

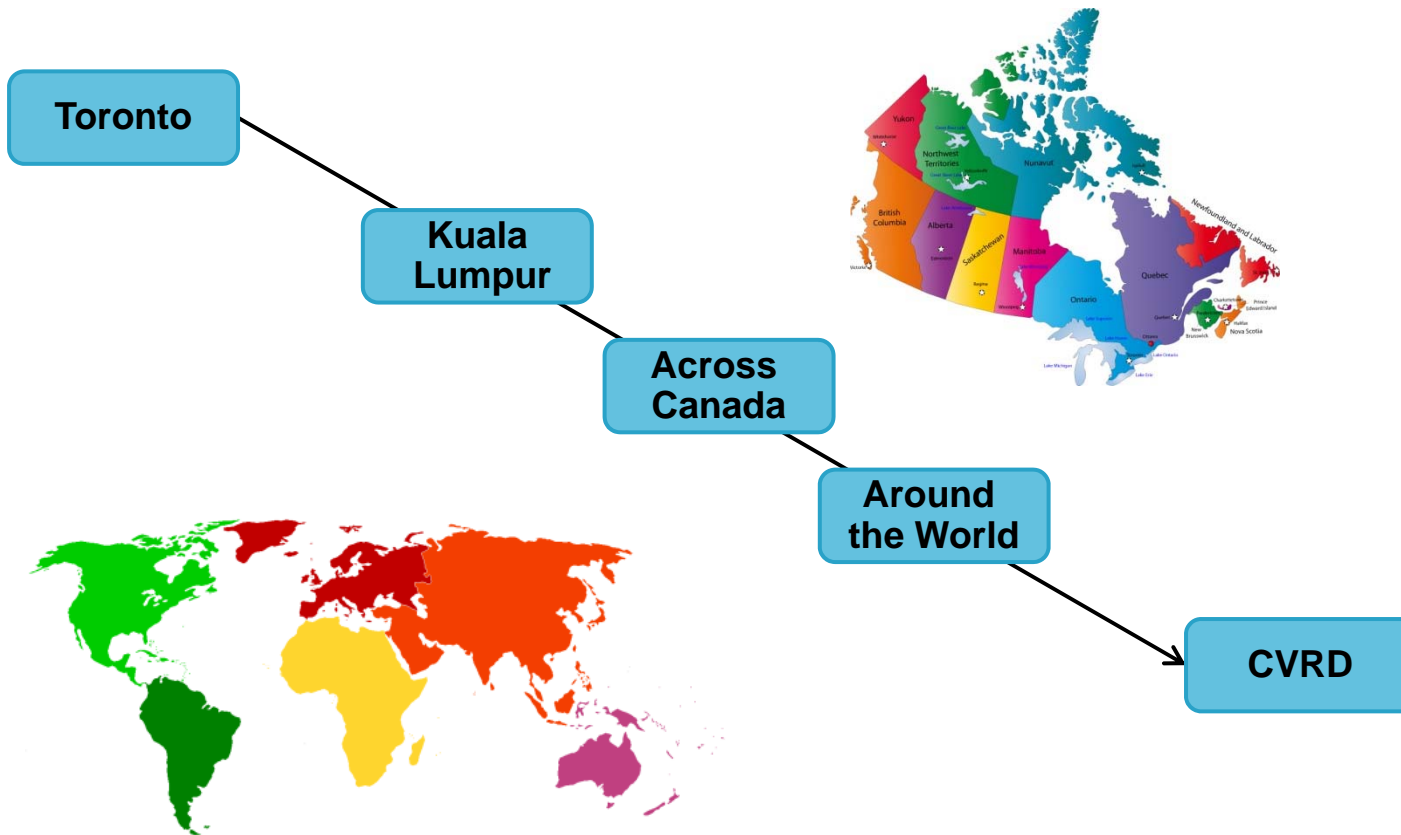


Business Planning and Financial Analysis

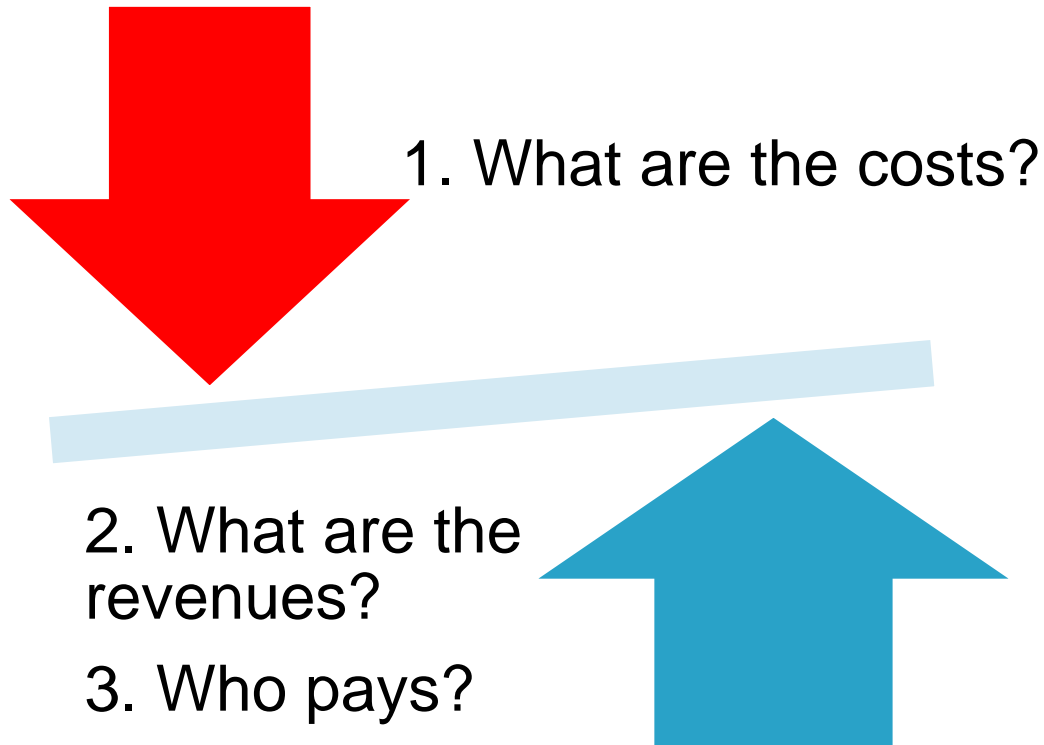
Solid Waste Management Vancouver Island and Coastal Communities

September, 2014

A Long Journey



Three Fundamental Questions



1. What are the costs?

2. What are the revenues?

3. Who pays?

Getting to Know



Know Your System

Know the Waste

- What is being generated – type and volume
- Where does it come from, where does it go
- How is it handled

Know the Flows

- Between facilities
- Via modes & channels
- Within the service area beyond the service area

Getting to Know (continued)



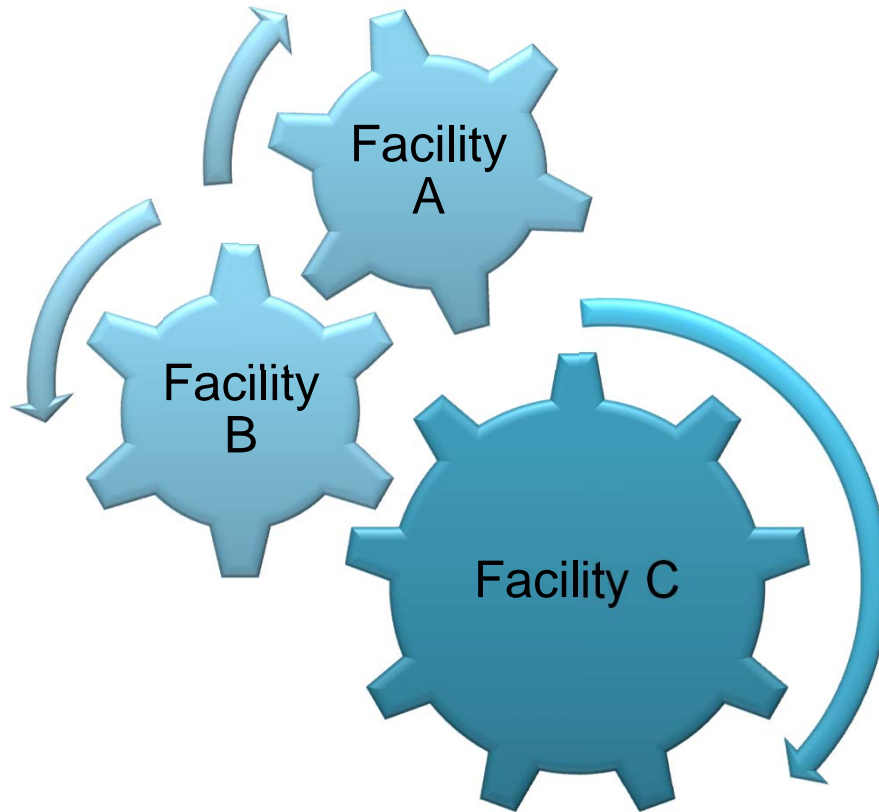
Know the Parts

- Assets – land, facilities, equipment
- Labour – levels and costs
- Administration – requirements
- Purchased Services

Know the \$

- What are the costs – capital, operating
- When do costs occur – now, upfront, ongoing, backend
- Are there revenues, where are they, what are they
- How does cash flow

Think Systems, Think Interactions



Waste management requires a broad perspective. A systems view may yield solutions beyond the horizon of a single facility.

