

5th Annual Event

The Future of Canada's Infrastructure

Designing Performance Measure Programs To Support Infrastructure Management

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Presentation Outline

1. The Need to Measure Performance
2. Designing Performance Metric Programs
3. Culture of Performance Measurement
4. Questions, Discussion



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Introduction



NATIONAL WATER & WASTEWATER
BENCHMARKING INITIATIVE

- Experiences gained from the National Water and Wastewater Benchmarking Initiative.
- Ten year history of performance benchmarking (metric and process)
- Recognized as one of the most advance exercises in the public sector in the world.
- Lesson learned can be widely applied.



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Getting Started

- Assume that we understand the importance of performance measurement,
- Have experience in aspects of performance measurement,
- I will speak to the development of a framework for performance measurement (and not the actual measures).



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Why is this difficult?

- Within the public sector, goals can be vague (and even contradictory).
- Performance measures usually originate at the “program” level and not at the top organization level.
- Results take time: expect 2 to 5 years
- PM programs do not mesh together, and can compete with each other.



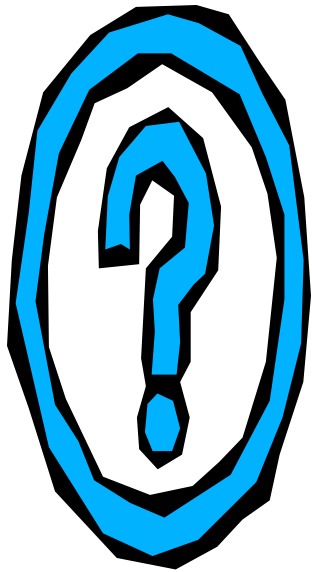
Water Utility Challenge in 1997:

- There were few common industry wide performance metrics.
- Public expectations for quality and service are increasing, but willingness to pay is actually decreasing.
- How to demonstrate that local citizens were getting generally good service and good value (too good in many cases).
- Understanding that improvement is possible and necessary, but where to begin?



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Our Definition of Benchmarking



How do we compare?

How well are we doing?

Are we providing value for money?

And then:

How can we improve?



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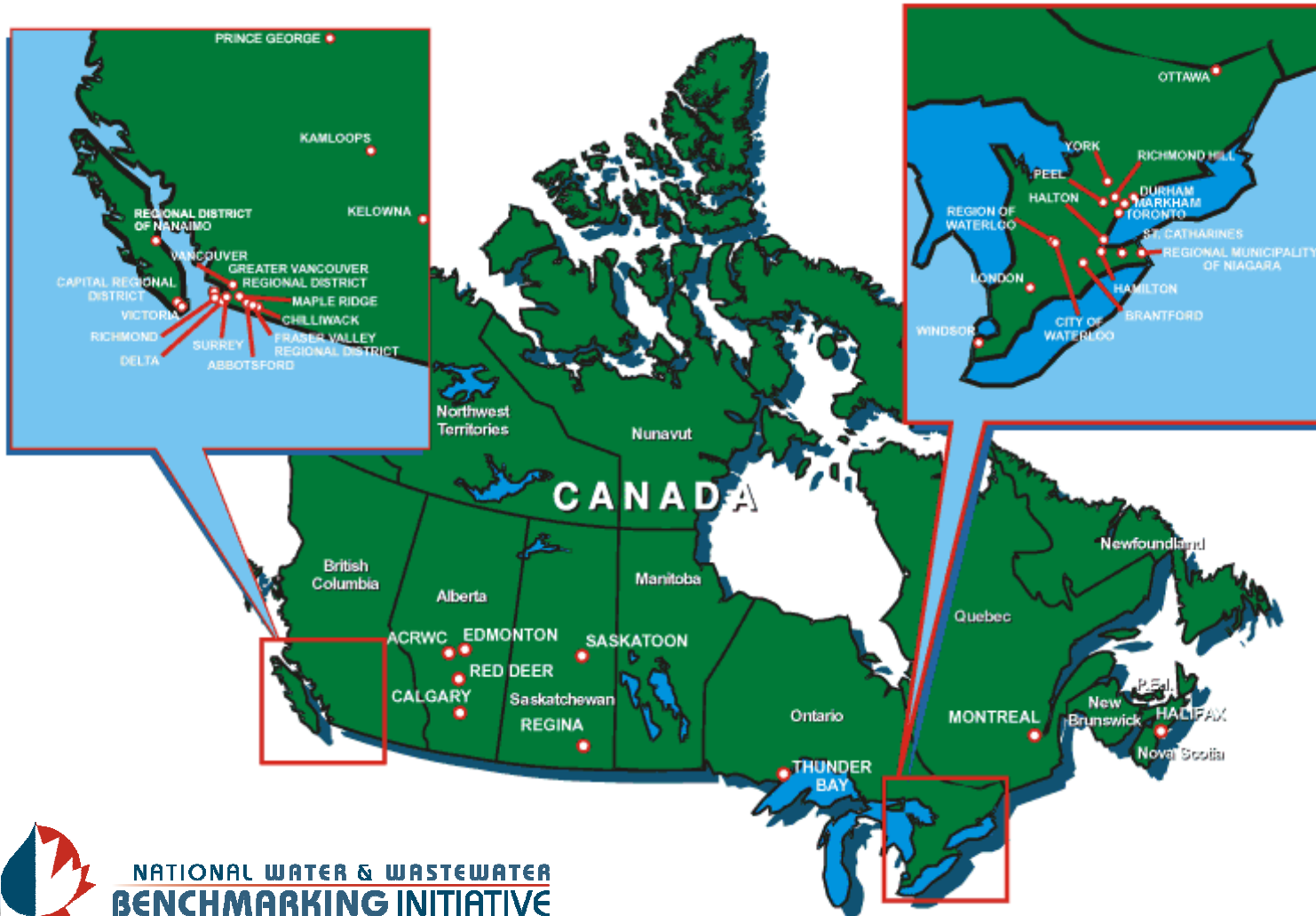
Critical Success Factors

