

Sustainability Business Casing at the Greater Vancouver Regional District

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Canadian Pollution Prevention Roundtable
Halifax
June 15, 2006



Outline



- About the Greater Vancouver Regional District (GVRD)
- Background on business casing at GVRD
- Development of tools
- About the tools
- Lessons learned

The Greater Vancouver Regional District



- Partnership of 21 municipalities and one electoral district
- GVRD
 - delivers essential utility services like drinking water, sewage treatment, recycling and garbage disposal
 - protects and enhances the quality of life in our region by managing and planning growth and development, as well as protecting air quality and green spaces

Sustainable Region Initiative



- The SRI is GVRD's commitment to
 - consider the future in both our plans and actions
 - care for community, environment and economy in everything we do
 - nurture partnerships that make our region great today and better tomorrow
- The SRI is the overarching framework for all GVRD activities

Development of Sustainability Business Casing at GVRD

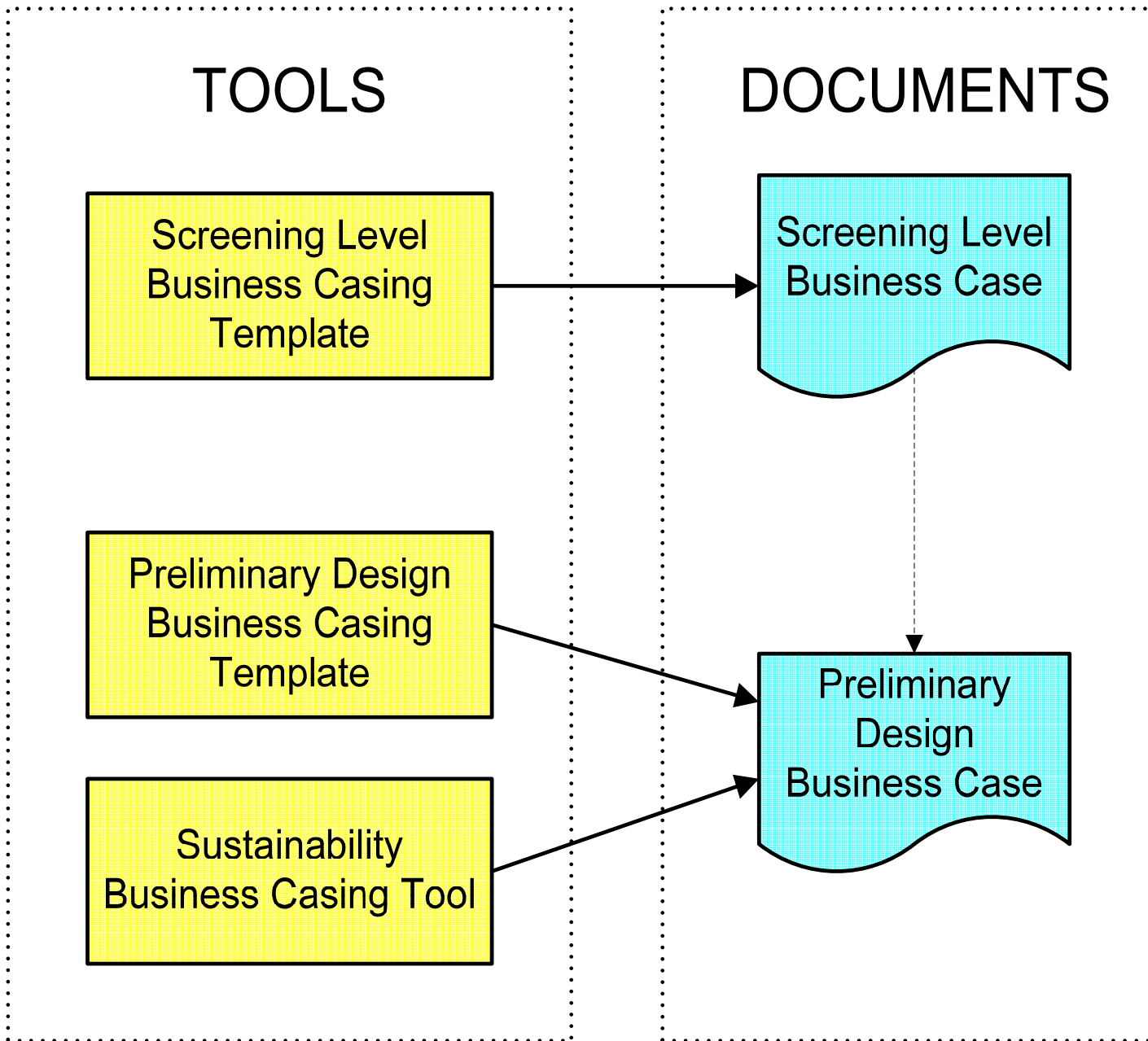


- Integrating sustainability into decision making and business casing is a goal of the SRI
- Engineers and project managers asked for a simple framework for sustainability business casing
- Task Group asked to
 - revise development process for capital projects to include mandatory, standardized business cases
 - establish framework to more consistently and transparently integrate social, environmental and economic factors into business cases