Going Green – we all want to do it - but



Going Green is not without cost. Find the money and implementation is a lot easier

CVRD - Study Scope and Purpose



Scope: Full view of CSWM system

Objectives:

- Determine current and projected cash flows
- Identify cash flow issues
- Examine alternative means of system financing

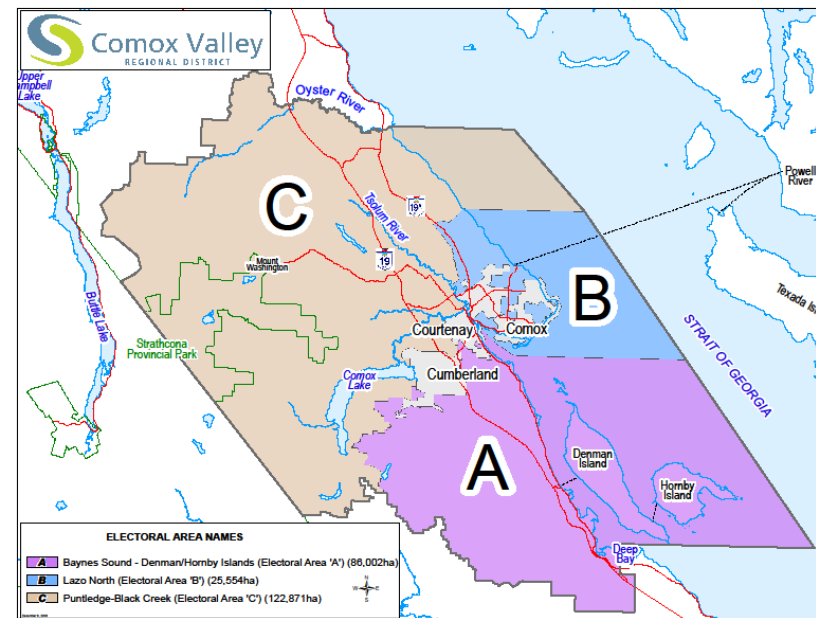
Deliverables:

- A computer based model that projects system costs and revenues and permits sensitivity analysis
- A document that maps out the model structure and contents.

Methodology



- ❑ Review of Master Plan
- ❑ Develop population and waste generation projections
- ❑ Map system components and flows
- ❑ Forecast capital and operating costs
- ❑ Forecast revenues
- ❑ Examine cash flows and test alternative financial strategies



Scenarios



Scenario 1: *Baseline system capture with 58% diversion*

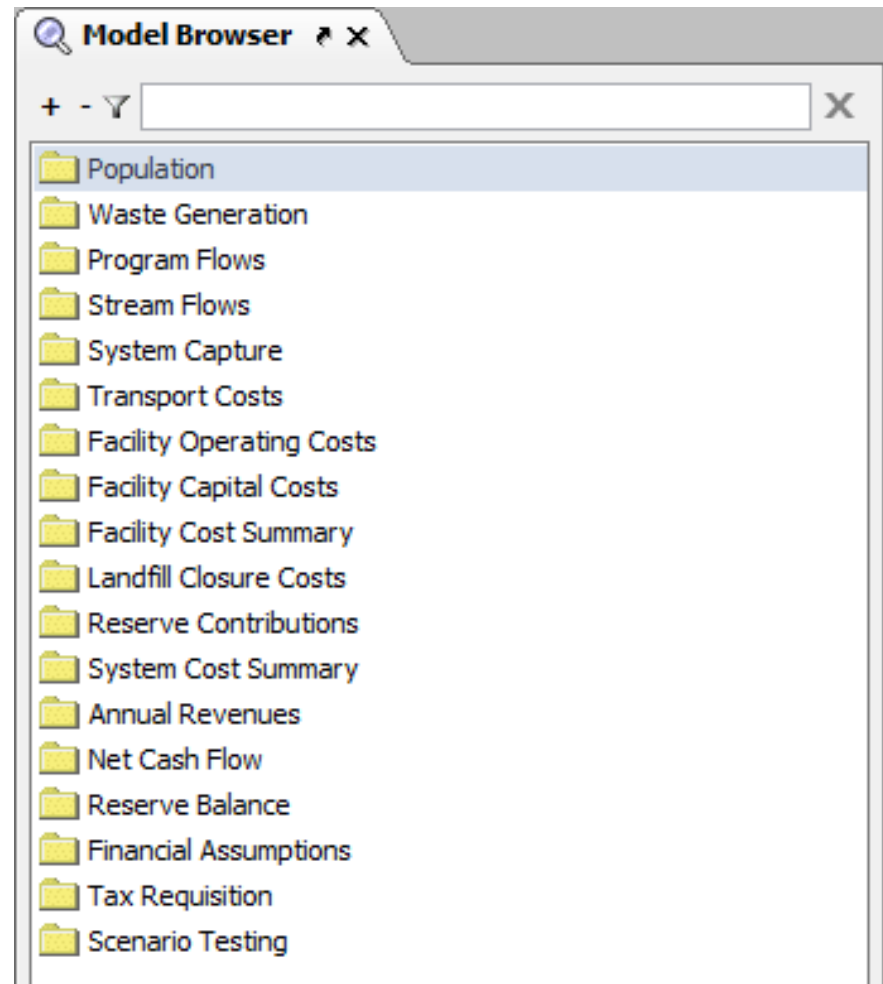
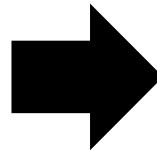
Scenario 2: *Baseline system capture including 20,000 tonnes per year of out of District garbage beginning in 2019*

Scenario 2: *Baseline system Capture including 30,000 tonnes per year of out of District garbage beginning in 2019*

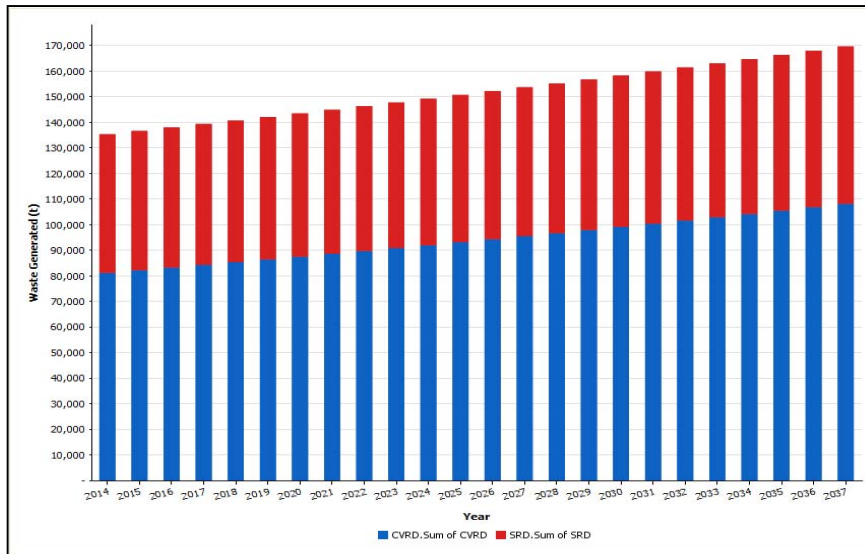
Quantrix Model



- ❑ Fully Integrated – top to bottom
- ❑ 18 Modules
 - 184 matrices
 - 1,000 formulas
 - 335,000 calculations
 - 460,000 cells



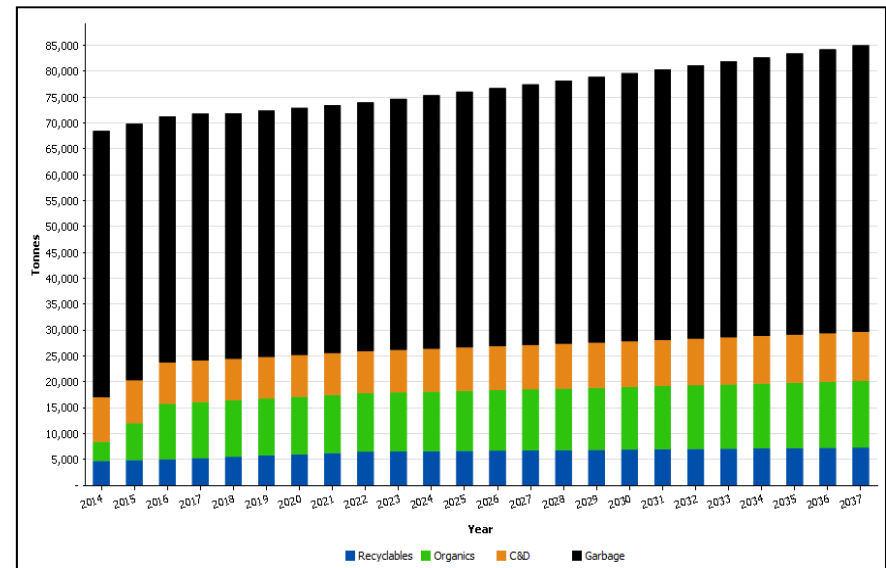
Scenario Projections



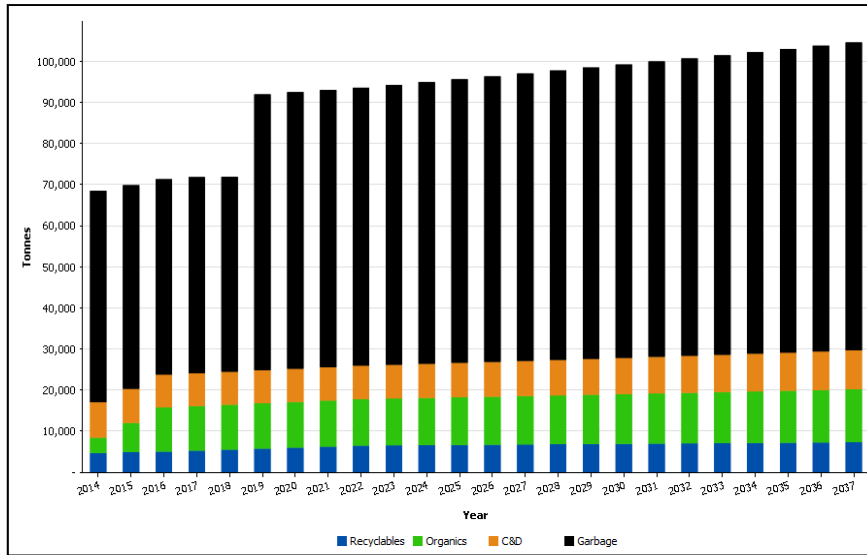
Waste Generated
 2014 - 135,000 (tn)
 2037 - 170,000 (tn)

