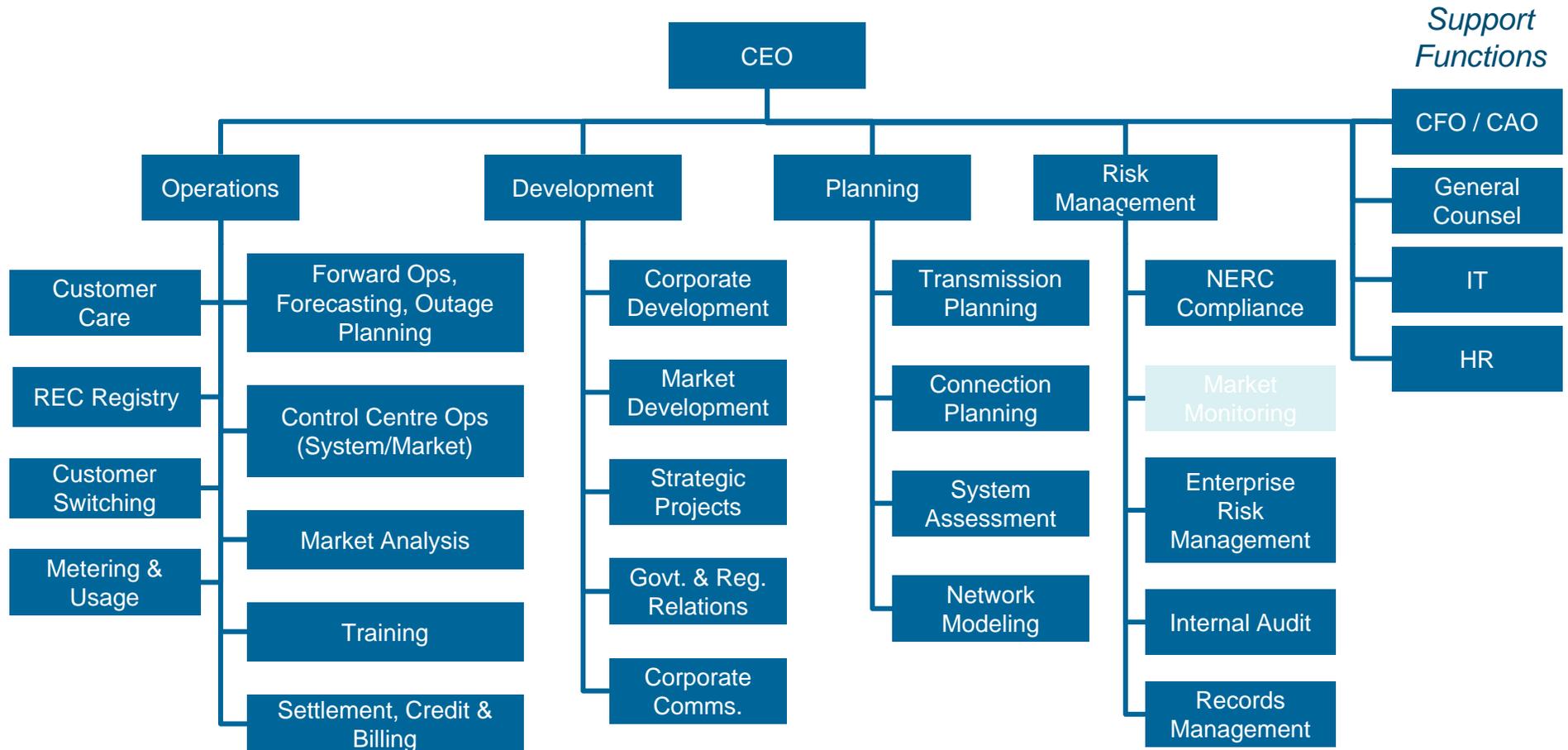
**In Option 1, System Operations, Wholesale Market, and Retail Market are separate organizational units. Risk management is also set out as its own unit. Corporate Development is dispersed across units.**

**Service-Oriented Organization Chart**



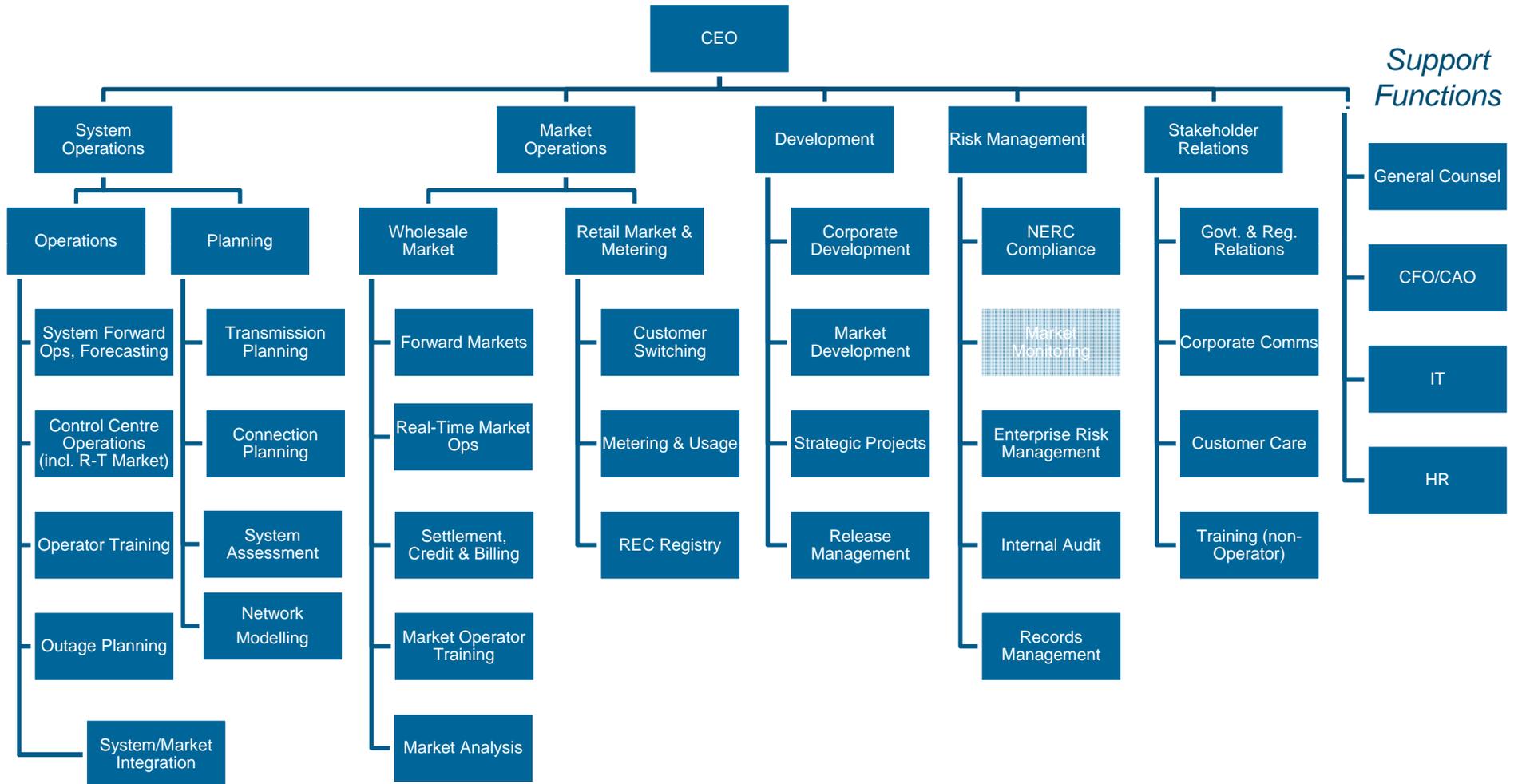
In Option 2, all operations functions are grouped together in a single unit, which includes Customer Care and Credit Management. Corporate Development and System Planning are also separate units.