- Very high level of cooperation amongst participating municipal utilities;
- Open sharing of information and ideas;
- Willingness to experiment, and pilot new ideas. Change on the fly if necessary;
- Patience: Prepared to make investment of time and energy.



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Participation is National

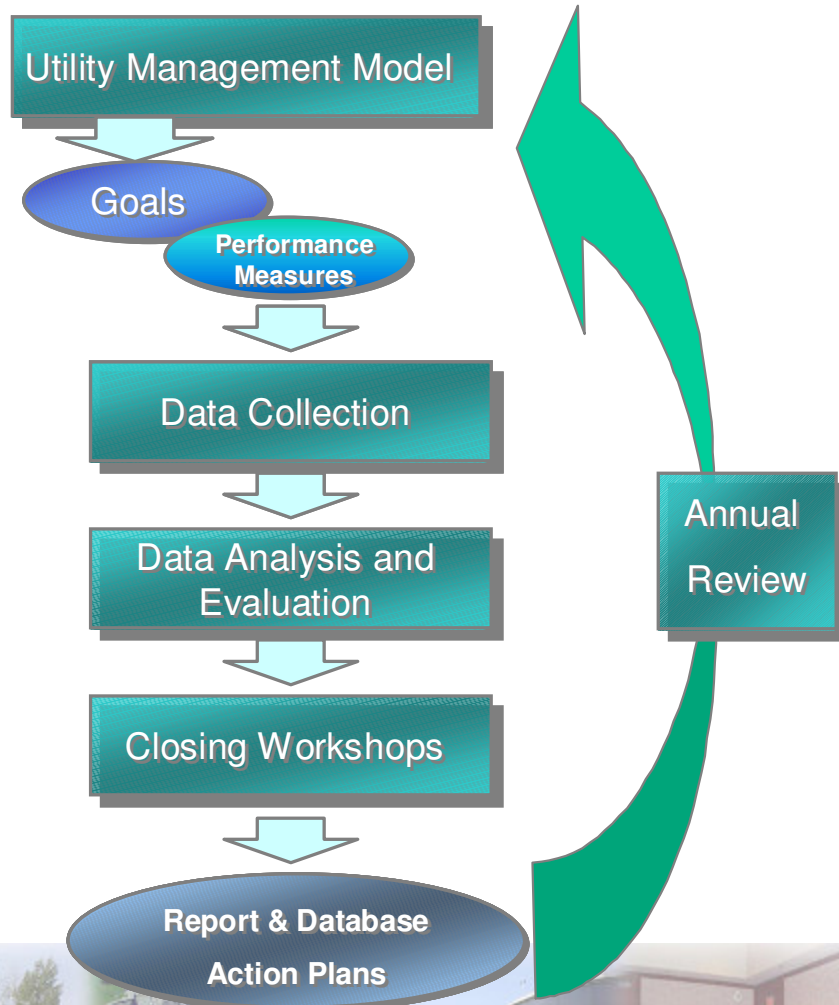


**NATIONAL WATER & WASTEWATER
BENCHMARKING INITIATIVE**



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Annual Benchmarking Cycle



- Conventional methodology
- Annual cycle
- Great care taken to ensure each task is completed thoroughly
- Key milestone checkpoints



