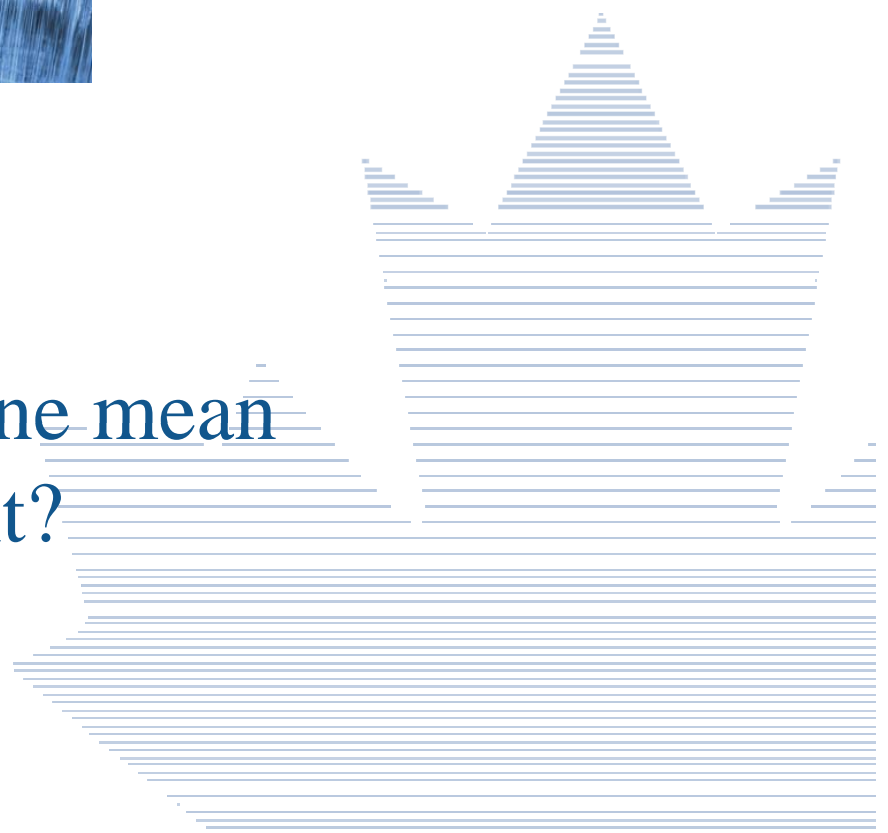




What does Triple Bottom Line mean for Solid Waste Management?

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Workshop Outline

- Introduction to Triple Bottom Line Analysis
- Using TBL for Solid Waste Planning
- Group Exercise
- Wrap-Up

What is Triple Bottom Line Analysis?



What is Triple Bottom Line?

- Triple bottom line (TBL) is a phrase used to describe an evaluation process that takes into account ecological, social and financial performance
- Also "3BL", or "people, planet, profit"

TBL is

- One type of multi-criteria decision making
- A tool in your “toolbox”
- A way of organizing information and reporting out

TBL is not

- A “silver-bullet”
- A black box

How is TBL Analysis Used?

- As a platform for evaluating business and government decisions and performance
 - BC Hydro Annual Report
 - ICLEI standard for local governments
- Waste management projects
 - Evaluate program options when developing a Solid Waste Management Plan
 - Assess options for waste collection services



Units of Reporting

- “Natural” units vs. standardized units
- Examples of natural units
 - Tonnes of MSW
 - Tonnes of CO₂e
 - Customers serviced
 - Hours
 - FTE
- Standardized units are usually dollars
- TBL does not require the use of standardized units

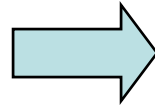


TBL and Full Cost Accounting

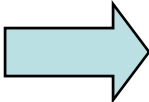
- TBL Analysis
 - Criteria & constraint driven - different aspects can be considered
 - May include dollars and other “hard numbers”, as well as more qualitative aspects
 - Helps clarify differences between options to allow consideration of trade-offs
- Full Cost Accounting
 - Aims to establish a “dollar value” for all three areas of influence – environmental, economic and social
 - Uses detailed analysis, e.g. environmental and social economics, to quantify dollars associated with options

TBL Example – Buying A Car

- Considerations and Concerns
 - Fuel consumption
 - Type of fuel used
 - Amount of emissions
 - Colour
 - Stereo system
 - Cost of purchase
 - Cost to operate
 - Safety features
 - Luggage capacity
 - Passenger capacity
 - “Cool” factor
- Economic
 - Cost of purchase
 - Cost to operate
 - Fuel consumption
- Environmental
 - Amount of emissions
 - Type of fuel used
- Social
 - Colour
 - Stereo system
 - Safety features
 - Luggage capacity
 - Passenger capacity
 - “Cool” factor