### Competency-Oriented Organization Chart

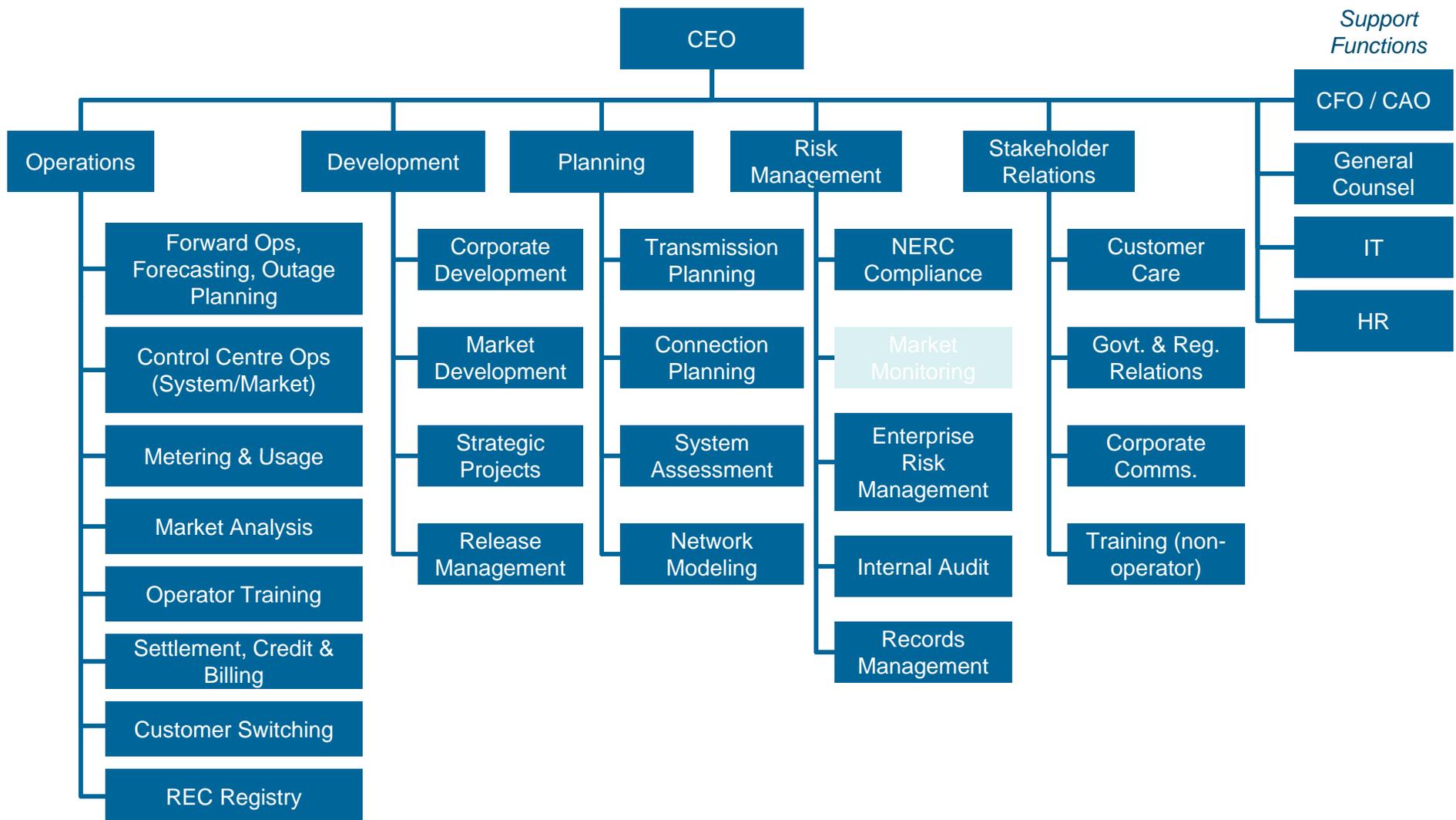


**With the services-leaning hybrid structure (Option 1A), operations follows a service-oriented approach. However, Development and Stakeholders Relations are separate units reporting directly to the CEO.**