Benchmarking Module Structure

WATER

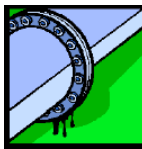
➤ Water treatment

- Filtered
- Unfiltered



➤ Water distribution

- Transmission
- Distribution



WASTEWATER

➤ Wastewater collection

- Trunk
- Collection



➤ Wastewater treatment

- Primary
- Secondary



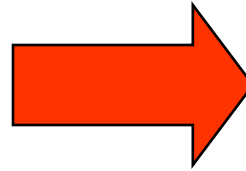
STORMWATER & DRAINAGE

- Stormwater Drainage
- Stormwater Retention & Treatment

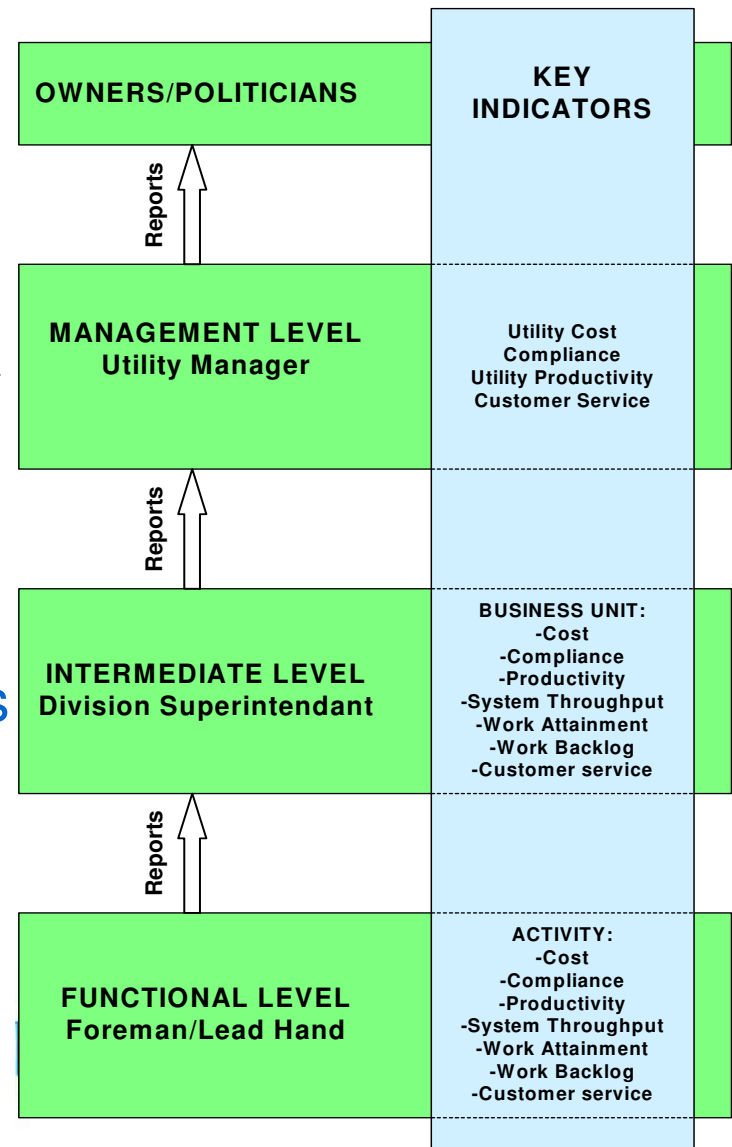


Utility Management Model

- Critical Utility Reporting Levels: Most utilities have 4 including “Owners”

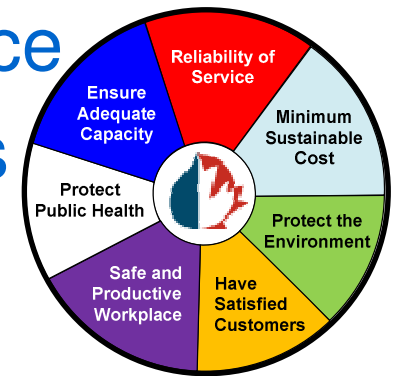


- We focus on the “Managers Level”
- This allows us to drill into lower levels for Process Benchmarking



Benchmarking the Attainment of Key Utility “Goals”

1. Reliable and sustainable infrastructure
2. Provide sufficient capacity
3. Meet service requirements at sustainable cost
4. Protect public health and safety
5. Provide a safe and productive workplace
6. Have satisfied and informed customers
7. Protect the environment and minimize environmental impacts



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Example PM: Definition Detail

Total Operations &
Maintenance Cost /
km Length of
Distribution system

- **Sum of the actual O&M costs** incurred in the operation of the distribution/transmission/ integrated system (excludes capital costs, indirect costs, transfers to reserves and debt/interest charges). Includes O&M costs for both linear (pipes, meters etc) and non-linear (pump stations, reservoirs etc) infrastructure. Revenues are only included where they are recoveries for work done by water distribution staff that is extraneous to the utility (for example, lab tests for other utilities).