Scenario 1 (Base Case)

Waste Capture (58% Diversion)
 2014 - 69,000 (tn)
 2037 - 85,000 (tn)



Scenario Projections



Scenario 2

Waste Capture

2014 - 69,000 (tn)

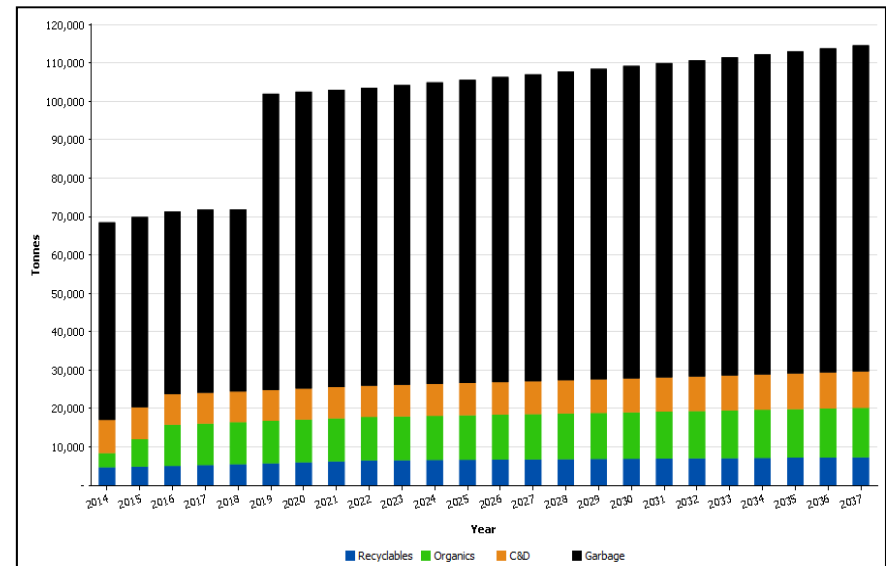
2037 - 105,000 (tn)

Scenario 3

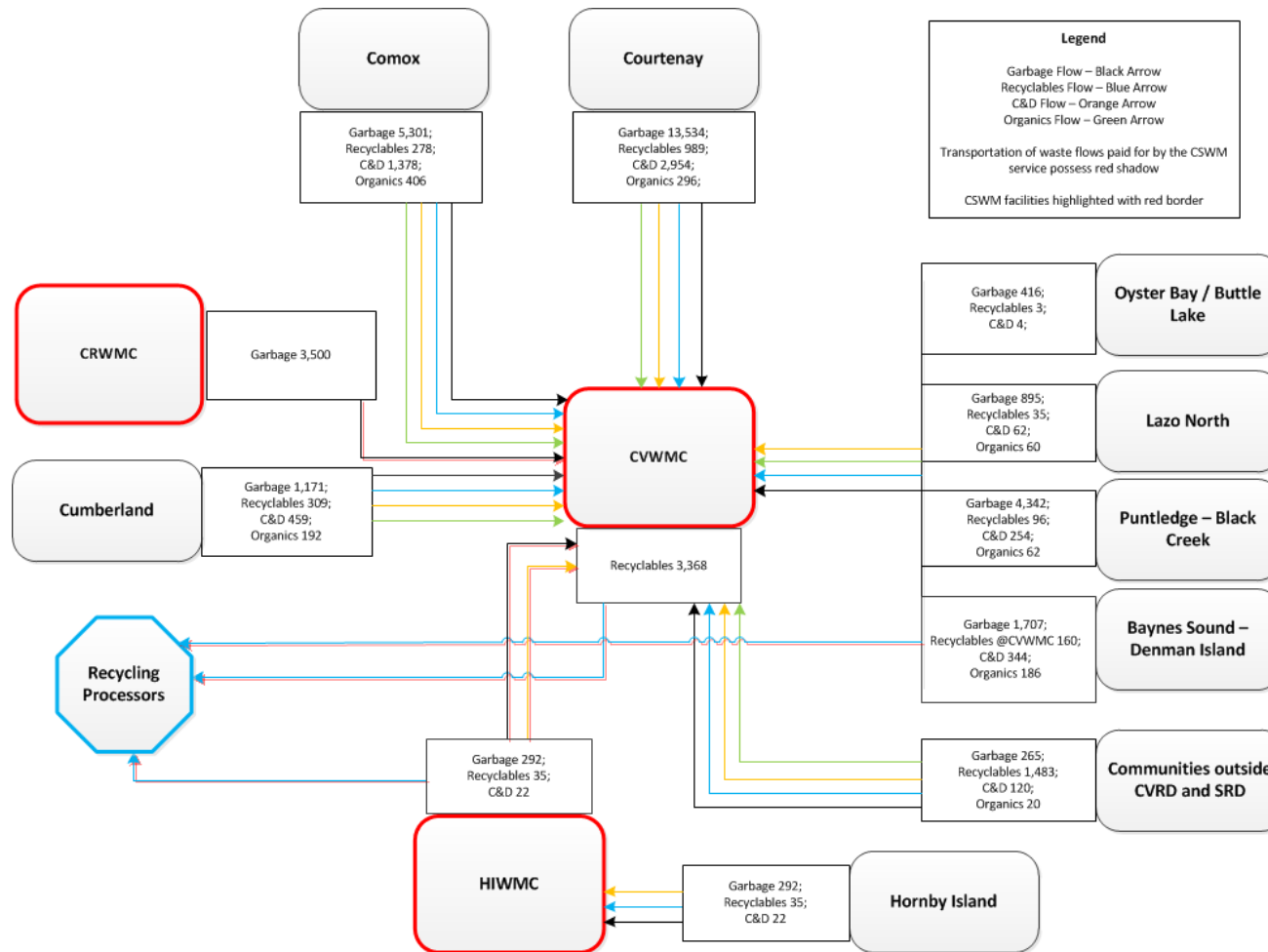
Waste Capture

2014 - 69,000 (tn)

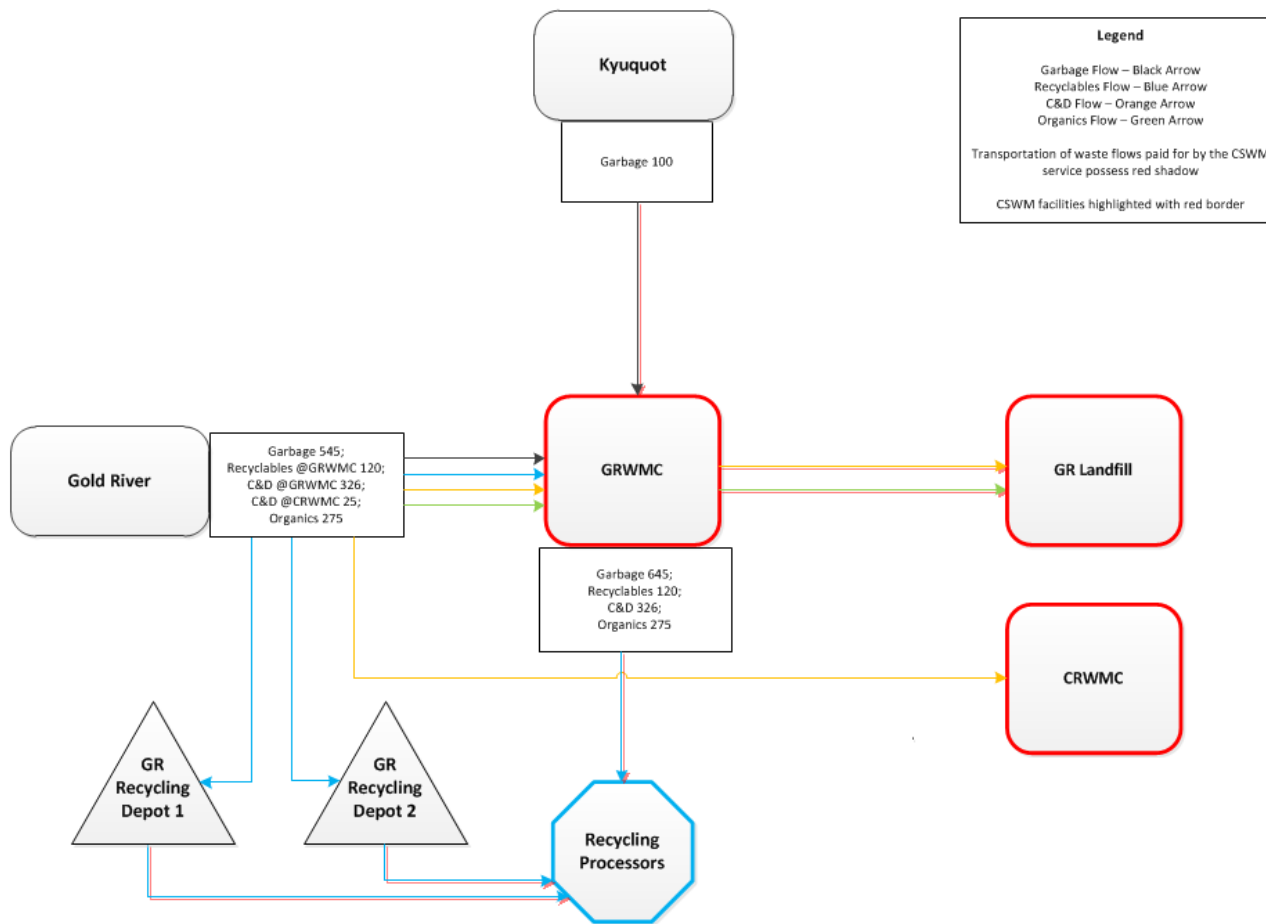
2037 - 115,000 (tn)



