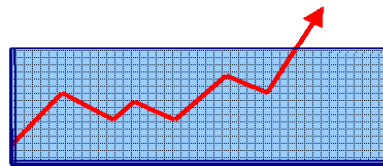hydro One

The Evolution of the Hydro One Scorecard

Presentation to OEB RRFE Performance Measurement and Benchmarking Working Group

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Background

- Hydro One (and its predecessors) has used performance measures to drive performance for some time
- The original model focused on financial targets for bonuses
- One year the financial targets were exceeded but a worker was killed on the job
- The CEO decided not to pay the bonuses and demanded that the performance payment concept be revisited

Key Performance Indicators (KPIs)

- First initiative was to develop a set of KPIs
- While these addressed some of the issues there was a lack of consensus on their use and results reporting

Balanced Scorecard

- After reviewing various models such as Kaplan & Norton plus extensive academic research and testing, the *Balanced Scorecard* was selected.
- A Balanced Scorecard using a small number of financial and non-financial measures and targets was implemented

Balanced Scorecard Experience

- While the original Balanced Scorecard model was supposed to be a Vision based process Hydro One like many other companies tended to focus on standard industrial measures or KPIs
- Most of the companies and consultants proposing the Balanced Scorecard used the *financial, customer, internal business processes,* and *learning and growth* categories
- However in practice aligning measures with these categories proved controversial within most companies, again, including Hydro One

5

Strategic Balanced Scorecard

- The answer was to revisit the Strategy or Vision concept and develop the measures as part of the Strategy Process.

6

Strategy

Strategic

Tactical

Current

7
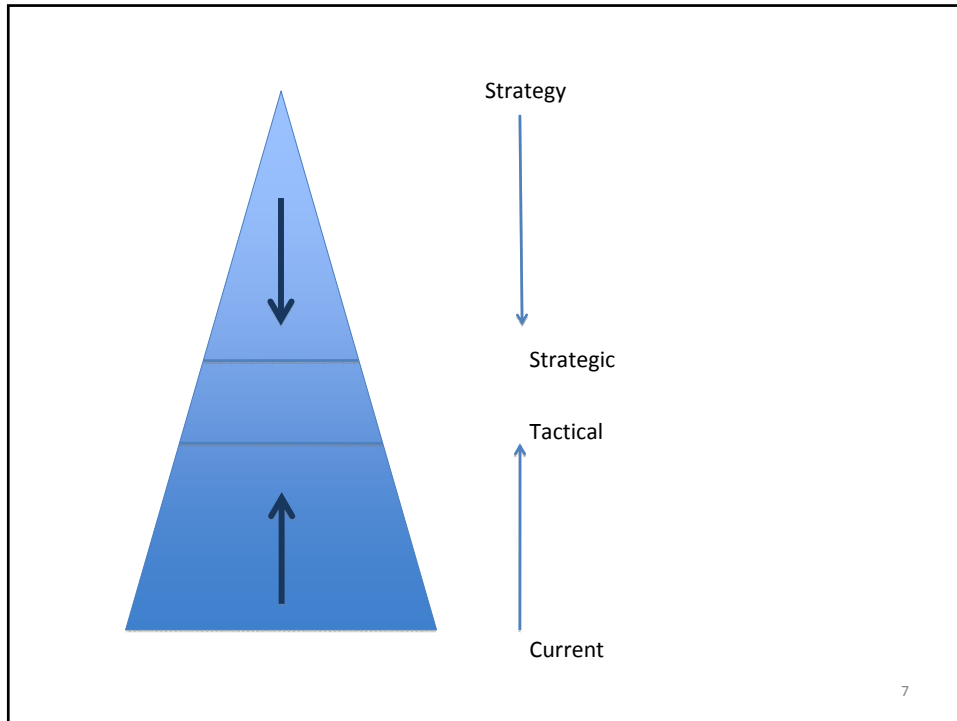
Corporate Scorecards Best Practices

- Analysis of corporate best practices by leading companies showed an integration of Strategy and performance scorecards

8

Executing the Scorecard and Accomplishing the Strategy

- Leading businesses use their Strategy to drive the Corporate Scorecards and Performance Reporting
- Implementing these best practices, can demonstrate to Stakeholders that by:
  - **Executing the Scorecard**
  - **the Strategy is accomplished**

Hydro One Strategy

Our Strategic Plan builds on the company's strong commitment to the Province of Ontario and is shaped by our Values. It lays out a set of clear objectives to position Hydro One to achieve its Mission and Vision.