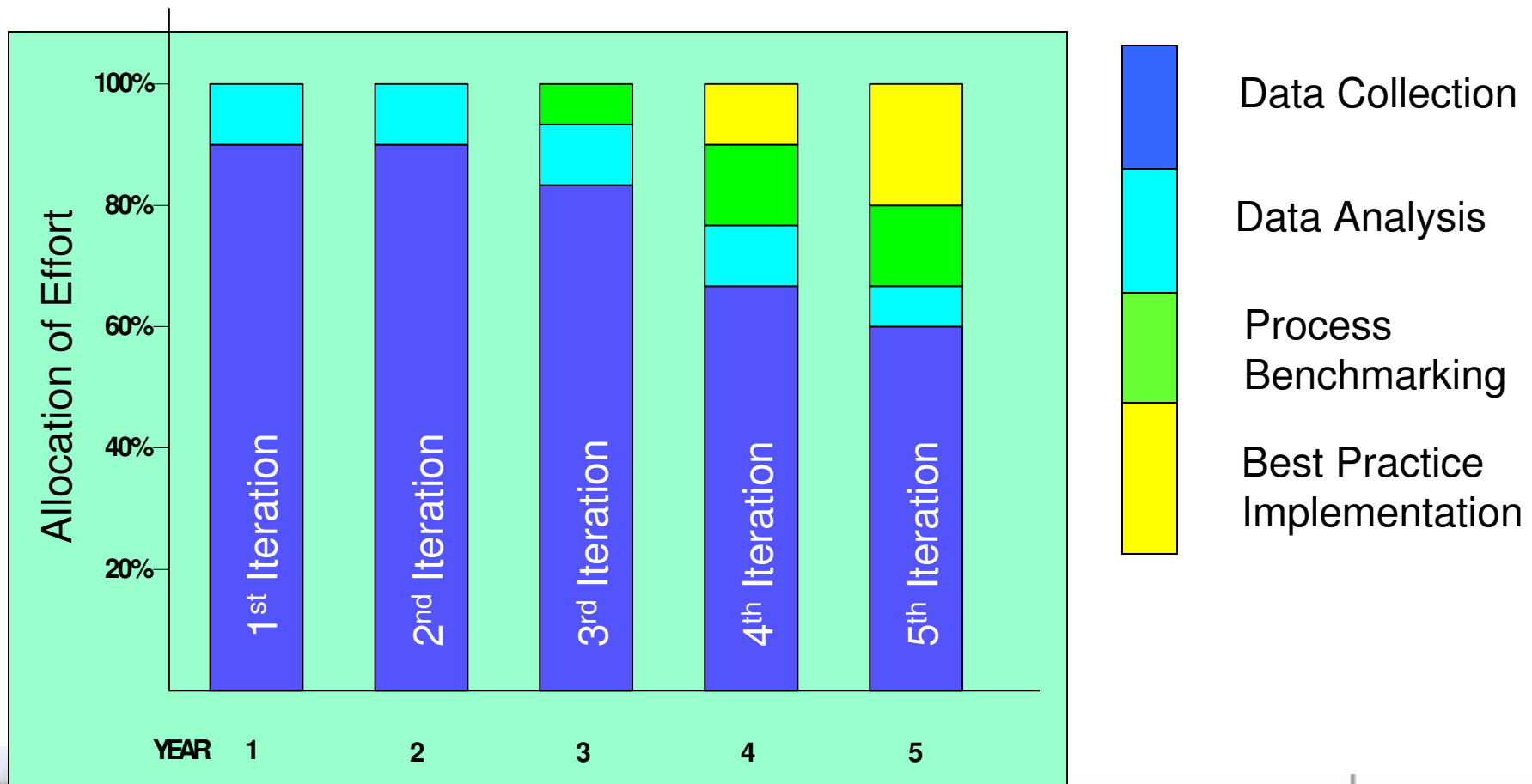
- **Total length of mains** in the distribution system (i.e. excluding length of service connections). For the distribution system length include all connecting pipes between pump stations, rechlorination facilities and storage facilities if these are located within the distribution system. For the transmission system length include all connecting pipes between pump stations, rechlorination facilities and storage facilities when located between the source and the treatment plant or between the treatment plant and the distribution system.

Detailed definitions
are vital to ensure
valid comparisons



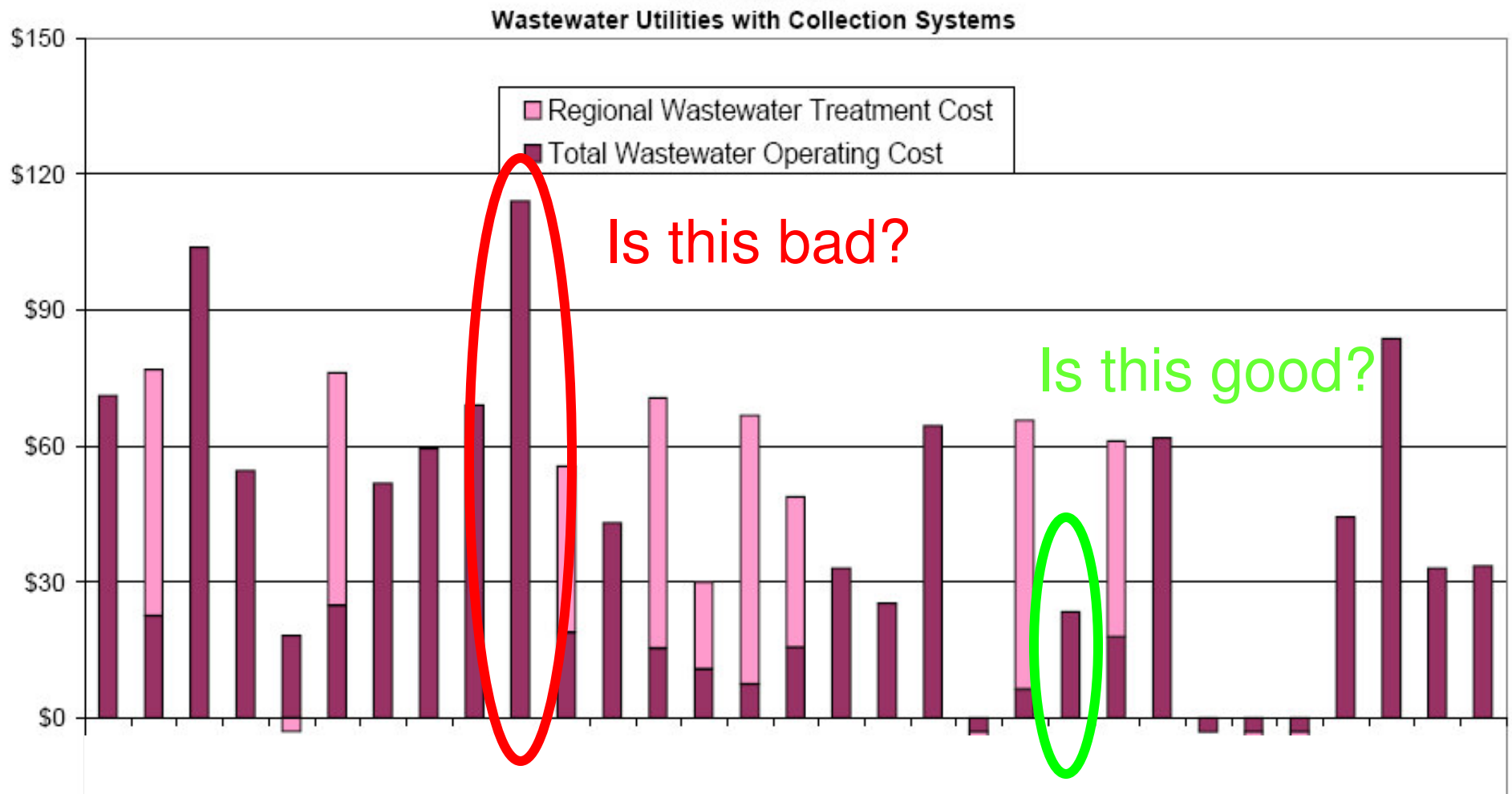
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Results and Payback Take Time.