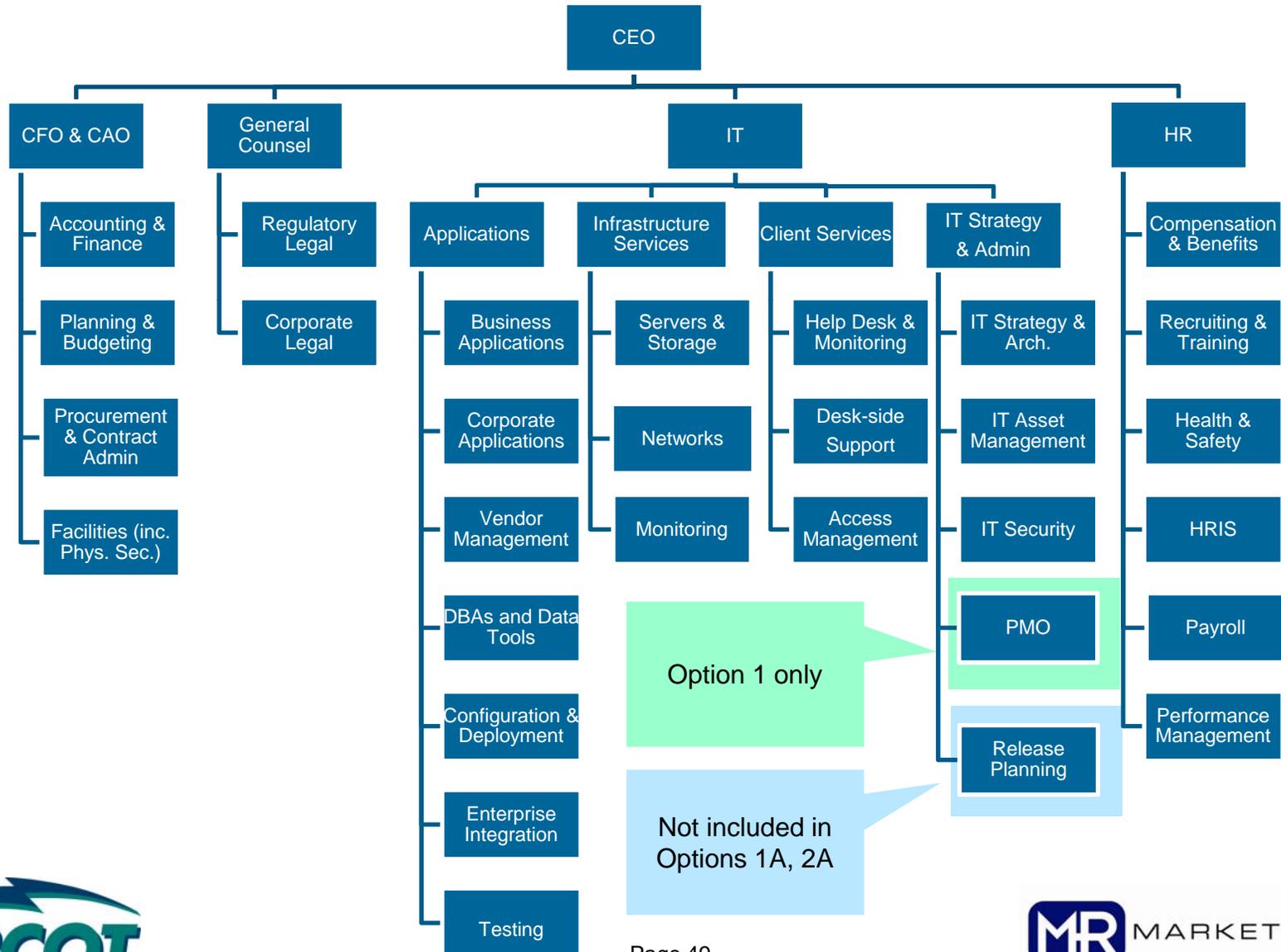
**Services-Leaning Hybrid (Option 1A) Organization Chart**



**Option 2A is a competency-leaning hybrid structured around operations and development competencies that also carves out Stakeholder Relations as a separate unit reporting directly to the CEO.**



# Organization Design – Support Functions



# Organization Design – Option Evaluation

The competency-leaning hybrid option (Option 2A) most closely meets the original design criteria.

Feature	Option 1	Option 1A	Option 2	Option 2A
<b>ERCOT-Specific Objectives</b>				
Integration of Systems Ops and Market Ops	Poor	Partial – through unit; not organizational	Full – organizational integration	Full – organizational integration
Stakeholder Relations emphasised	Yes - direct report to CEO	Yes - direct report to CEO	No	Yes - direct report to CEO
Aids Market Leadership (and other charter chgs)	No	Yes – focused development group	Yes – focused development group	Yes – focused development group
<b>Organizational and Managerial Efficiency</b>				
Alignment with core business processes	Good – Bid-to-bank together	Good – Bid-to-bank is split	Good – Bid-to-bank together	Good – Bid-to-bank together
Grouping of related functions	Average – related functions spread across units	Good – many related functions grouped	Good – many related functions grouped	Good – (and better than 1A, 2)
Span of control	9 reports to CEO	9 reports to CEO	8 reports to CEO 9 to head of Ops	9 reports to CEO
Depth of management hierarchy	Hierarchal under System Ops	Hierarchal under System & Market Ops	Relatively flat	Relatively flat

# Organization Design – Recommendations

- Market Reform believes that the competency-leaning hybrid (Option 2A) represents the best enduring structure, but that the services-leaning hybrid (Option 1A) might be an acceptable interim structure.
- In comparing options, Market Reform's view is:
  - Option 1A is better than Option 1
    - Option 1 does not adequately emphasise Development, and does not promote integration between system and market operations.
  - Option 2A is better than Option 2
    - Option 2A gives a more appropriate emphasis to Stakeholder Relations, recognizing its importance
  - Option 1A has a number of features with merit and would constitute an acceptable interim structure
    - However, system/market integration is very much dependent on the quality of staff in the System/Market Integration sub-unit, and on the support this unit receives from the head of System Operations
  - Option 2A is recommended as the longer-term solution
    - System/market integration is a key objective for ERCOT. This option provides the best organisational framework for encouraging this objective

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# Governance – Two Distinct Components

## Corporate Governance and Market Rules Governance

- The governance of ERCOT has two distinct components:
  - Corporate Governance
    - How the Company is directed and managed
    - Also has consequences for management processes, internal committee structures, and culture
  - Governance of the Market Rules
    - How the market rules (protocols and market guides) are set and changed
    - Has consequences for the definition and operation of the market
    - Also has consequences for the work ERCOT has to do
- The ERCOT Board has a key role in both
  - Responsible for directing the company
  - Responsible for authorising changes to the protocols
- It is useful to examine these two governance components separately