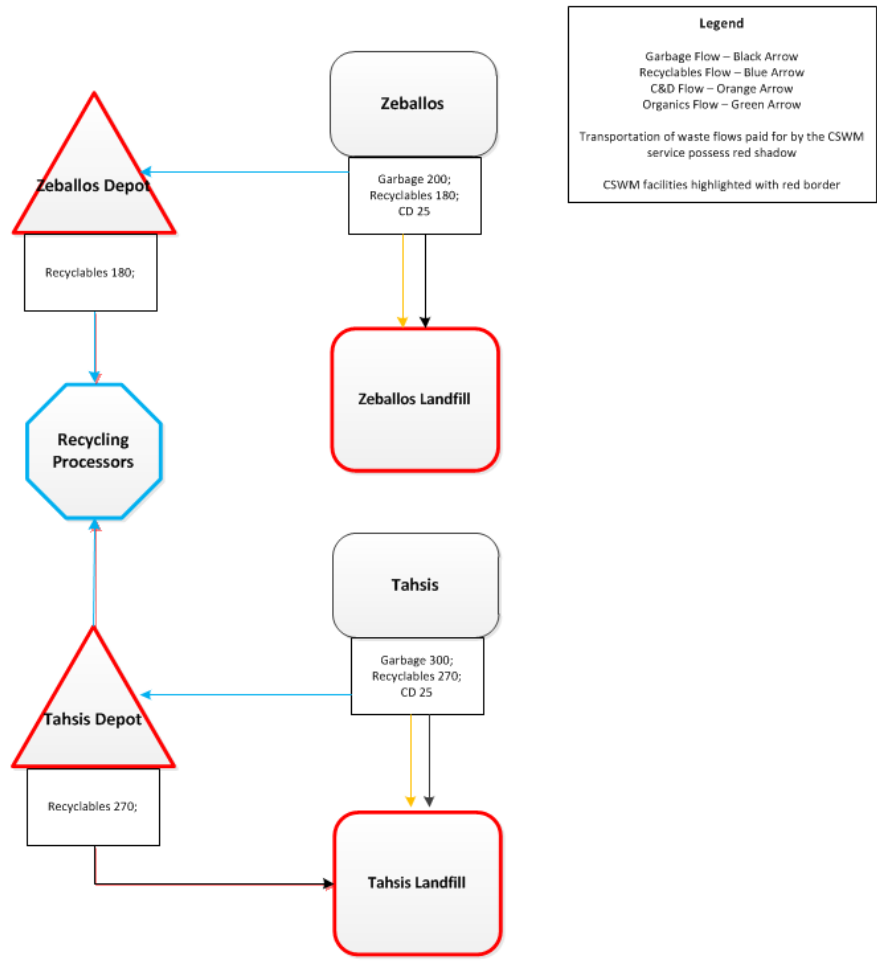
Mapping – A lot of components and flows



Mapping (continued)



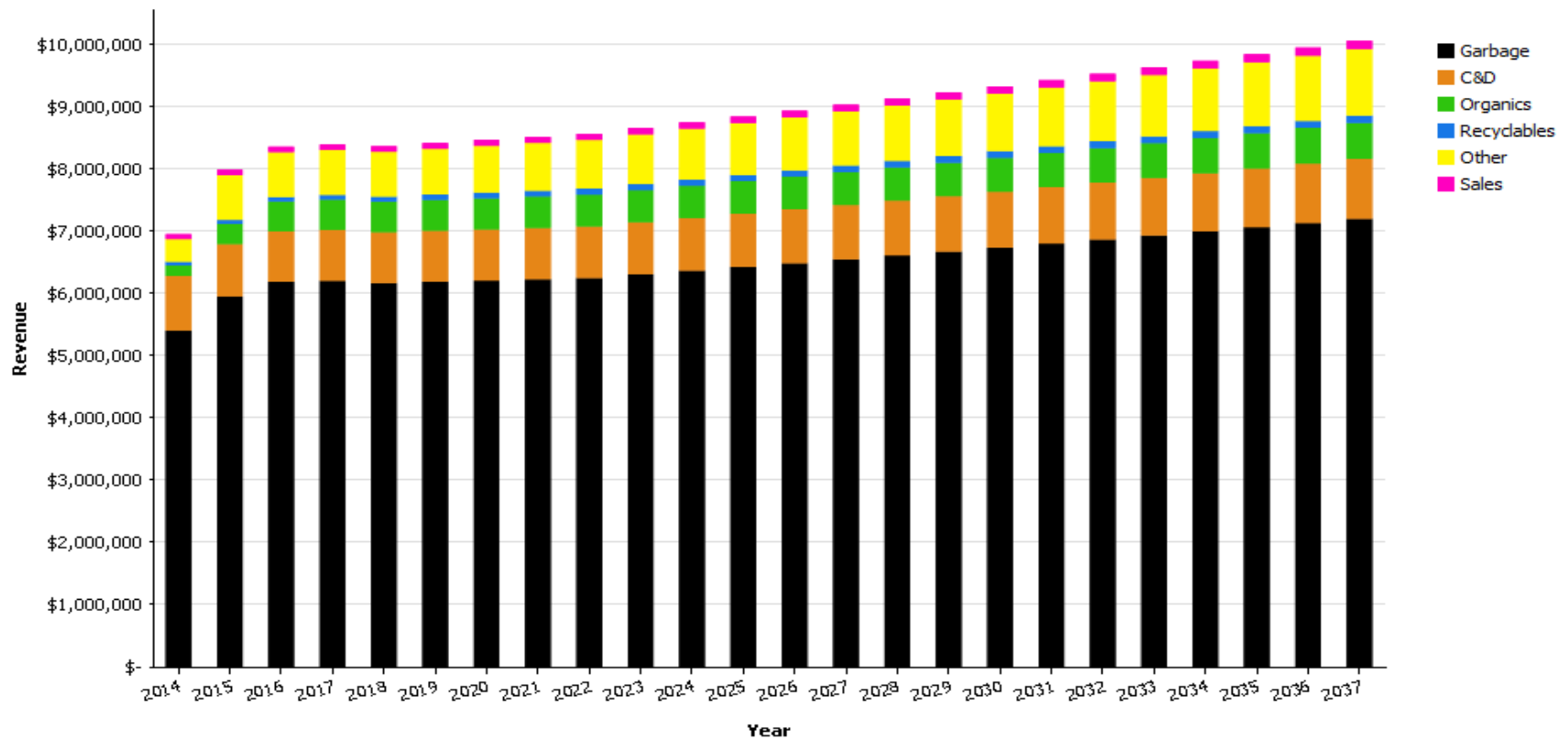
Mapping (continued)