Good vs Bad? Be careful.....

(Total Wastewater Operating Cost + Regional Wastewater Treatment Cost) / Population
Served 2006



In All Cases:

- Benchmarking “results” are only a start and almost never express “good” or “bad”.
- You need to look “behind the numbers”;
- NWWBI results are not blinded, so you can see which utility is leading;
- Only by discussing the results and getting more information can you begin to identify specific process changes.



Objective: Performance Improvement

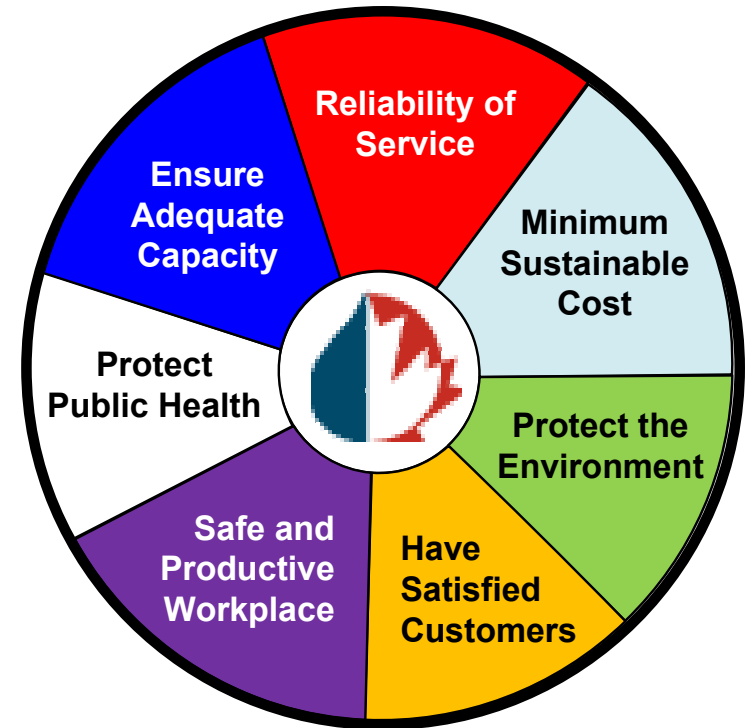
- Performance measurement and benchmarking mean nothing if you don't do something with the results.
- To improve, you have to change, and change is always hard.
- Strategy: Start with some quick wins to get buy in, then move to more ambitious improvement programs.



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Designing a Robust Performance Measurement Model:

Need to Measure “Goal” Attainment!