## Corporate Governance – Recommendations

- Relationship with External Parties:
  - It is normal that the Regulator (i.e. PUCT) would have the final approval of a regulated monopoly's budget (via the rate case)
  - ERCOT should invest in its communication efforts with legislators
  - The role of TAC and other Stakeholder Committees lies in the governance of the Market Rules – they should have no role in the Corporate Governance of ERCOT
- Board Meetings
  - 'Corporate' business should be dealt with in private – this is normal corporate practice.
  - This is distinct from the conduct of business related to governance of the Market Rules
- Board Members should be supported by a strong Board process
  - There should be routine briefings by ERCOT Staff on Board agenda items; Board members should be able to request ad hoc briefings
- The Board should establish Board Committees comprising Board members, and, as required, co-opted members. These should include:
  - Finance Committee, Risk and Audit Committee, Remuneration Committee, Nominations Committee, Special Nodal Committee

## Board Composition – Recommendations

- The Board should be sufficiently large to encompass the necessary range of knowledge and expertise, without becoming unwieldy
  - A Board of 7 or 9 members should be able to meet this requirement
- The Board should have a majority of independent members
  - This would allow for the appointment of the best candidates regardless of affiliation.
  - It would also help address any perception of a lack of impartiality.
  - A fully independent Board is one version of this model, though we have seen well-functioning Boards that include participants, and do not believe this to be a ‘magic bullet’.
  - The key is for all Board members to recognise that their fiduciary duty is to ERCOT, not some perceived constituency.
  - It is also essential that Board members have sufficient expertise, and knowledge of ERCOT and its markets, to properly acquit their responsibilities.
  - It is considered unusual for the Regulator to be represented on the Board.

## Market Rules Governance – Recommendations

- Issues of Market Governance should be discussed/decided in public:
  - When conducting 'Market Rules' business, the ERCOT Board should meet in public, as it is deciding matters of market (as opposed to corporate) policy.
  - Similarly, TAC meetings should also be conducted in public.
  - In principle, meetings of TAC sub-committees should also be public, subject to issues of practicality, and keeping administration costs to a reasonable level.
- The stakeholder process should be efficient and timely:
  - Terms of reference and composition should be reviewed by TAC periodically to ensure they remain appropriate.
  - Should include a clear purpose, and a statement of when the group will be discontinued (either time, or triggering event).
  - Sub-committees should be made up of appropriate experts, to obviate the need, so far as possible, to create further sub-groups beneath them.
- The Board should be equipped to make Market Rules decisions:
  - Should receive routine and ad hoc briefings from ERCOT Staff.
  - Recommendations from TAC should incorporate summaries of proposals in a form that meets Board members' needs.

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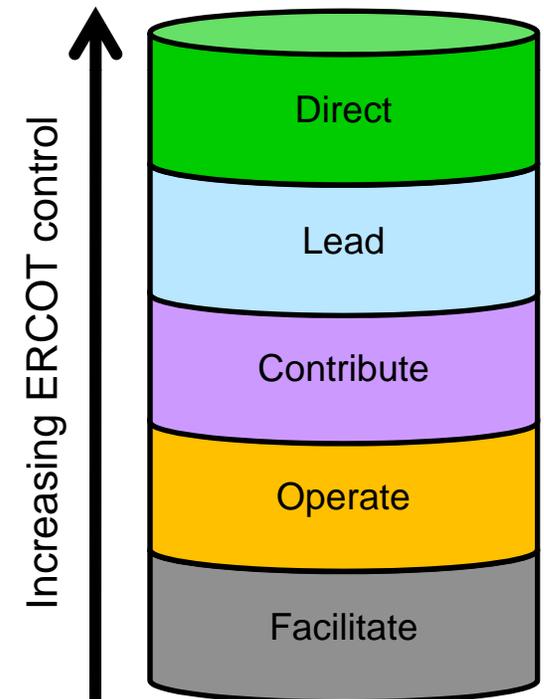
Governance

**Charter, People Strategy and Other Deliverables**

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## The primary objective of the charter formulation work stream was to achieve agreement on ERCOT's future scope (of responsibilities) and roles.

- Scope (of responsibilities) refers to **what** functions/services ERCOT might be responsible for (regardless of how sourced). This is compared to other entities around the world that perform these functions/services. Results ranged from 'very narrow' to 'very broad'
- Roles address the degree of control that ERCOT might exercise or authority that it might be granted.
  - **Direct** – make decisions in the context of existing legislation or protocols.
  - **Lead** – provide thought leadership, content knowledge, and process leadership.
  - **Contribute** – work as equal partners with other industry members to deliver change.
  - **Operate** – execute defined processes or procedures.
  - **Facilitate** – support or enable.



**Scope (of responsibilities) addresses additional responsibilities that ERCOT might want to assume, or conversely, current responsibilities that it might want to transfer.**

### **ERCOT Now**

- Transmission System Operation
- Retail Market Operation
- Wholesale Spot/Cash Market Operation
- REC Registry