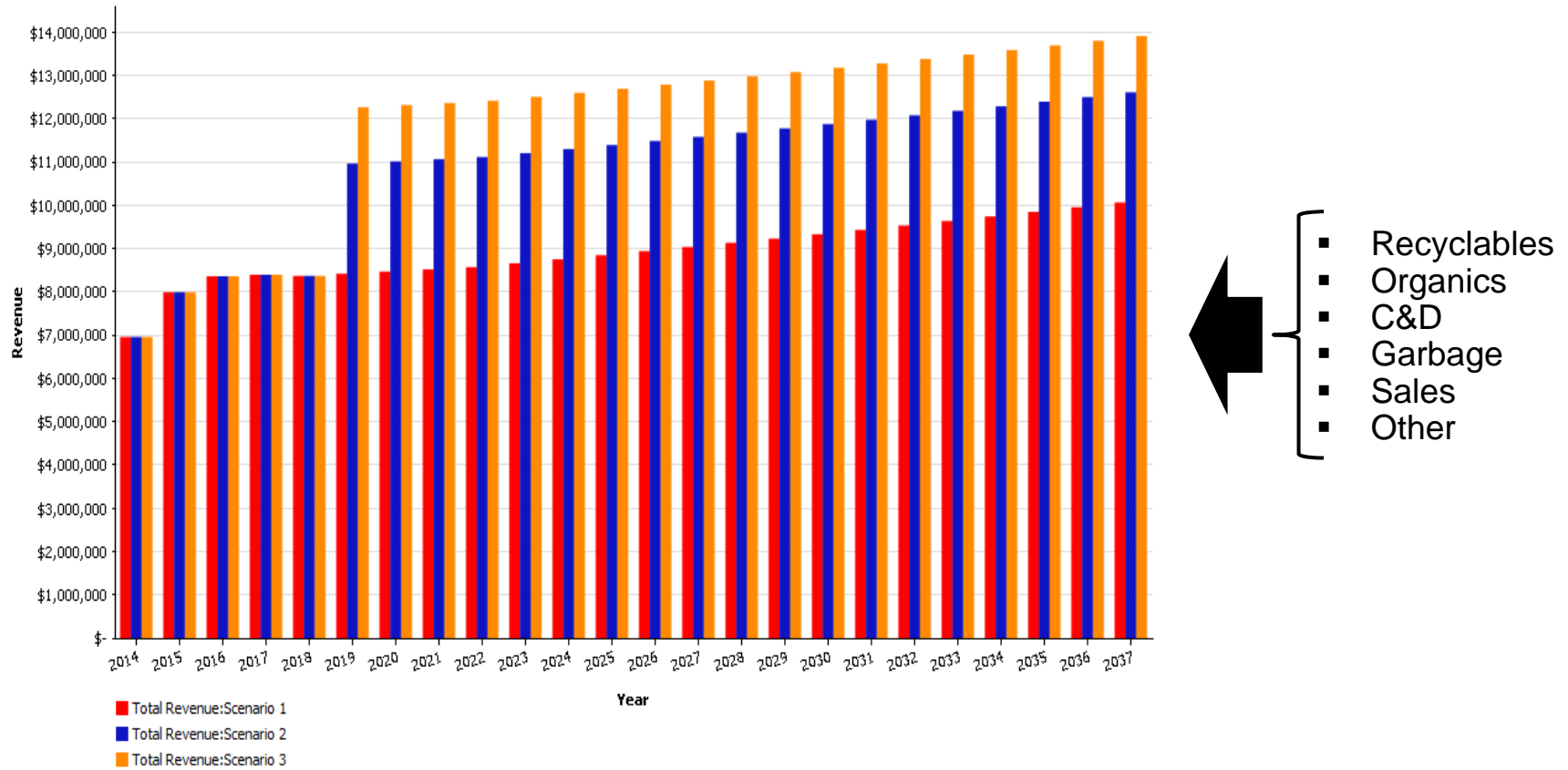
Revenue Sources



Scenario 1



Revenue Projections

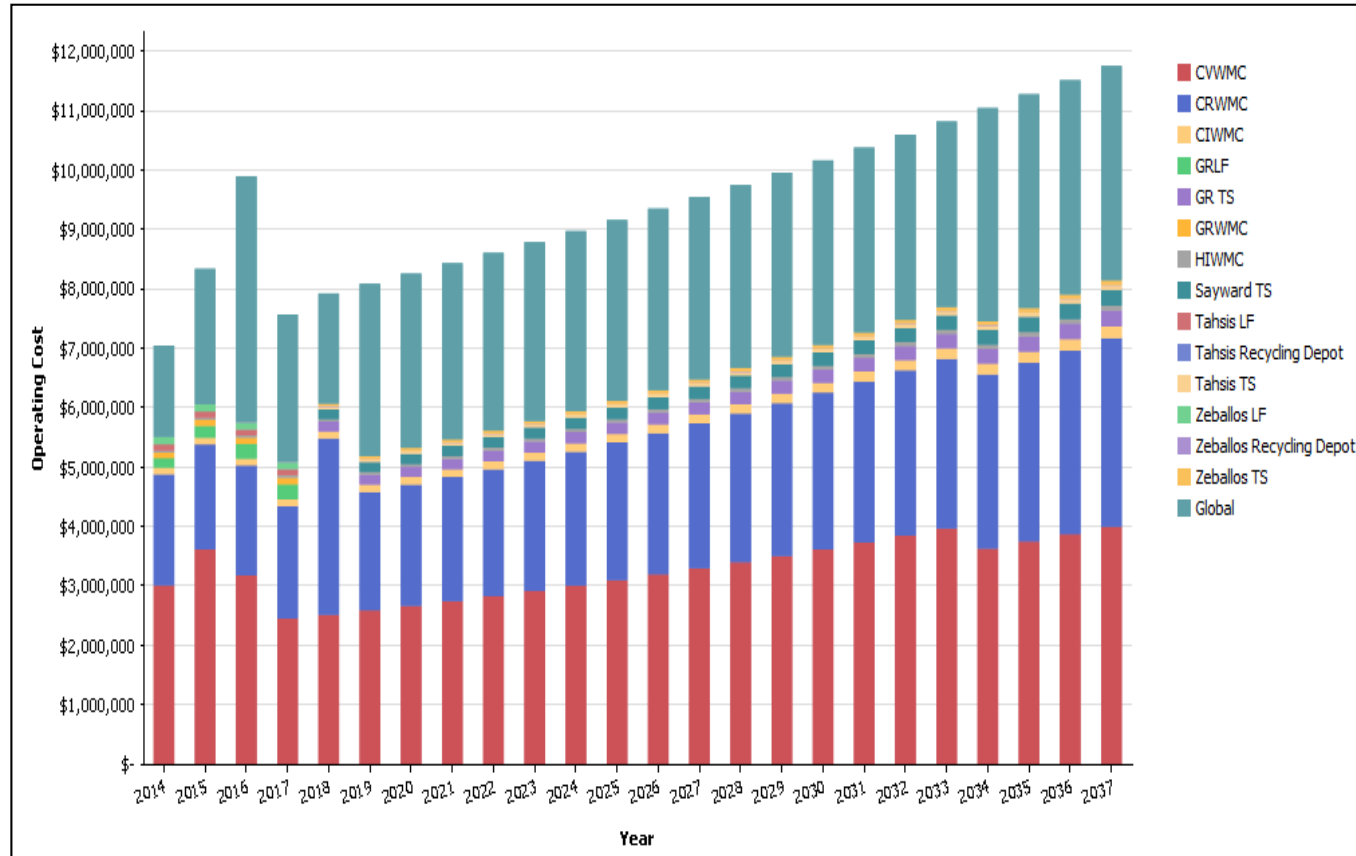


Facility Operating Costs

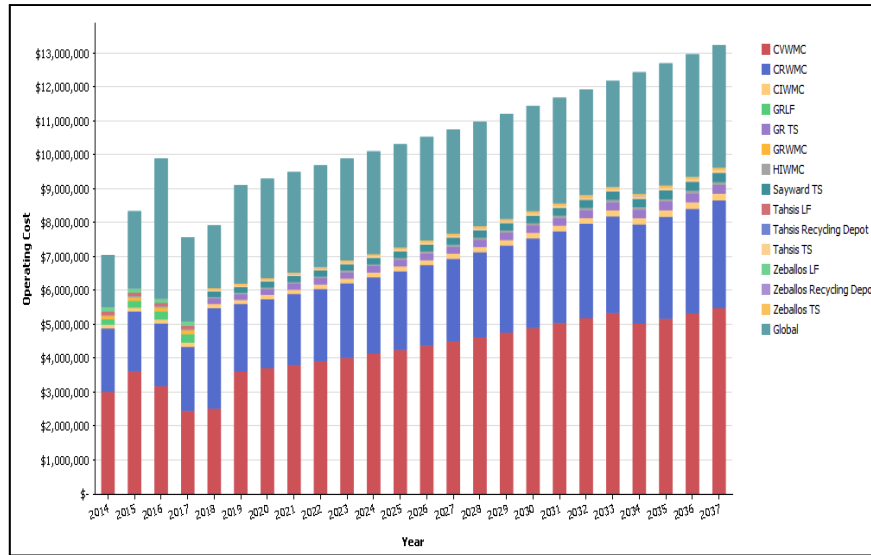


Scenario 1

	Operating Costs
2014	\$ 7,044,000
2015	\$ 8,333,634
2016	\$ 9,889,976
2017	\$ 7,567,259
2018	\$ 7,917,653
2019	\$ 8,083,924
2020	\$ 8,253,686
2021	\$ 8,427,014
2022	\$ 8,603,981
2023	\$ 8,784,664
2024	\$ 8,969,142
2025	\$ 9,157,494
2026	\$ 9,349,802
2027	\$ 9,546,148
2028	\$ 9,746,617
2029	\$ 9,951,296
2030	\$ 10,160,273
2031	\$ 10,373,639
2032	\$ 10,591,485
2033	\$ 10,813,906
2034	\$ 11,040,998
2035	\$ 11,272,859
2036	\$ 11,509,589
2037	\$ 11,751,291



Facility Operating Costs (continued)