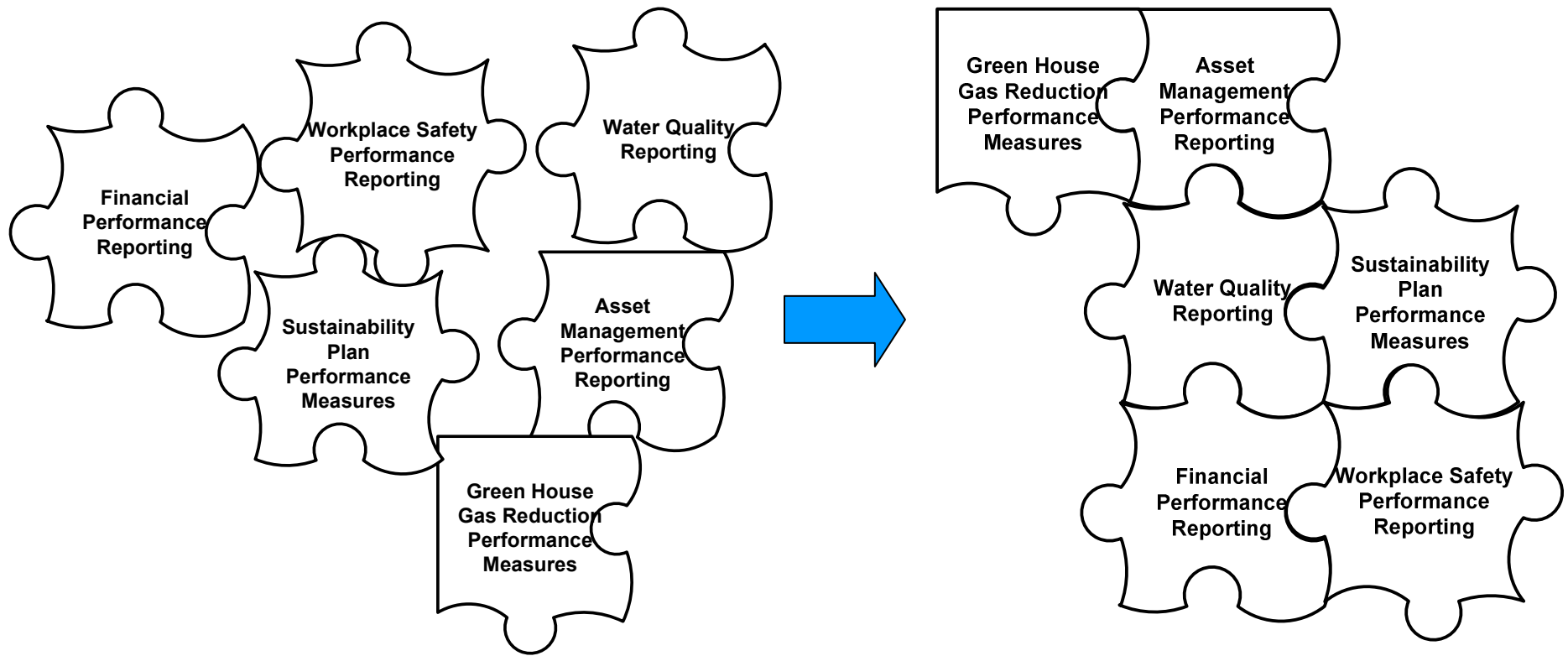
Goal vs. Strategy

- A strategy is used to attain a goal.
 - Asset Management Plan
 - Sustainability Plan
 - PSAB 3150
 - Regulatory Reporting
 - Capital Project Level Reporting



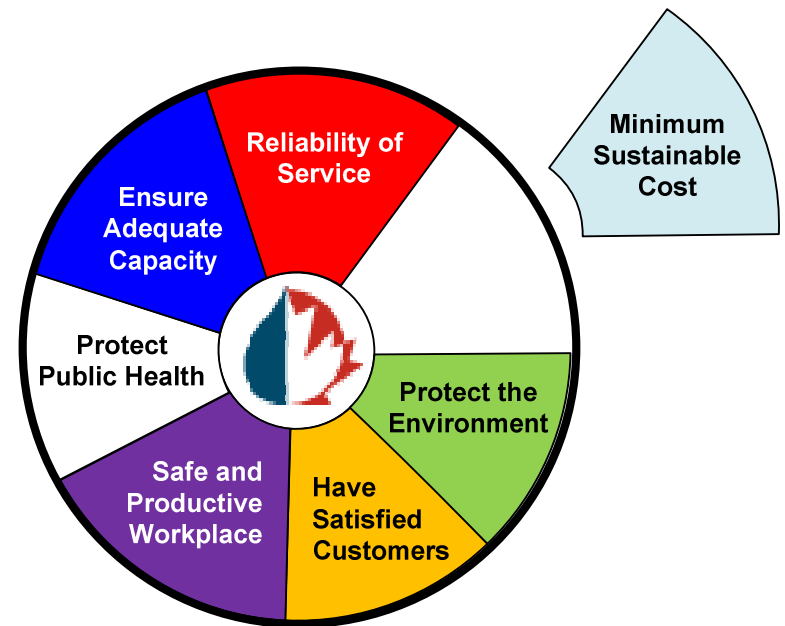
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Performance Measurement Plans Must Fit



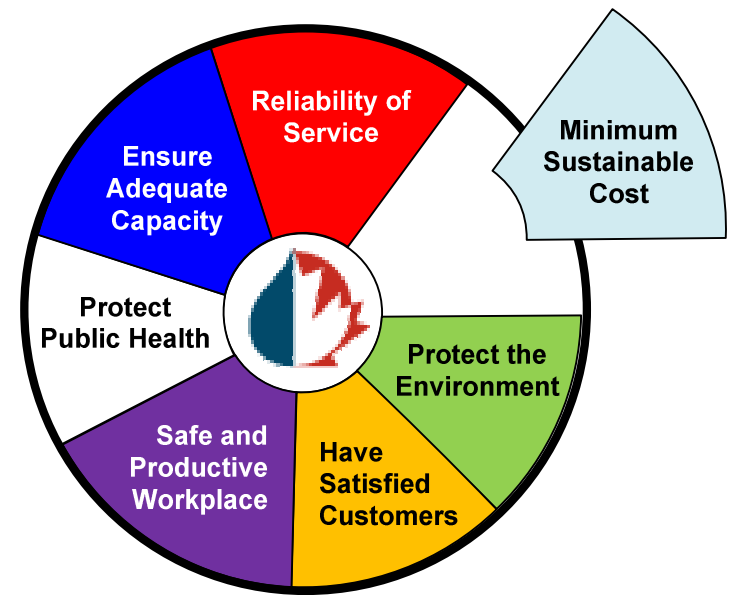
Goals Compete Against Each Other for Funds