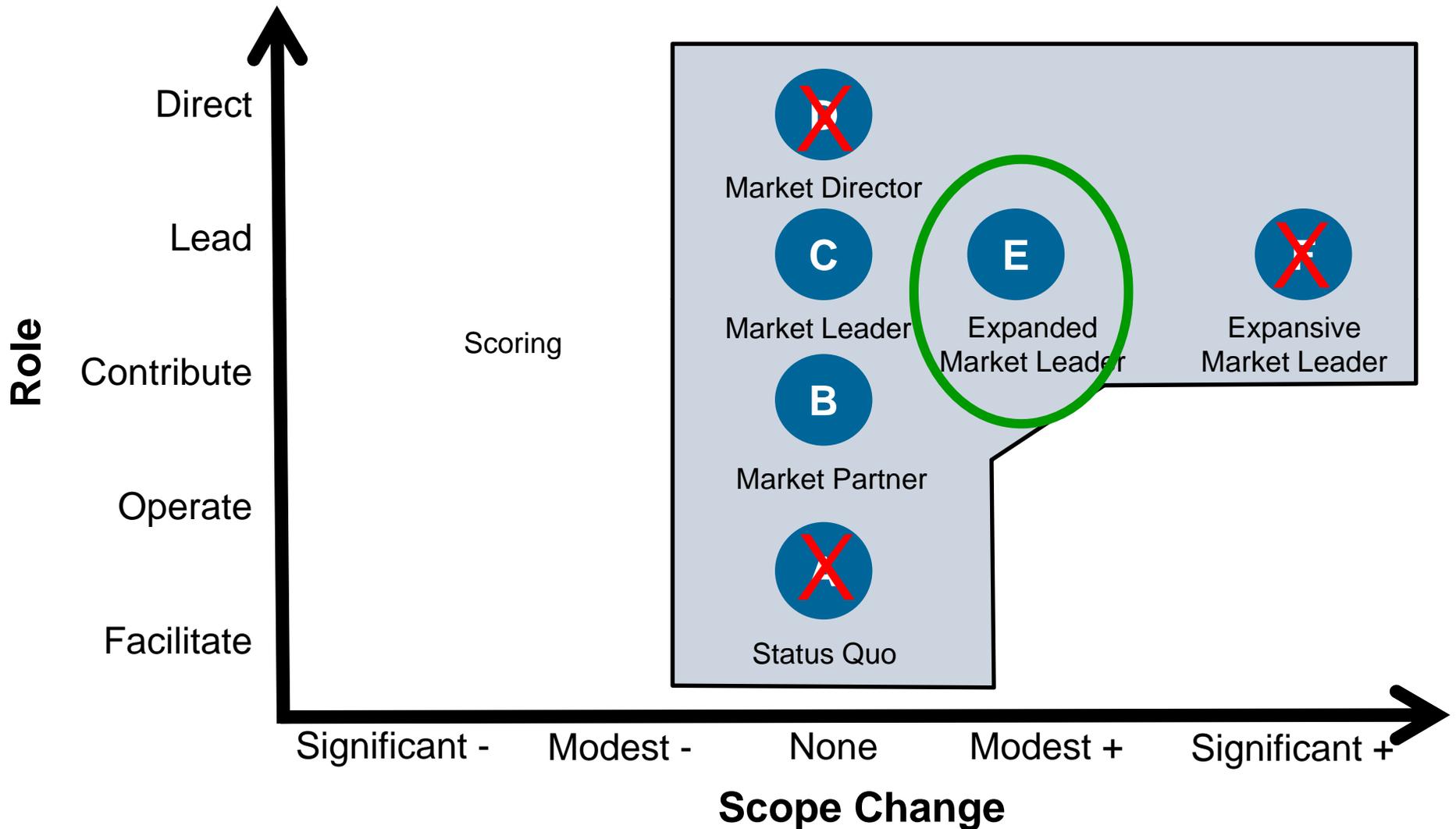
### **Possibly ERCOT**

- Market Development
- Forward Market Operation
- Other Market Operation
- Meter Data Management

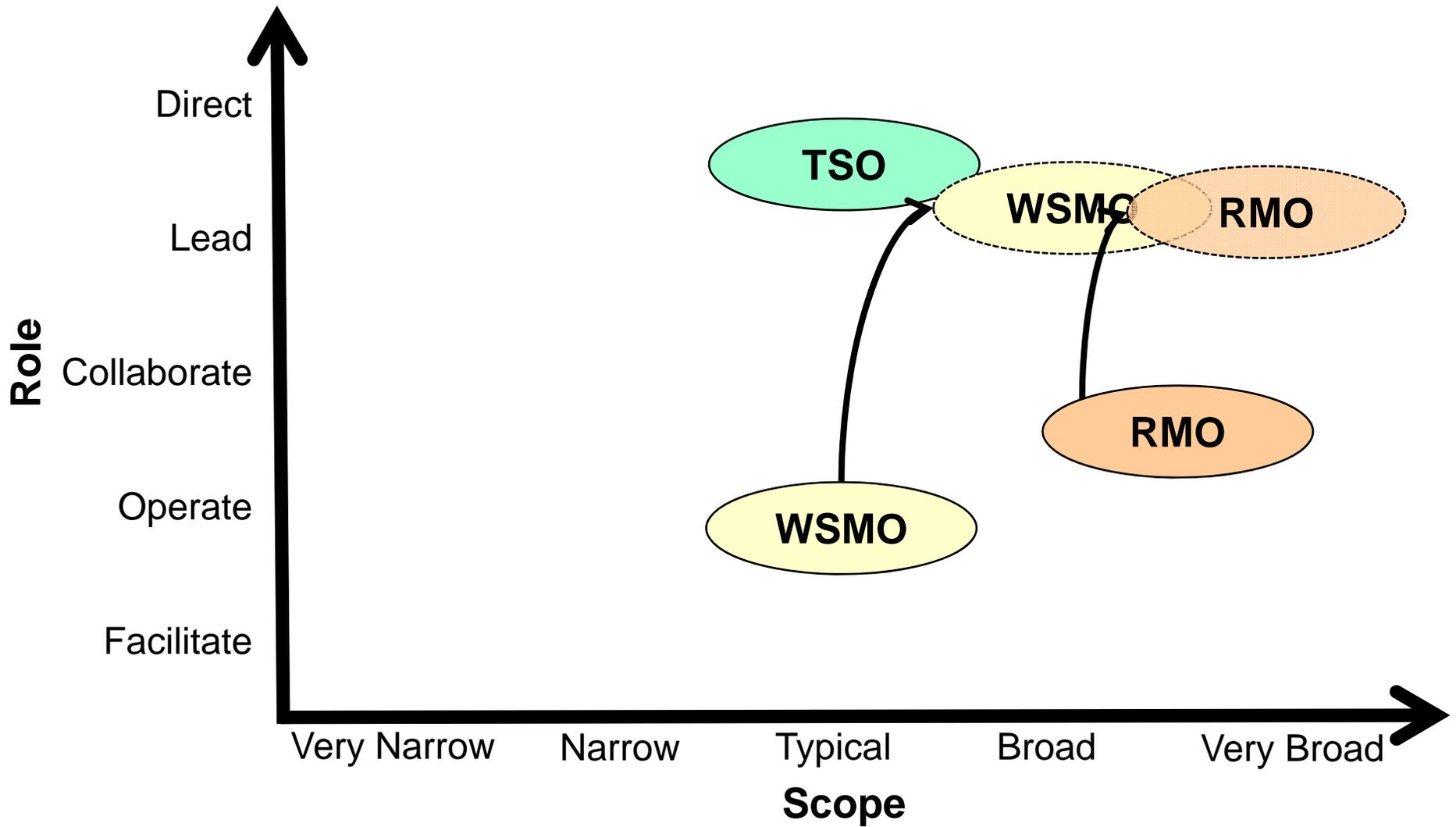
### **Never ERCOT**

- Regulation
- Market Monitor
- Asset Ownership / Management
- Generation/ Retailing / Trading

MR defined six options and an evaluative framework. The initial screening narrowed the options to three (B, C, and E). The Executive Team reached consensus on Option E as the best charter option.