TBL Applied to Solid Waste Planning

- Capital cost
 - Ease of use
 - Operating cost per tonne
 - Acceptance by public
 - Tonnes of waste diverted
 - Number of jobs created
 - GHG emissions potential
 - Potential for partnership
 - Revenue generation
 - Compatibility with existing systems
 - Volume of landfill space savings
- 
- Economic
 - Capital cost
 - Operating cost per tonne
 - Revenue generation
 - Social
 - Ease of use
 - Number of jobs created
 - Potential for partnership
 - Compatibility with existing systems
 - Health and safety
 - Environmental
 - Tonnes of waste diverted
 - GHG emissions potential
 - Volume of landfill space savings

Six Step Process for TBL Analysis

1. Clarify the problem
2. Identify criteria or constraints, grouped according to environmental, economic and social aspects
3. Identify alternatives or options for addressing the problem
4. Estimate the consequences i.e. how will each option perform against each criterion
5. Make trade-offs and choices between options
6. Implement selected option and monitor impacts

Group Exercise – TBL In Action



Exercise Outline

- 30 minutes to complete + 5 minutes to report out
- Each group has a scenario that they will analyze using TBL principles
- Choose a note-taker & a representative to report out
- Apply the six step process
- Use group members' experiences to guide you, especially to estimate consequences



Step 1: Clarify the Problem

- Review scenario description on handout
- Things to think about:
 - What exactly is the issue?
 - What decision needs to be made?



Hint: Try not to pick a solution when framing your problem

Example Problem Statement

“The Regional District of Waste needs to increase its waste diversion. The politicians have decided to expand its recycling program to rural communities.”

Staff have been directed to find a service option that will maximize recycling, minimize costs, and be socially acceptable. “

Step 2: Identify Criteria & Constraints

- Things to think about
 - What is important to the city?
 - To the community?
 - Are there pressing issues at stake?
 - Is there anything the best option “must” do?
- Example Criteria
 - Capital cost
 - Operating cost per tonne
 - Tonnes of waste diverted
 - Ease of use for residents
 - GHG emissions potential
 - Potential for partnership with private sector



***Hints: What information is available to support the decision?
Think about what indicators you can use to evaluate each
criterion and don't pick criteria you won't be able to evaluate.***

Step 2a – Think about Indicators



- Things to Think About
 - What would be a good indicator for the criteria?
 - How would a number or qualitative score be determined?
 - What data would be required to evaluate the options?
 - Is a higher score better or worse?
- Example Indicators
 - Number of households serviced per week
 - Number of pass-bys per collection vehicle
 - Capital cost per tonne of capacity
 - Number of visits performed per day



Step 3: Identify Options to Address the Problem

- Things to Think About
 - What could the city do to deal with the issue?
 - What have others done?
 - Is there anything new and exciting?
 - Should you include the “off limits” option in the list?
- Example Options
 - Implement curbside recycling program
 - Build a compost facility to process organics
 - Switch to single-stream recycling program
 - Visit all households to sort and take out food waste each week
 - Develop new rural recycling depot



Hint: Focus on one criteria at a time to help you think of options

Step 4: Estimate The Consequences (i.e. Results) (Pick 2 options & 2 indicators for the exercise)

- Things to Think About
 - How have these options worked elsewhere?
 - What would the impact be on other operations?
 - How conservative do you want to be?
 - Do you need to do a sensitivity analysis?
 - Each option and indicator pair needs its consequences estimated
- Example Consequences
 - Cost per household would be \$20 per year
 - Tonnes recycled would increase by 2000 tonnes/year
 - 60% of households would participate



Hint: It can be helpful to use a table to summarize the results

Step 5: Consider the Trade-offs (Pick 2 options & 2 indicators to analyze for this exercise)

- Things to Think About
 - Is there a “clear winner” or “clear loser”?
 - Are there multiple options that are close in score?
 - Do options provide “value for money” in terms of benefits?
- Examples of Trade-offs
 - Cost vs. level of service
 - Cost vs. tonnes diverted
 - Greater good vs. local benefit



Hint: Eliminate an option that performs worse than another option on every criteria. It has been “dominated”.

Step 6: Implement & Monitor

- For the exercise, think about the information you would need to monitor progress on an annual basis
- List for the two criteria you analyzed in Step 5



Hint: Make sure your monitoring plan is realistic!

Group Exercise – Lessons Learned?



Questions?

Please feel free to contact us any time with more questions

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