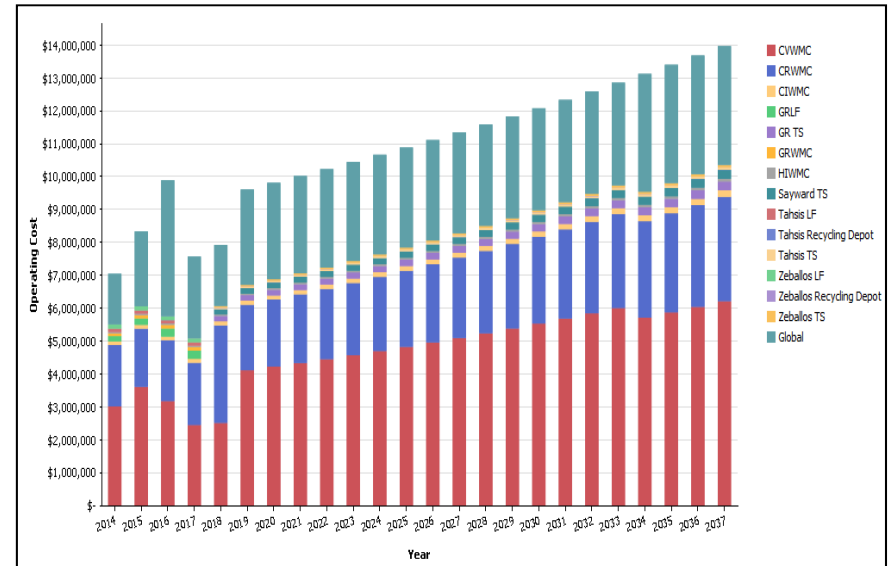


Scenario 2

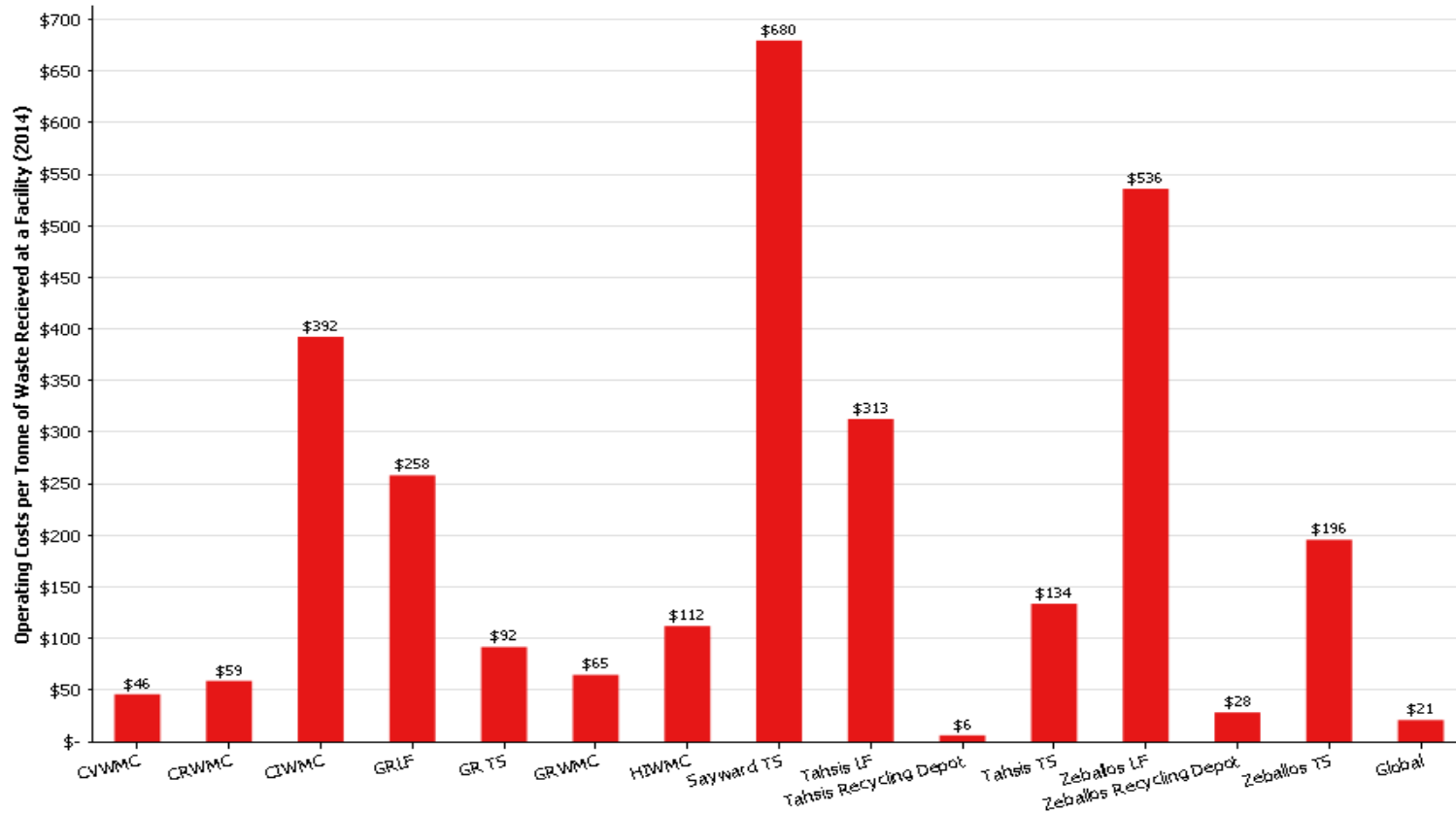
Operating Costs
2014 - \$7,044,000
2037 - \$13,230,000

Scenario 3

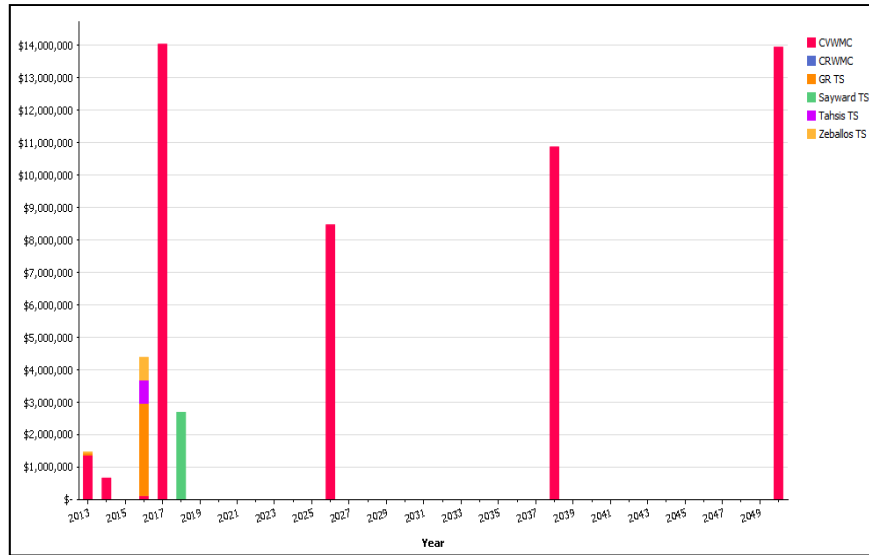
Operating Costs
2014 - \$7,044,000
2037 - \$13,970,000