In adopting the Expanded Market Leader option, ERCOT will modestly increase its scope of responsibilities under WMSO and RMO, and longer-term, will migrate to a leader role in RMO and WMSO.



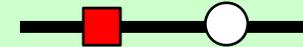
# Longer term, under the Expanded Market Leader charter, ERCOT will increasingly lead in a number of different areas.

■ Now ○ Future

F O C L D

## TRANSMISSION SYSTEM OPERATOR

Planning / Reliability Study Request Evaluation



## WHOLESALE SPOT/CASH MARKET OPERATOR

Wholesale Metering, Data Collection and Data Aggregation



Billing, Settlement & Credit Management



Market Information



Wholesale Market Development



## RETAIL MARKET OPERATOR

Market Development



Accumulation Metering, Data Collection & Aggregation



Interval/Smart Metering, Data Collection & Aggregation



Bulk Transfer Management



Market Information



## REC REGISTRY

REC Registry – Simple Now, Future Opportunities



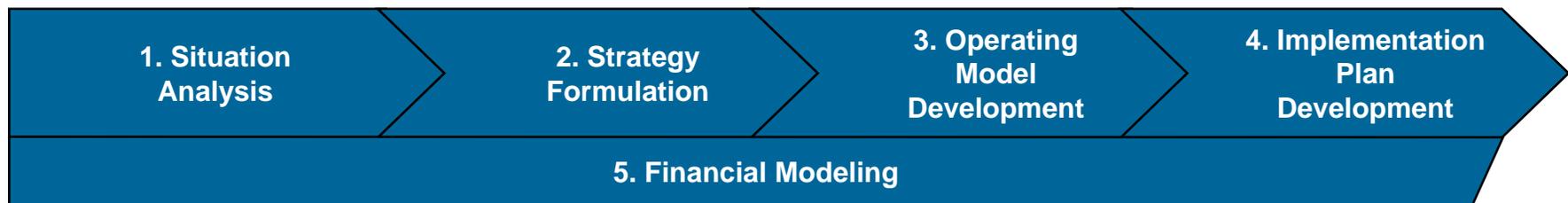
## Strategic Plan Feedback

- ERCOT's Strategic Plan contains a lot of the right elements. However, it needs more specificity, more process rigor, and better linkages across plan elements.
- We recommend deleting the Strategic Plan Introduction and some modest changes to the Vision and Mission Statements.
- Drivers need to be synthesized and ultimately part of a Situation Analysis that informs the Strategy. ERCOT might consider more specific and quantitative Strategic Objectives.
- Ultimately, ERCOT's initiatives need to be run through a KPI framework that prioritizes initiatives and ties back to closing specific, and preferably quantified, gaps.
- ERCOT should consider adding Performance Management and Risk Management strategies and a Situation Analysis and Strategy Formulation to its Strategic Plan.



## Strategic Planning Guidance – Process

- A well-developed Strategic Plan is critical to the business.
- Market Reform recommends a 5-step, strategic-planning process that spans 5 to 12 months and dovetails into the budgeting process.
- We recommended a five-step Strategic Plan development process.
  - The Situation Analysis addresses the underlying ‘Why’ of the business
  - Strategy Formulation answers the question of ‘What’ should be done.
  - Operating Model development answers the question of ‘How’ the strategy should be executed.
  - Implementation Plan development answers questions of ‘When’ and ‘Who’ will implement the elements of the strategy and operating model.
  - Financial Modeling answers the question of ‘How Much’ benefit should be expected.
- Strategic Plan Development requires at least five months and should be completed prior to the budgeting cycle. Some companies follow a 12-month strategic planning cycle.



## Strategic Planning Guidance – KPIs

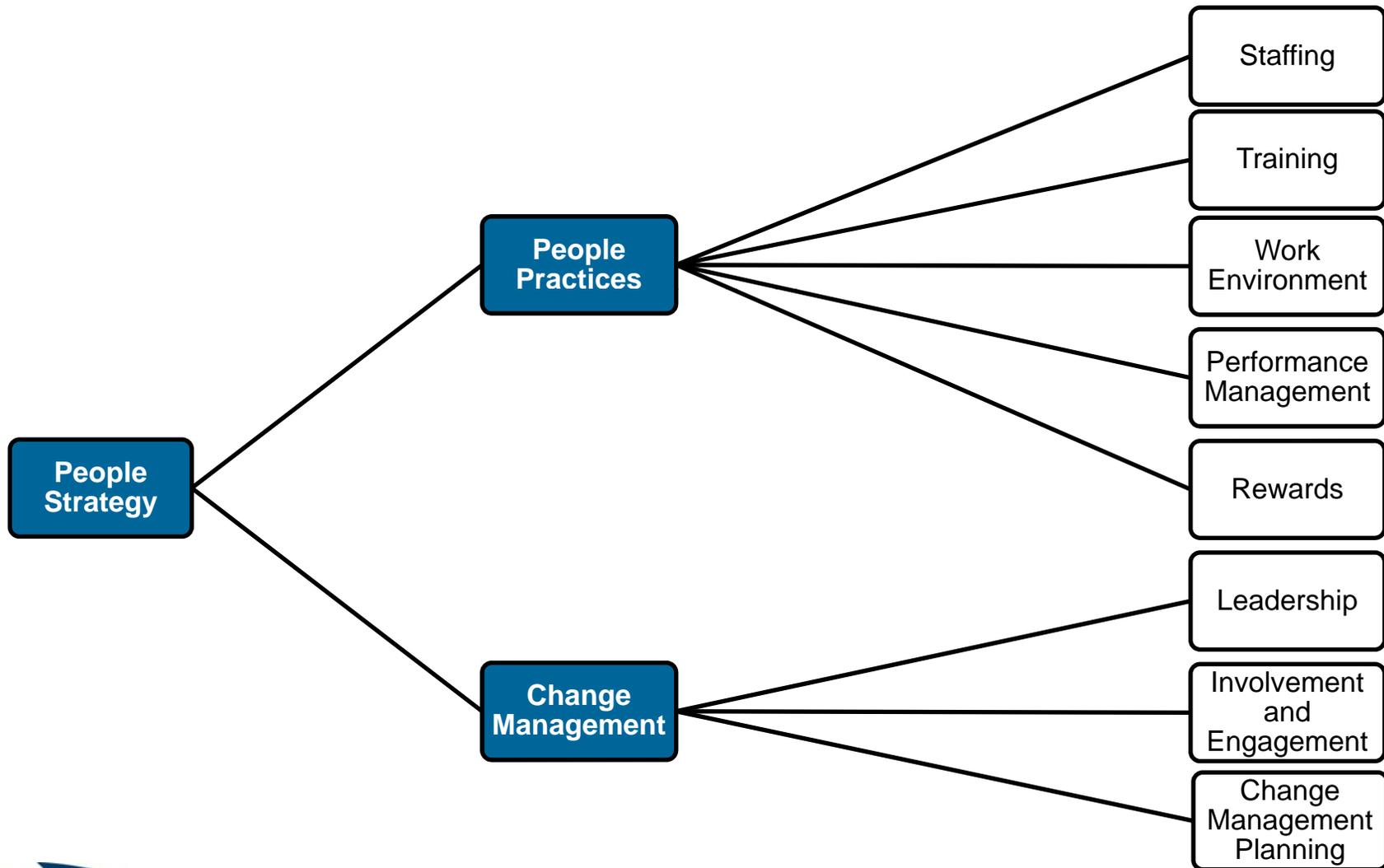
- ERCOT should significantly increase the rigor, attention, and structure associated with Performance Management.
- An effective Performance Management system with the appropriate Key Performance Indicators (KPIs) can align and motivate an organization.
- Significant opportunity exists to improve ERCOT's Key Performance Indicators (KPIs) and performance management processes.
- KPIs should be organized into three tiers. All KPIs should have the same format and contain trend data, definitions, thresholds, and actions.
- KPIs should
  - support ERCOT's strategy
  - be quantifiable
  - include actions
  - drive continuous improvement.
- KPIs are derived from the value drivers for processes and key activities.
- At a summary level, a 'Balanced Scorecard' shows performance trends over time.