- Increase to the level of service in any of the six goal will come at a cost,
- Or a decrease in the LoS to another goal



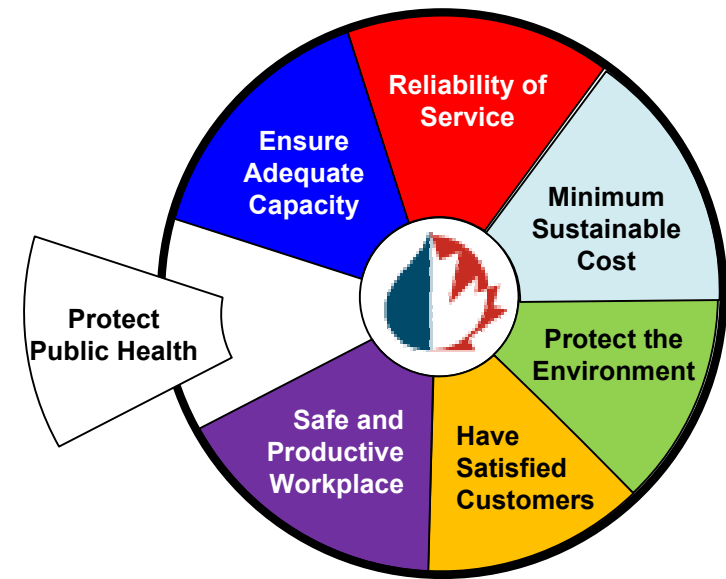
Public Utility Challenges Since 1997: Fear of Privatization

- Benchmarking used to demonstrate that “low cost” was not the sole goal of a water utility.
- 6 other vital “goals”



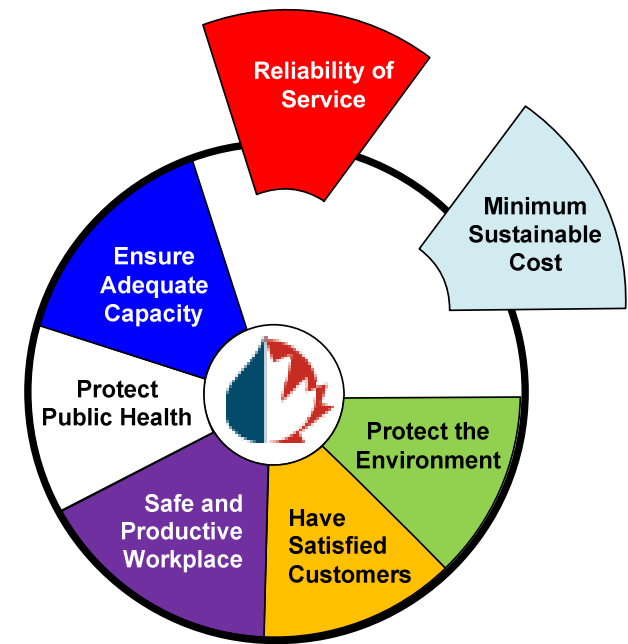
Walkerton Water Crisis (2000)

- Targeted Goal: Protect Public Health Goal
- Dramatic Level of Service Increase at considerable cost (improved water treatment)



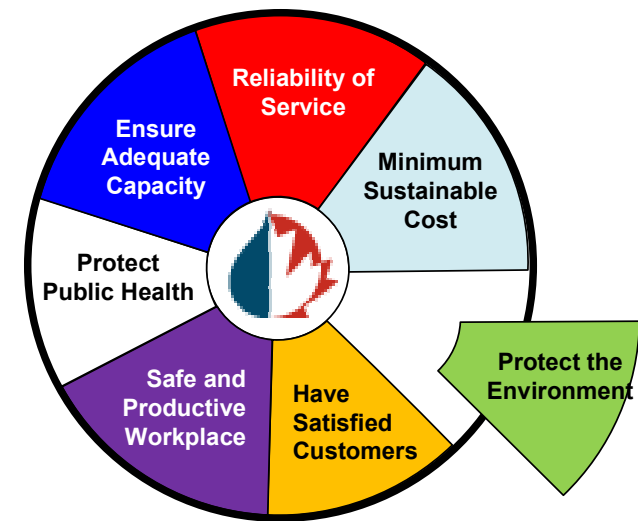
Implementation of Asset Management

- Targeted Goal(s):
Reliability of Service
and Sustainable Cost
- Renewal of aging
infrastructure and rates
to reflect sustainability



Green House Gas Reduction

- Targeted Goal: Protect the Environment
- Recognition that stewardship included the airshed as well as the traditional watershed.