MISSION AND VISION

We will be an innovative and trusted company delivering electricity safely, reliably, and efficiently to create value for our customers

VALUES
- Health and Safety • Stewardship
- Excellence • Innovation

STRATEGIC OBJECTIVES
- Injury-Free • Satisfying our Customers • Continuous Innovation
- Reliable Transmission and Distribution • Protecting the Environment
- Employee Engagement • Shareholder Value • Productivity and Cost-Effectiveness

In planning and executing our work, everything we do supports our Mission, Vision and Strategic Objectives

Corporate Strategy
(Mission, Vision and Objectives)

10 Year Needs Outlook
(Need)

Business Planning/Rate Filing
(Prioritize)

Budget/Outlook
(Resource)

Reporting and Scorecard
(Measure)

Scorecard Process

- For Hydro One Performance Management (PM) the key steps are:
  - *Develop the strategy.* Done by senior management
  - *Define Strategy Objectives.* Done by Board with input from Strategy Group and PM
  - *Draft a Scorecard.* Done by PM
  - ***Approved*** by Board
  - *Generate results.* Done by LoBs with input from PM
  - *Monitor and Learn.* Done by Senior Management and LoBs with input from PM
  - *Test and Adapt.* Coordinated by PM

11

Cascading Scorecards

- Subsequently the Corporate Scorecard Measures cascade to the Business Unit Scorecards

- The Scorecards are then used to *Monitor and Learn* for the year-end review and then *Test and Adapt* for the next year's Scorecards

12

Learn from the Best

- To identify corporate performance measures by looking at a sampling of random utilities is like looking over the worst student's shoulder at a high school exam.
- You get answers but they may not be very good

- **We learn (and copy) from the Best**

Learn from the Best - Process

- Identify the Leading Utilities
- Analyze the Leading Utilities and their publications
- Discover their key corporate performance measures
- Use the Best Corporate Measures from the Leading Utilities for continuous improvement of corporate performance reporting and incentive plans

Identify Leading Utilities

- In-depth research of the industry publications identified three major indicators for leading utilities
  - Benchmarking rankings
  - Industry awards
  - Industry reputation

  Using these tools a selection of utilities from around the world was highlighted and their data bases examined for performance data

  Based on these data, utilities were culled for information depth and consistency, and comparability to Hydro One

15

Leading Utilities

- From these analyses a set of leading utilities was established

- A range of utilities was adopted to provide both relativity e.g. Canada/US and scope e.g. Europe/Rest of World

16

Location	Leading Utilities
Canada	Altalink Hydro Quebec Fortis Alberta SaskPower BCTC Fortis BC New Brunswick Power
United States	Portland General Electric American Transmission Company
Europe	National Grid Electricity Transmission Scottish Power Transmission
World	TransGrid Australia State Grid Corporation of China

Analysis

- Each of the leading utilities identified was analyzed using their own databases, those of their regulator, industry sources such as the CEA, EEI, FERC as well as industry, governmental and consultancy publications

Identify Leading Canadian Utilities

- Using the CEA Benchmarking survey, the Leading Utilities in the *Best Cost* and *Best Reliability* comparisons were identified for analysis.

Leading British Utilities and their Regulator

- **National Grid** – a world leader in the development and management of Transmission businesses
- **Scottish Power Transmission** a leading Tx business recently acquired by Iberdrola (Spain)
- **Ofgem** rated as one of the leading regulators in the world and for its use of academic/ collegiate methodologies rather than adversarial/paternalistic dictates

Leading US Utilities

- Research in the US for leading utilities identified the Edison Electrical Institute as a respected source.
- Winners of the EEI Leader award were analyzed for comparability to H1 and published corporate performance and best practices, documents
- The two highlighted here are:
  - **American Transmission Company (ATC)**
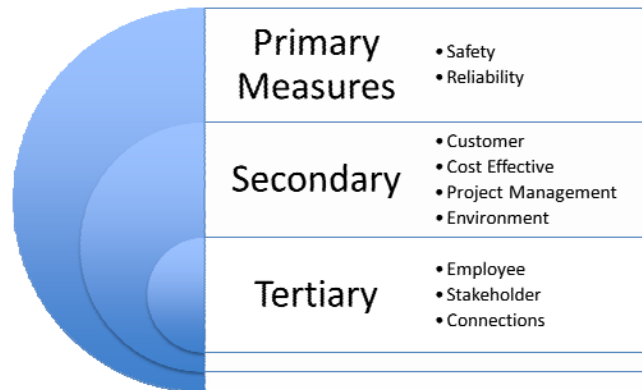 - **Portland General Electric (PGE)**