## People Strategy – Drivers

- Addresses strong concerns expressed by many interviewees, external and internal, about ERCOT's personnel and change management practices, particularly re: staff quality, performance management, and leadership.
- Provides additional support for ERCOT's new organization design.
  - The Board and PUC likely want more than just optimized staffing and a modified organization structure.
  - ERCOT needs a people strategy that supports, and is consistent with, the organization design.
- A compelling People Strategy can allow ERCOT to attain and maintain a lower level of staffing by:
  - attracting and retaining higher quality staff, and
  - upgrading existing staff



# People Strategy – Framework

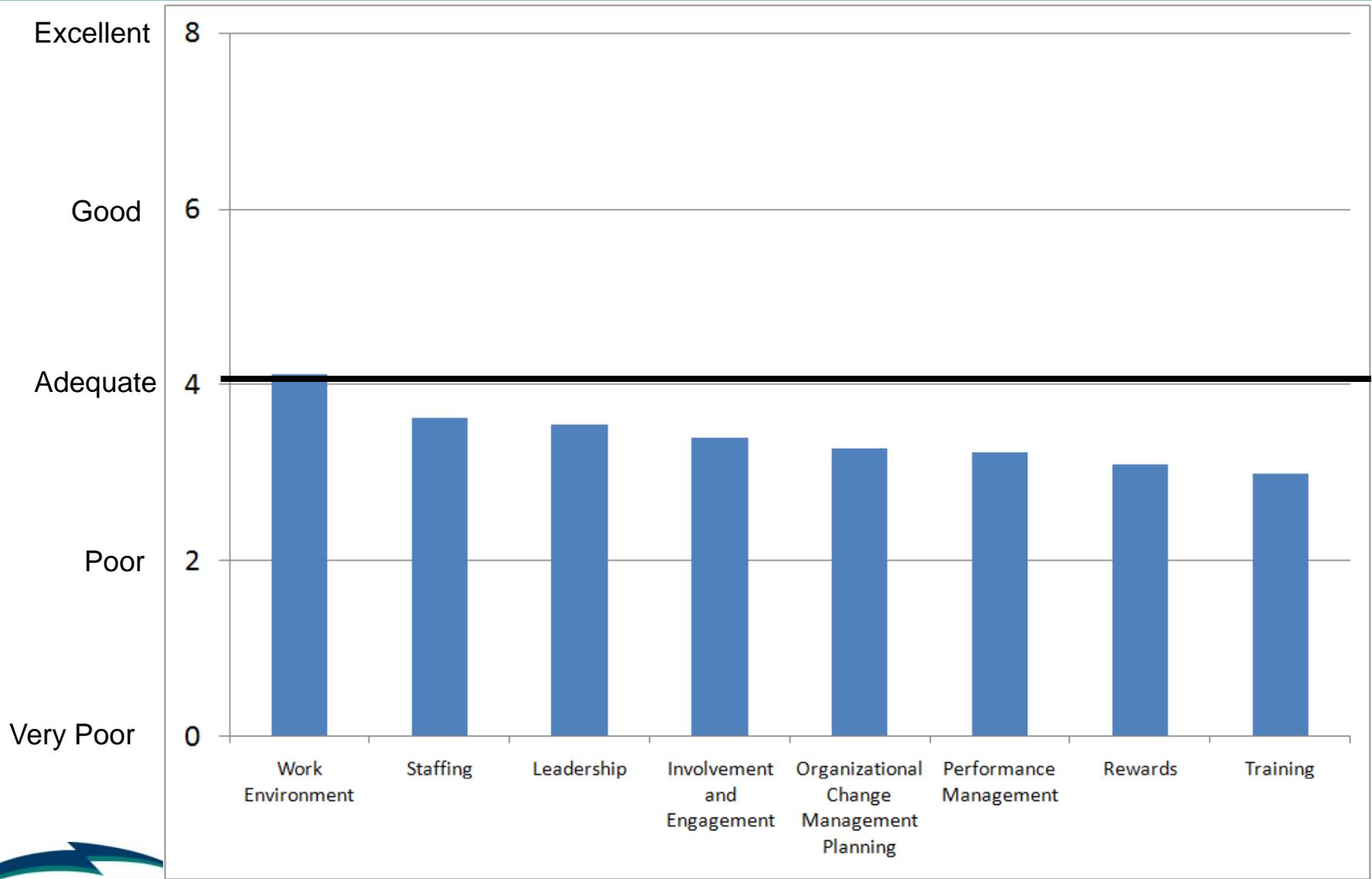


## People Strategy – Survey Process

- Market Reform surveyed 46 people at ERCOT about ERCOT's people strategy
  - 7 executives
  - 18 directors (all were solicited)
  - 13 managers (selected managers received the survey)
  - 8 contractors (selected contractors that have been at ERCOT a substantial time and have a broader organizational view).
- Responses were confidential.
- Each of 32 dimensions are rated on a scale of 0 to 8:
  - 0 = non-existent, woefully inadequate, very poor
  - 2 = inadequate, insufficient, unsatisfactory, does not meet expectations, poor
  - 4 = adequate, fair, decent, satisfactory, meets expectations
  - 6 = good, more than adequate, exceeds expectations
  - 8 = excellent, far exceeds expectations
- Comments were encouraged and 60+ pages of comments were collated.



# People Strategy – Results by Dimension Group



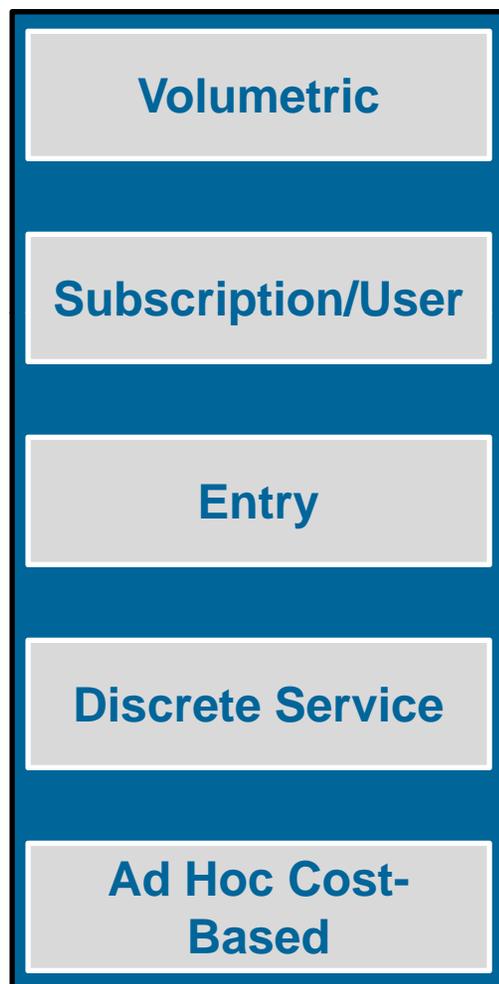
## Fee Structure – Dimensions

**Fee structure is defined by two main dimensions : cost transparency and cost socialization.**

- **Cost Transparency: To what extent are charges unbundled and visible?**
  - **Single Fee:** A single fee is calculated for all of the services provided by the System/Market Operator.
  - **Fully Unbundled Fees :** Each service provided by the Operator is costed and shown separately.
  - **Main Fee(s) & Some Unbundled Fees:** A hybrid structure, with one or a small number of fees covering the majority of costs, and more specialized services costed and charged separately.
  
- **Cost Socialization: To what extent are costs shared, versus assigned to the causer?**
  - **Fully Socialized Costs :** Costs for a service or group of services are funded by all users/participants (usually based on volumes).
  - **'User Pays' Costs :** A service or group of services is charged to users/participants based on the extent of their use of the service.

**Fees to participants/users for the services provided by System/Market Operators may have different bases, depending on their nature. The following is a simplified model for considering these.**

### Fee Types



- Fees based on volumes. For example, a number of common fees are based on generation supplied or load consumed (MWh), or level of service provided (e.g. per MW).
- Many “core” fees are calculated based on volumes.