Facility Operating Costs per Tonne

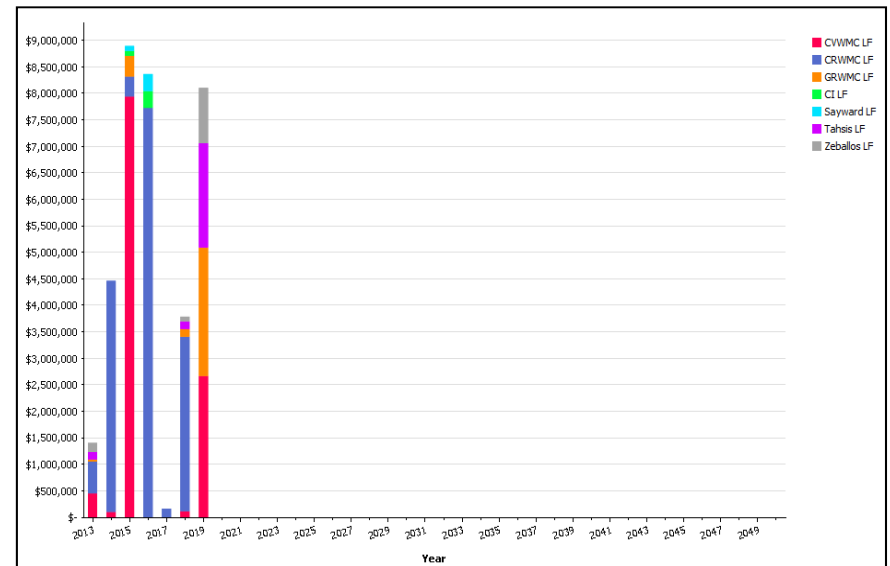


Capital Costs



Landfill Closure Capital Costs

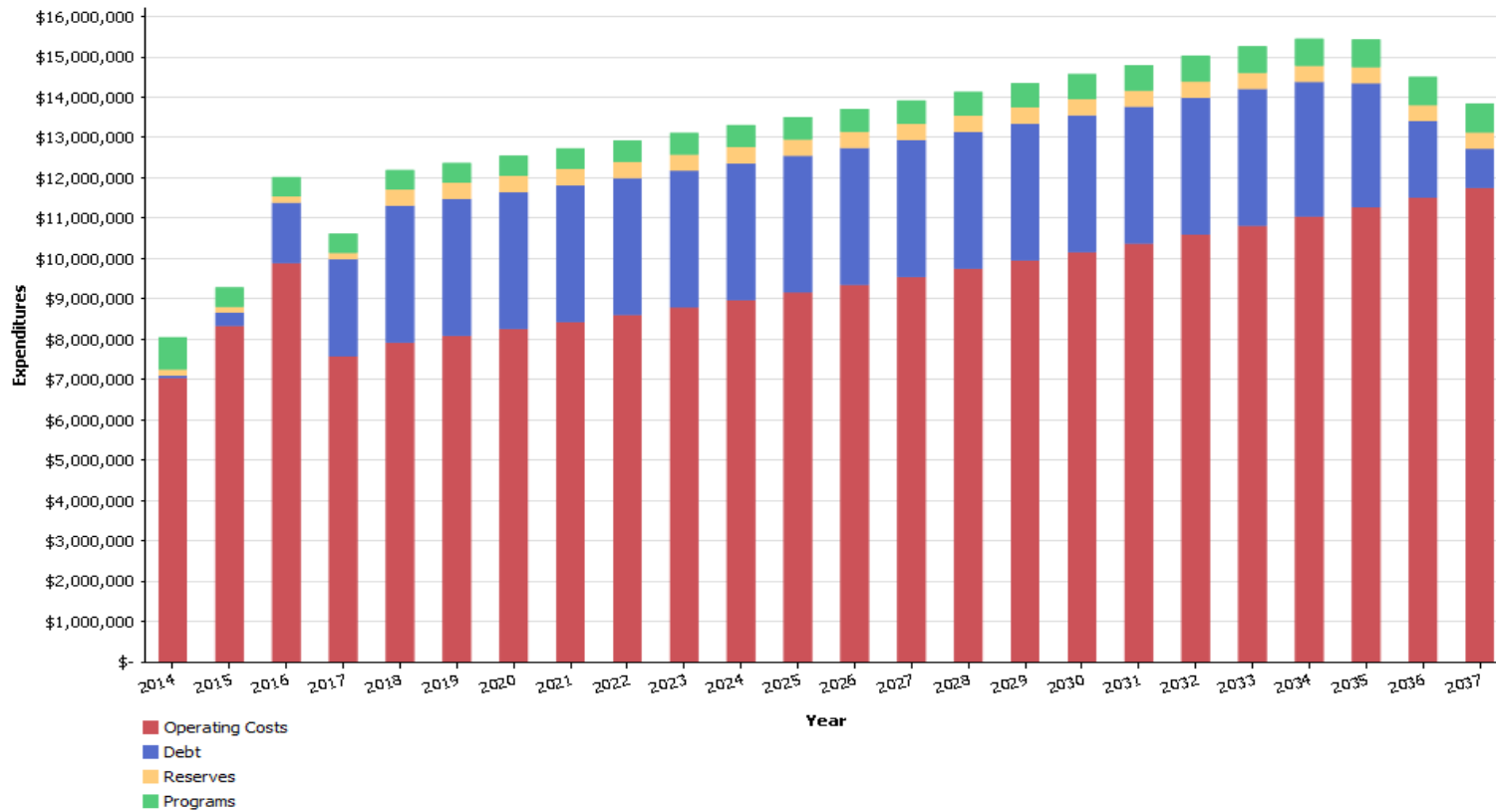
Facility Capital Costs



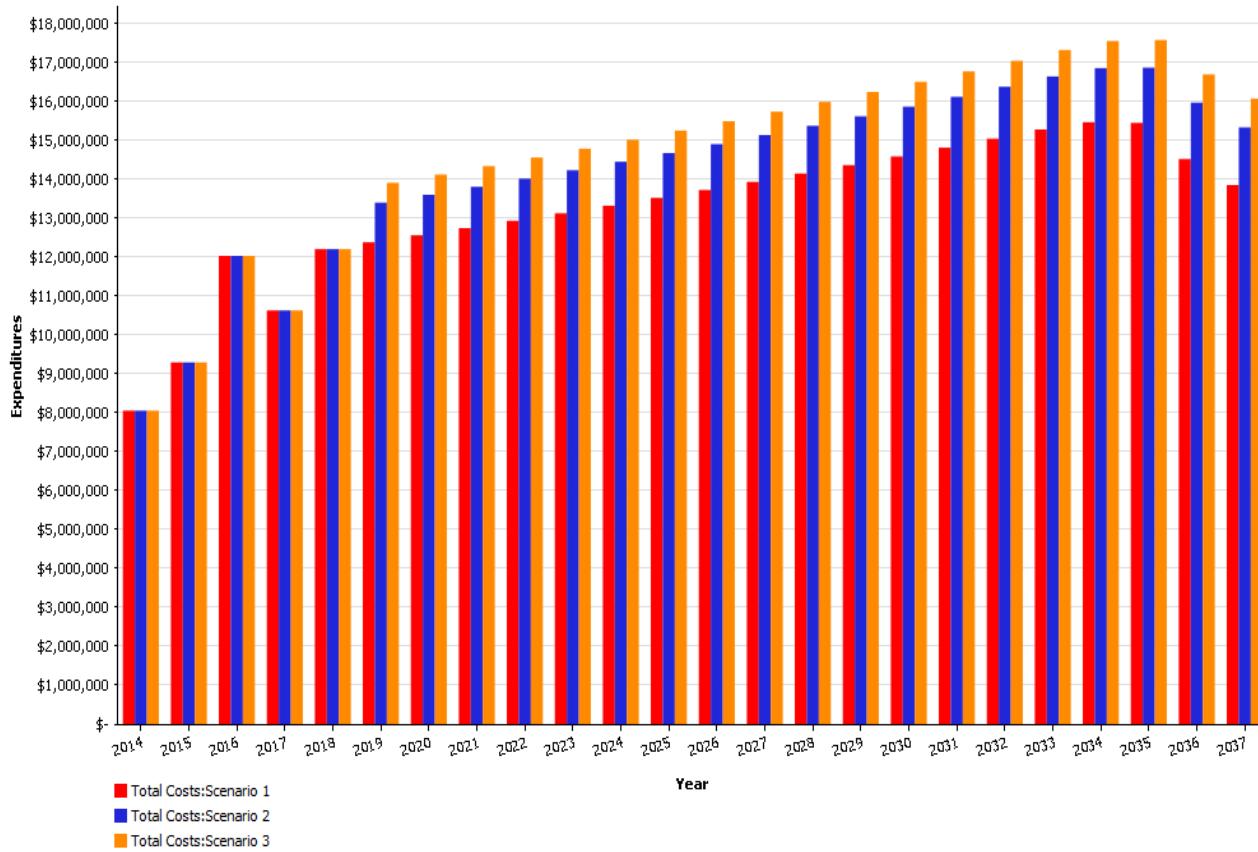
Operating Budget Breakdown



Scenario 1

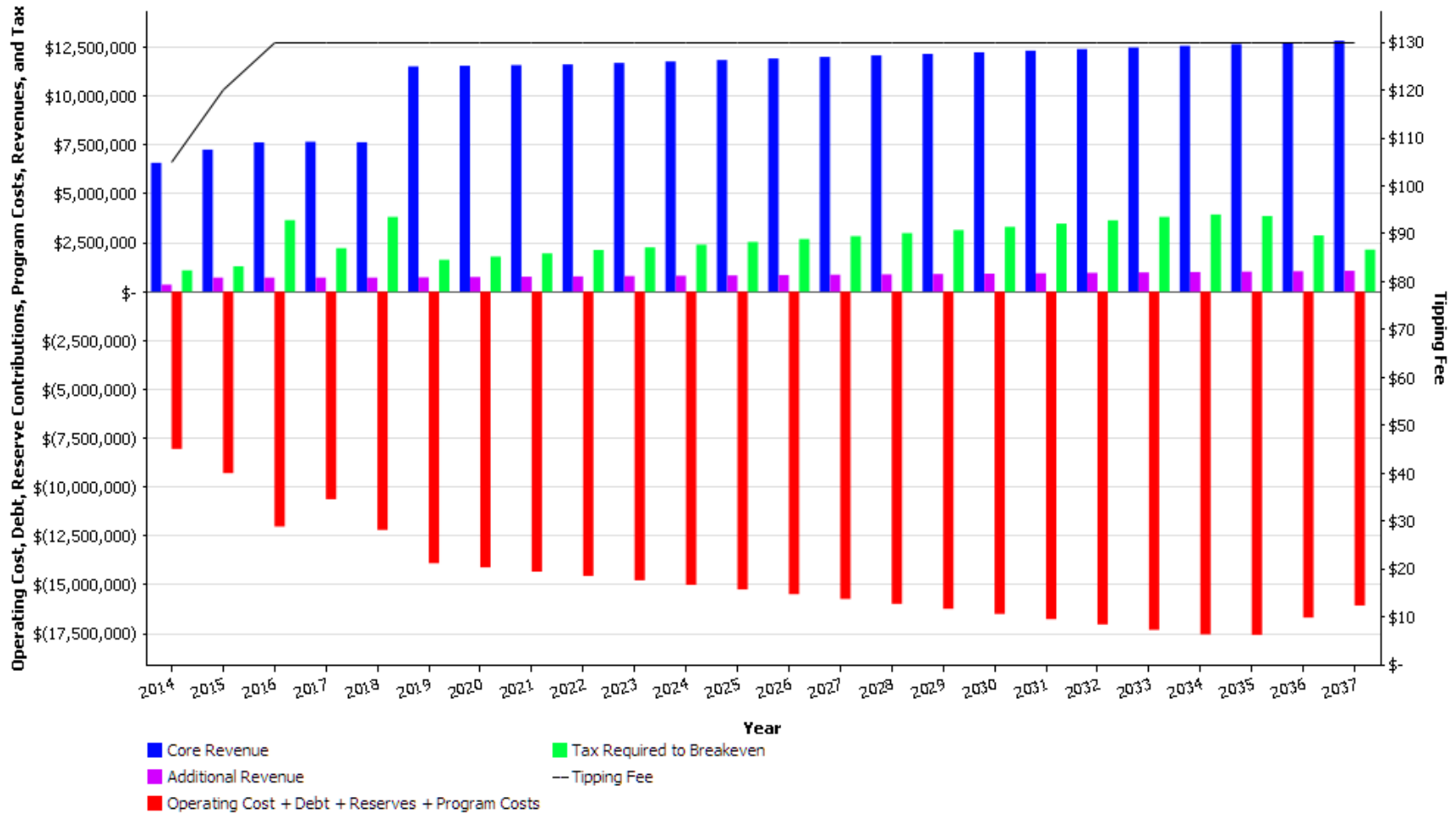


Cost Projections

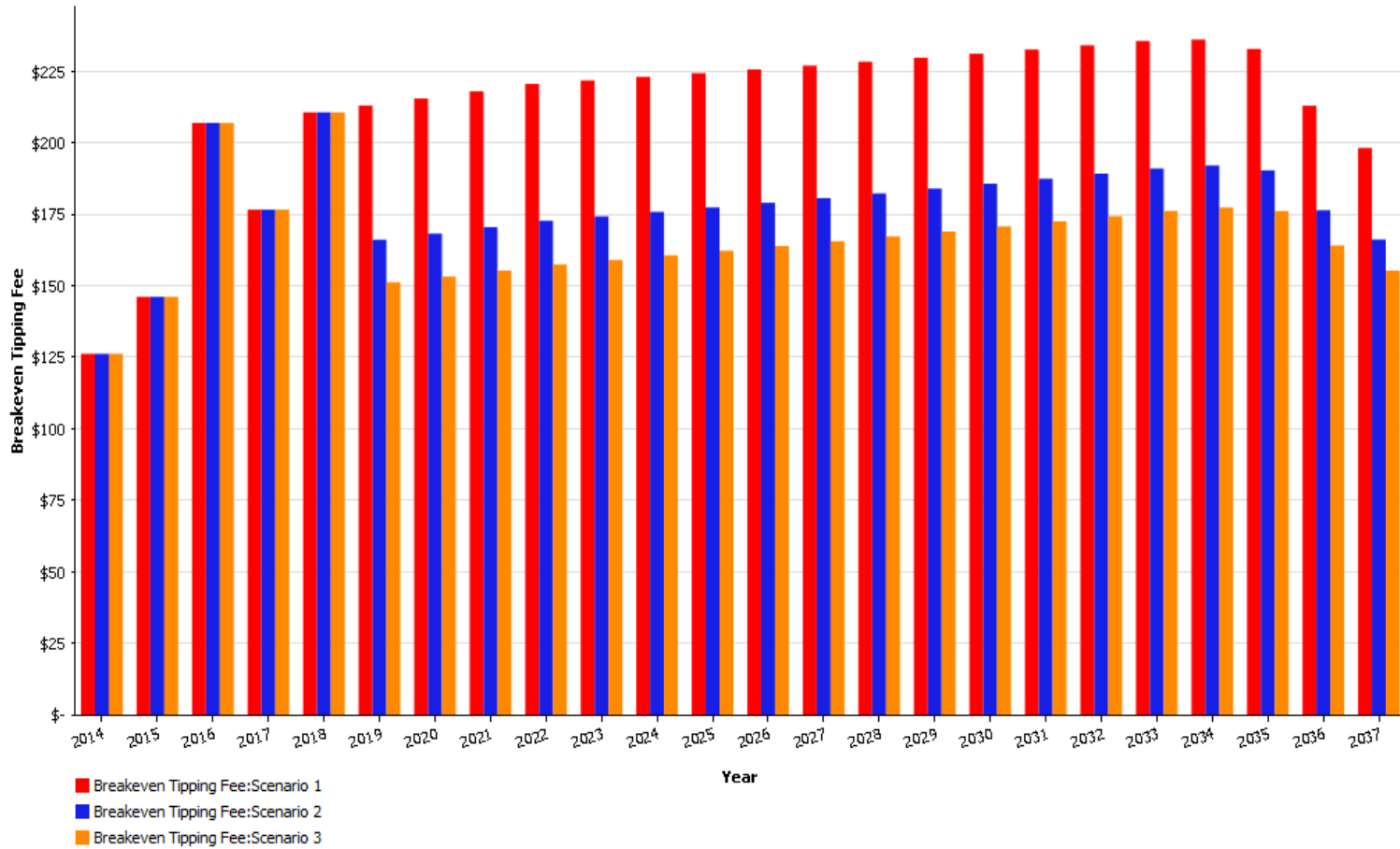


-
- Operations
 - Debt
 - Reserves
 - Programs

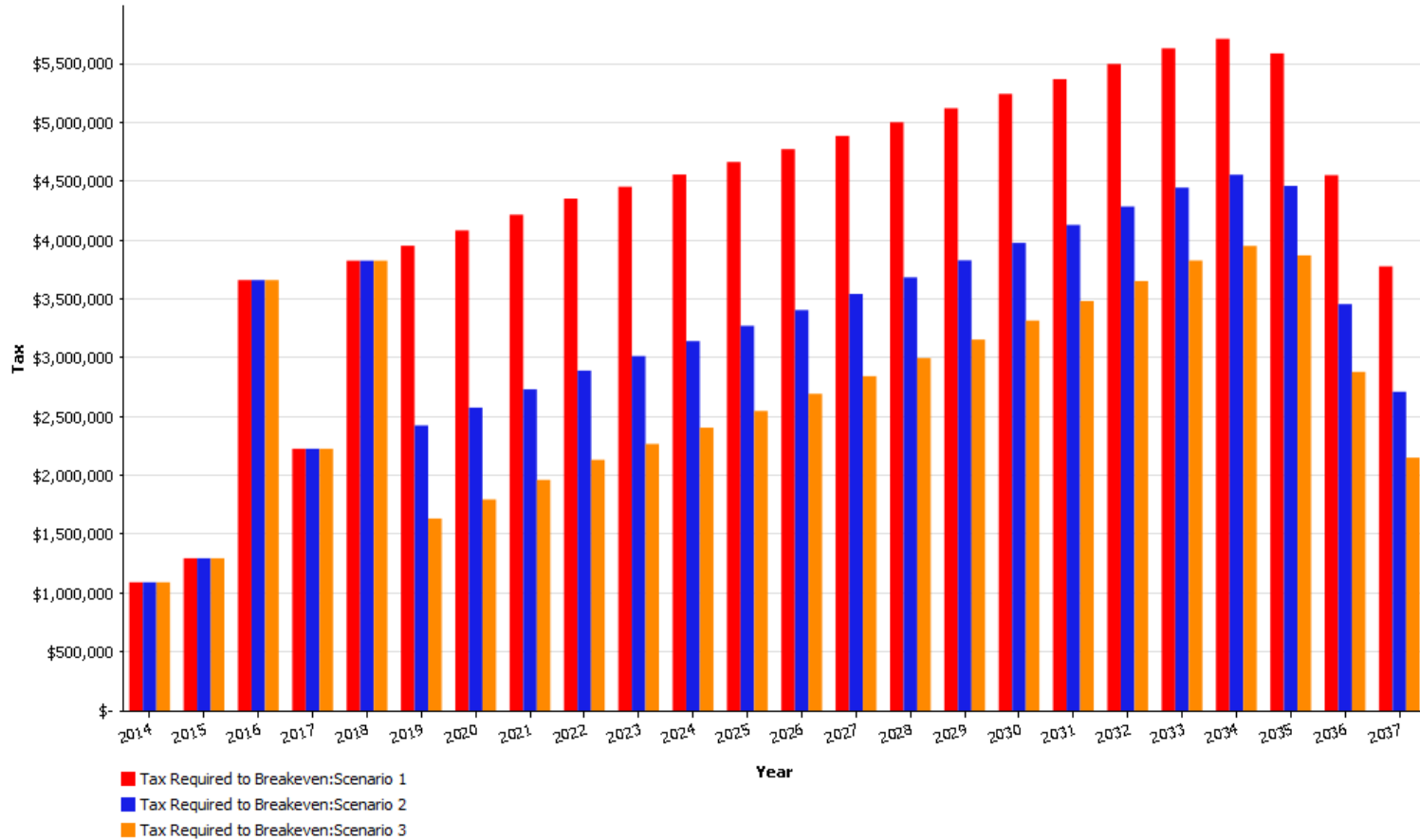
Scenario 3 – all in



Breakeven Tipping Fees



Tax Requirements – *with tipping fee at \$130*

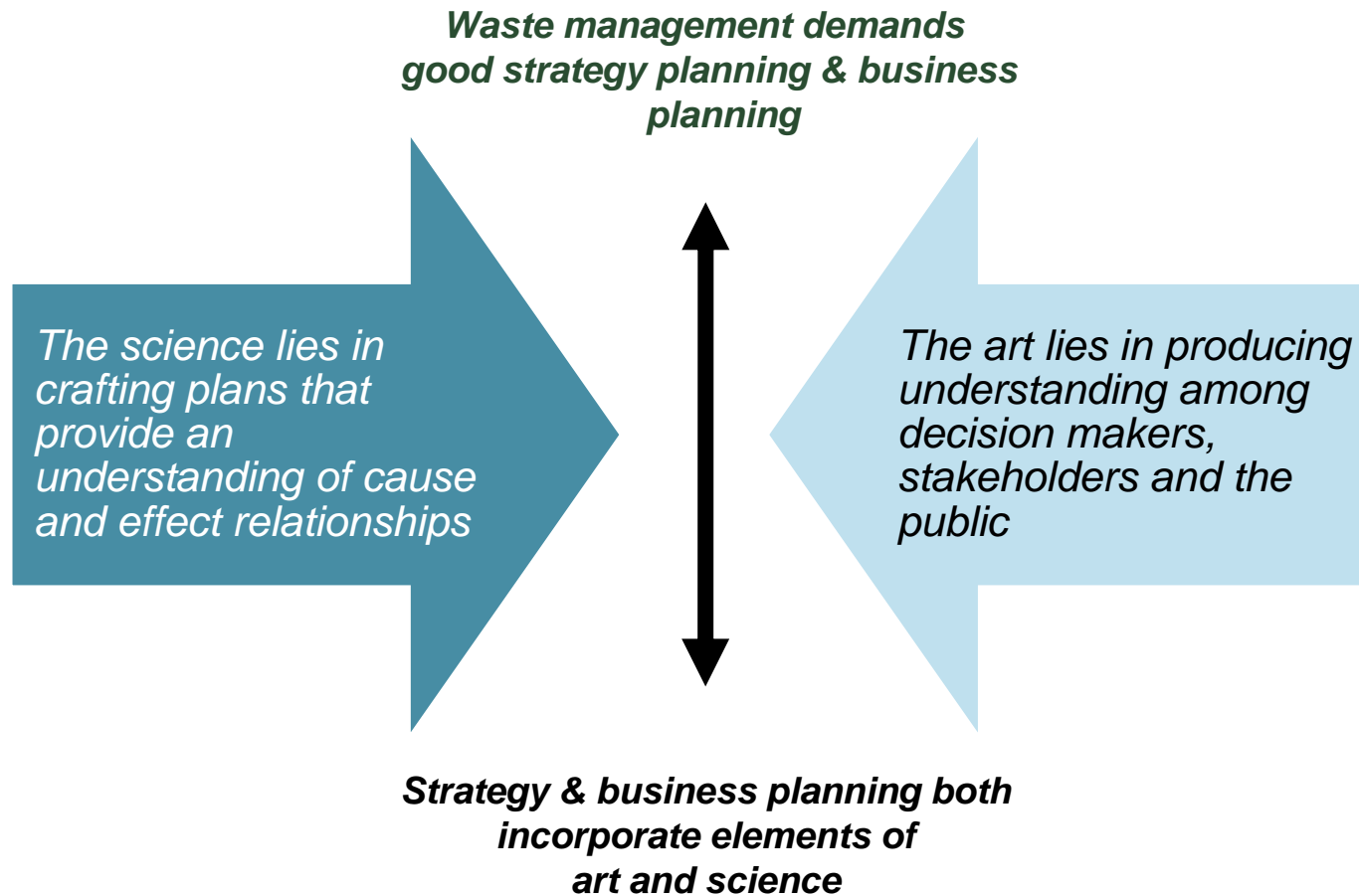


Observations and Conclusions



- Small but very complex system with many components.
- Economies of scale are difficult to achieve.
- Tipping fees need to stay competitive
- Tax requisition will be required to break even.
- In near term there are significant large capital expenditures associated with facility development and landfill closures.
- In order to pay for annual operating budget costs exclusively through tipping fees, they must be in excess of \$200/tonne for a 58% diversion rate with no import of waste
- Over long term capital forecasts are likely under projected and therefore further escalations in tipping fees may be required.
- As a matter of course tipping fees on all streams should be adjusted to keep pace with inflation after near term adjustment.

The Art and the Science



Business Planning and Economic Analysis



Why be bothered?

... “because if you don’t know where you are going you might end up someplace else.”

Yogi Berra