21

Leading Utilities - World

- Analyses of utilities around the world including Sweden, Japan, India, Brazil, NZ etc identified that most of the utilities use similar performance metrics
- Two utilities:
  - **TransGrid Australia**
  - **State Grid Corporation of China**

  Are presented here as representing a world view of corporate performance

22

Corporate Measures used by Leading Utilities around the World

Primary Measures	• Safety • Reliability
Secondary	• Customer • Cost Effective • Project Management • Environment
Tertiary	• Employee • Stakeholder • Connections

Observations

Primary Measures

- The supremacy of reliability and safety is notable
  - *Stakeholders say in a business as dangerous as ours, safety is a given*
  - *Electricity availability is an enabler for society and business*

Observations Continued

Secondary Measures

- **Project Management** is a general term for administration of assets, construction and maintenance

- **Environment** is often driven by legislation, sustainability and by demand management

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Observations Continued

Tertiary and other measures

- **Employee** measures tend to be surveys whereas **Stakeholder** tend to be proactive and include increased communications, and **Connections** reflects legislation and green power

- Other measures of note included **Innovation, Social Impacts** and **Regulation** with growth in **Assets** a common theme not specifically measured

Measurement Processes - Key Points

- Analysis of the measurement processes used by the leading utilities was, like the measures themselves, surprisingly consistent
- That is they all used:
  - **Strategy/Goals/Vision/Mission as a starting point**
  - **Balanced Scorecards for reporting**
  - **Benchmarking to establish targets and best practices**

Developing Targets - Objectives

What is the purpose of the target. Is it to

- *Maintain current performance?*
- *Demonstrate continuous improvement?*
- *Instigate significant stretch programs?*

Setting of the targets and their validity is determined by the rigour of the data available. That is usually represented by the rigour of the:

- *Historical results*
- *Benchmarking*
- *Business plans*

Target Setting Process

Hydro One Scorecard targets are developed by a combination of historical, benchmarking and business plan data.

The overarching logic is to demonstrate continuous improvement.

- Where the historical data are robust e.g. 5 years, projections are used based on the actual results.
- Where benchmarking is the preferred base, comparisons are made to comparable utilities.
- When historical or benchmarking data are not robust extrapolations of business plan data is used.

Based on the logic process and the data quality, proposed targets are developed by the Performance Management Unit.

- These draft targets are reviewed with the responsible executives for their input and authorization.
- These targets are added to the corporate scorecard and presented to the Board for discussion and approval.

29

Target Tolerances

- A tolerance is the variation within which a product or service can accomplish the task it was designed for.

- For example in engineering a nut will have a tolerance that allows it to fit a bolt that is also made to a matching tolerance.

- In non-manufacturing businesses the tolerances are less prescriptive and more descriptive.

- That is the use of the measure dictates the tolerance.

30

Setting Tolerances

- In a precise environment where considerable data is available for analysis, a small or tight tolerance would be used.

- Conversely if the measure is less precise or little data is available a larger or looser tolerance could be adopted.

- The key is the use and impact on the result

Tolerance Application

- For the H1 Corporate Scorecard, a **guide** tolerance would be +/- 5 percent.

- Each Executive responsible for the measures may increase or reduce the tolerance to allow them to make informed decisions from the measure's results

Tolerance Examples

- A measure with a low sample size where missing say, one milestone, may constitute a deviation, a tolerance of wider than the 5% may be more informative.

- Where tighter tolerances are indicated say, large sample size with small variation in results, a tighter tolerance may be indicated.

- Also where there is an imbalance of impacts, asymmetrical tolerances e.g. +5/-10 may be used

33

Tolerances Logic

- A two-sided tolerance is analogous to "goal posts" in a football game: all results within those tolerances are equally acceptable.

- The key is similar to target setting where the tolerance should be tight enough to drive appropriate behaviour but broad enough to recognize business conditions.

- **The driver should be, if a result is out of tolerance, that it has an impact either positive or negative on the business activity**

34

Setting Targets for Measures

- There is a tendency to use stretch targets to "drive" performance and/or to impress superiors and stakeholders.
- However setting targets without specific programs or improved processes is an exercise in wishful thinking and can lead to dissatisfaction and/or devious reporting (gaming).
- The key is to develop and implement programs and processes and to quantify their impact so as to identify whether the proposed changes will result in meeting the stretch targets.