- Fees based on company or individual access to the market, or a service, for a defined period of time, independent of level of usage
- Examples include annual market participation fees, digital certificate fees.
- May apply to markets individually
- Fees for entry into the market – often serve as a de-facto capital contribution
- For example, registration/accession fees for new participants.
- Fees for discrete services provided by the System/Market Operator.
- For example, a standard fee for undertaking a generation connection study.
- Non-standard fees paid by individual users/participants to recover the Operator’s costs of providing specific products or services.
- Examples could include non-standard reports or analyses produced for individual users/participants.

## Fee Structure – Recommendations (1)

- Currently, the bulk of ERCOT’s costs are recovered via a single ERCOT Administration Fee.
- Market Reform recommends that ERCOT develops and implements a broader range of fees in the future. The main drivers for these changes are:
  - to increase cost transparency (the costs of ERCOT delivering its services)
  - to make costs more explicit and allow service value to be more readily recognized and appreciated by users
  - to allocate costs more clearly to those using the services that ERCOT provides
  - to institute reasonable user-pays constraints in areas where discretionary demand for non-core services is currently “unconstrained”
  - to encourage desired behaviours (e.g. users take account of costs where they have a degree of discretion - for example when raising a ‘dispute’ or market information requests).



## Fee Structure – Recommendations (2)

- Market Reform’s recommendations consider the following factors:
  - simplicity and predictability
  - transparency and cost reflectivity
  - allocative efficiency
  - ease of administration
- Market Reform recommends a hybrid fee structure, which would deliver increased cost transparency, incur moderate administrative complexity, and include each of the following fee types:
  - Volumetric Fees (including core service administration fees)
  - Subscription/User Fees
  - Entry Fees
  - Discrete Service Fees
  - Cost Recovery Fees
- Results in a balance between socialized fees and cost-reflective fees for discretionary services.

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# Implementation Plan

**Market Reform has developed a high-level implementation plan, consisting of 10 Gantt charts laying out the key activities and timing associated with implementing Market Reform's recommendations.**

1. **Organizational Planning:** Development of detailed plan for implementation of new organization
2. **Annual Budget:** Development of an ERCOT budget that takes into considerations implementation of project recommendations.
3. **ERCOT Charter Changes**
4. **Organizational Implementation**
5. **People Strategy**
6. **Improvement Recommendations**
7. **ERCOT Strategic Plan:** The steps and timing of an annual strategic planning process.
8. **Governance**
9. **Fee Structure**
10. **Program/Change Management:** Establishment of a program to implement the other elements of the Implementation Plan.