In our experience

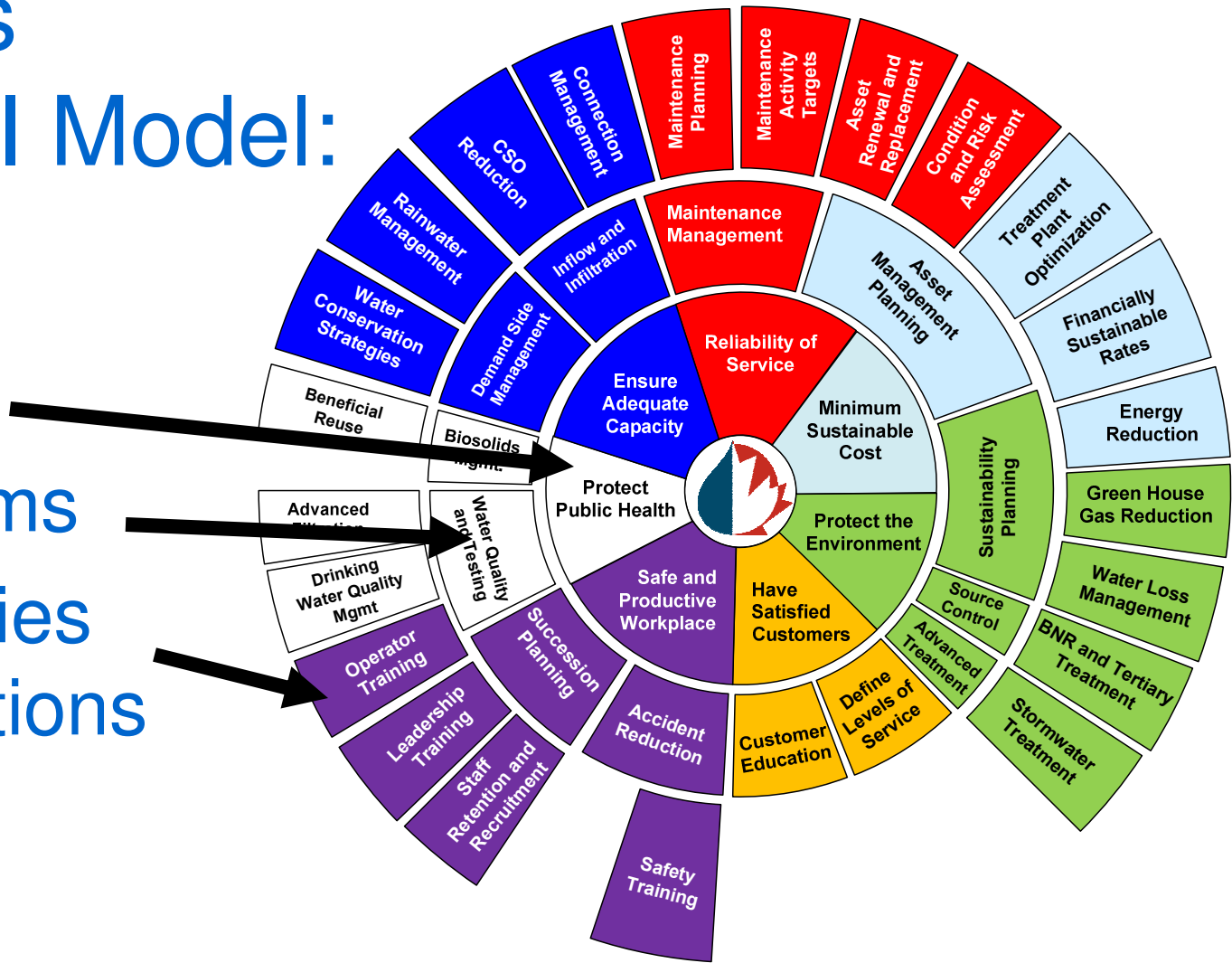
- Public utility “goals” almost never change
- Performance measures can be added to reflect new strategies under the goals.



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Today's NWWBI Model:

- Goals
- Programs
- Strategies and Actions



Culture of Performance Measurement

- Not a technical undertaking (at least to start).
- Surprisingly, I.T. has almost no role until the model has stabilized (measured in years, not months).
- Mostly “hard work”.
- Staff buy-in is of utmost importance.



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Staff Buy-in

- This is not an audit
- Overcome “fear” of becoming accountable.
- Realization that PM’s can enable workplace improvements.
- At first, what you measure is less important than the actual process of measurement.



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Ready, Fire, Aim!

- Get organized and brainstorm PMs
 - Using someone else's PMs may not help you, but they are a good reference.
- Have a go! See what comes of the first iteration.
- Debrief and revise with input from stakeholders.
 - If you do this well, staff buy in will increase.



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The Way Forward

- Performance measurement has become a part of standard practices;
- Set realistic targets, with specific work plans. Focus on best opportunities first.
- Document tangible savings through improvements (as opposed to hearsay);
- Communication is more important than ever.



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Questions?

www.nationalbenchmarking.ca

Public Report, Performance Measures Index, and detailed glossaries are available at

<http://www.nationalbenchmarking.ca/public/about/methodology.htm>



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