- That is while;
  Man's reach should exceed his grasp - if not, what is heaven for?

  However while heaven may be reached by prayer, Scorecards have to be met by effective efforts.

35

Stretch Targets and Thresholds

- Stretch Targets and Thresholds are used to drive appropriate performance
- By using Stretch Targets, better than target performance is recognized and rewarded
- Thresholds identify sustainability levels and significant issues

36

Stretch and Threshold Process

Data
- Historical e.g. 5 years results
- Benchmarks e.g. comparable performance
- Statistical e.g. one-offs

Information
- Criteria e.g. stretch attained 1 year in 5
- Benchmarks e.g. target quartiles

Knowledge
- Apply results e.g. stretch met, thresholds missed

Wisdom
- Incentive applied? e.g. safety stretch met but with fatality

37

Stretch Targets

- Stretch Targets must be matched with Stretch Processes
  - e.g. better tools, better decision making, better training
  - you get more output by committing more input

  Trying to get more output just by demanding more output is ineffective and unsustainable.

38

Target using Data - Historical

- Historical example (5 years data available)
  - Stretch = Meet/exceed Best year in Five
  - Target = Median
  - Threshold = Meet/below Worst Year in Five

Target using Data - Benchmarking

- Benchmarking Example
  - Stretch = Improve Quartile
  - Target = Maintain/ Improve Quartile
  - Threshold = Maintain/Avoid Last Quartile

Target using Data - Statistical

- Statistical example
  - Target = Within standard deviation
  - Stretch = Statistically significant upside
  - Threshold = Statistically significant downside

Data -Historical Example

- Tx Duration of Interruption in minutes
  - 2006   18.9
  - 2007   5.1
  - 2008   7.2
  - 2009   19.7
  - 2010   9.1

Information - Historical

- Tx Duration
  - 2006 18.9
  - 2007   5.1 Best in 5
  - 2008   7.2
  - 2009 19.7 Worst in 5
  - 2010   9.1 Median in 5

  Target = 9.1

  Stretch = 5.1 or better

  Threshold = 19.7 or worse

Knowledge - Historical

- Target of 9.1 has been met or bettered 3/5 or 60%

- Stretch of 5.1 has been met 1/5 or 20%

- Threshold of 19.7 has been met 1/5 or 20%

- This pattern follows a Bell Curve distribution and is a logical/explainable tool

Wisdom - Historical

- Applying incentives at the executive level should employ logic and not just be a simplistic or prescriptive activity

  - For example if already a leader caution should be used in implementing standard improvement levels

Wisdom - Benchmarking

- Benchmarking is the most effective measure of performance and while in other studies the comparators may lack rigour the CEA data is valid.

- However the results can be tardy and decisions dated.

Hydro One Corporate Scorecard Example

HYDRO ONE INC.

2012 Corporate Scorecard

Strategic Objective	Performance Measure	Year-End	
		Actual	Target
Productivity	Transmission Unit Costs (Capital and OM&A per Asset) %		
	Distribution Unit Costs (Capital and OM&A costs per km of line) $'000/km		
Reliability	Tx Duration of Customer Unplanned Interruptions on 115/230kV Network System per delivery point (minutes/delivery point)		
	Dx Duration of Customer Interruptions (hours per customer)		
Satisfying Our Customers	Tx Customer Satisfaction (% satisfied / Results available in May & October)		
	Dx Customer Satisfaction (% satisfied)		
Employee Engagement	Employee Survey (Grand Mean)		
Shareholder Value	Net Income After Tax ($M)		
Injury-free Workplace	Medical Attentions (# of medical attentions per 200,000 hours worked)		
Legend	★ Better than plan (≥5%)	● On Plan	△ Below Plan

Conclusions

By researching, analyzing and developing the:
- **Best Measures** from world- class utilities
- **Best Format** of a balanced scorecard
- **Best Methodology** using strategic objectives

Created a **Best Practices Scorecard,** driven by the Strategy of the company

Therefore rather than based on opinion, guesses or assumptions,

the *Hydro One Corporate Scorecard* establishes:
- Line of sight from the **Measures** to the **Strategy** and
- Ensures that the **Strategy** can be accomplished by meeting the **Measures**' targets.