Process for Business Casing Capital Projects




- Revised review and approval process for capital projects
- Mandatory two-stage business casing of capital projects
 1. screening level business casing
 2. preliminary design business casing



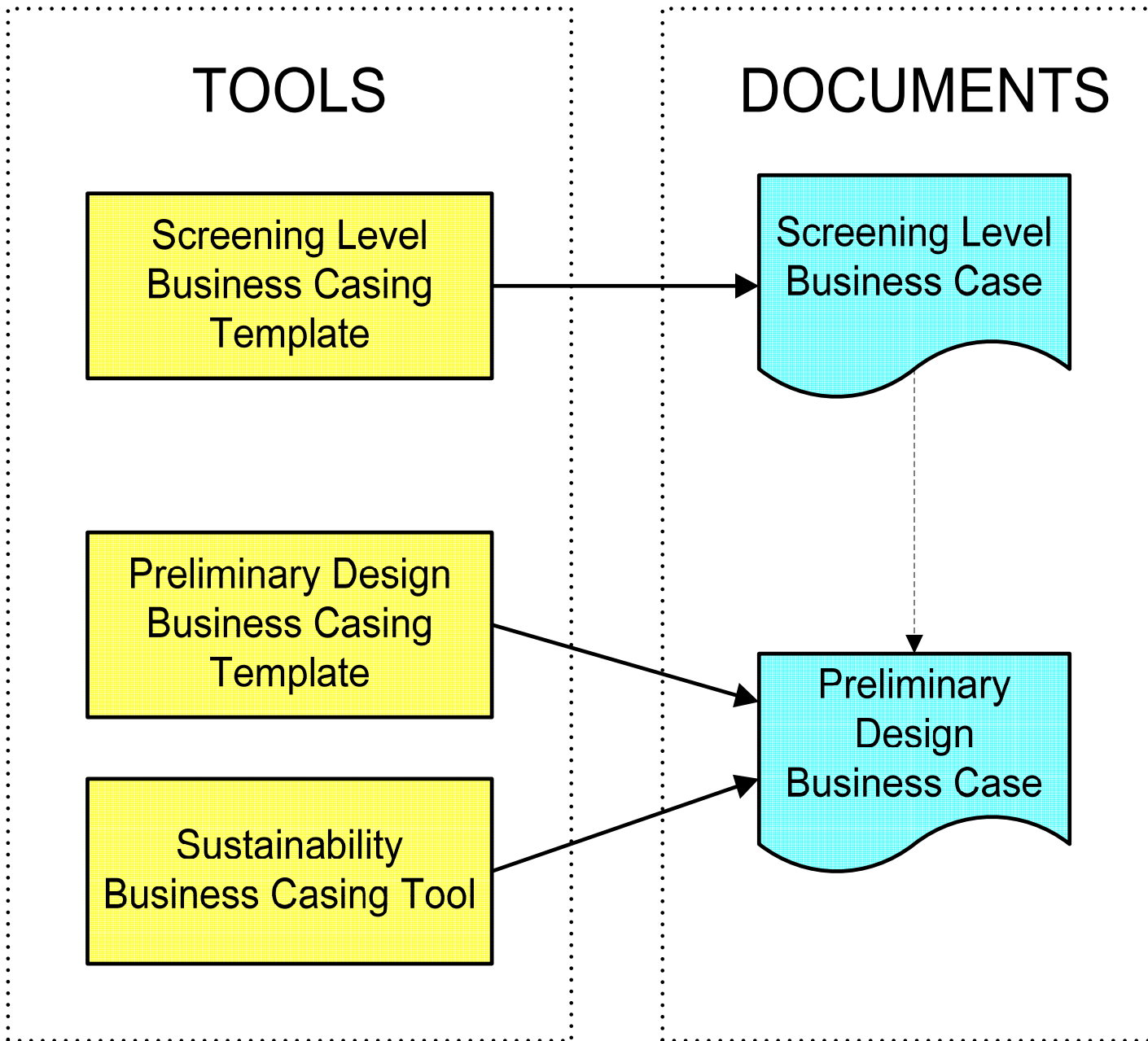
Screening Level Business Case



- Excel-based template
- Provides overall justification for project
- Requires estimate of sustainability issues
- Used to prioritize projects competing for limited resources in a given budget year


SCREENING LEVEL BUSINESS CASE

<u>PROJECT NAME</u>			
<u>PROJECT INFORMATION</u>			
Division Manager		Department	
Project Proponent		Division	
Entity		Program	
Date submitted to UBPG		Date reviewed by UBPG	
<u>PROJECT DESCRIPTION</u>			
<u>BACKGROUND AND CONTEXT</u>			
<u>ECONOMIC DATA AND ANALYSIS</u>			
General	Value	Notes	



The Sustainability Business Casing Tool



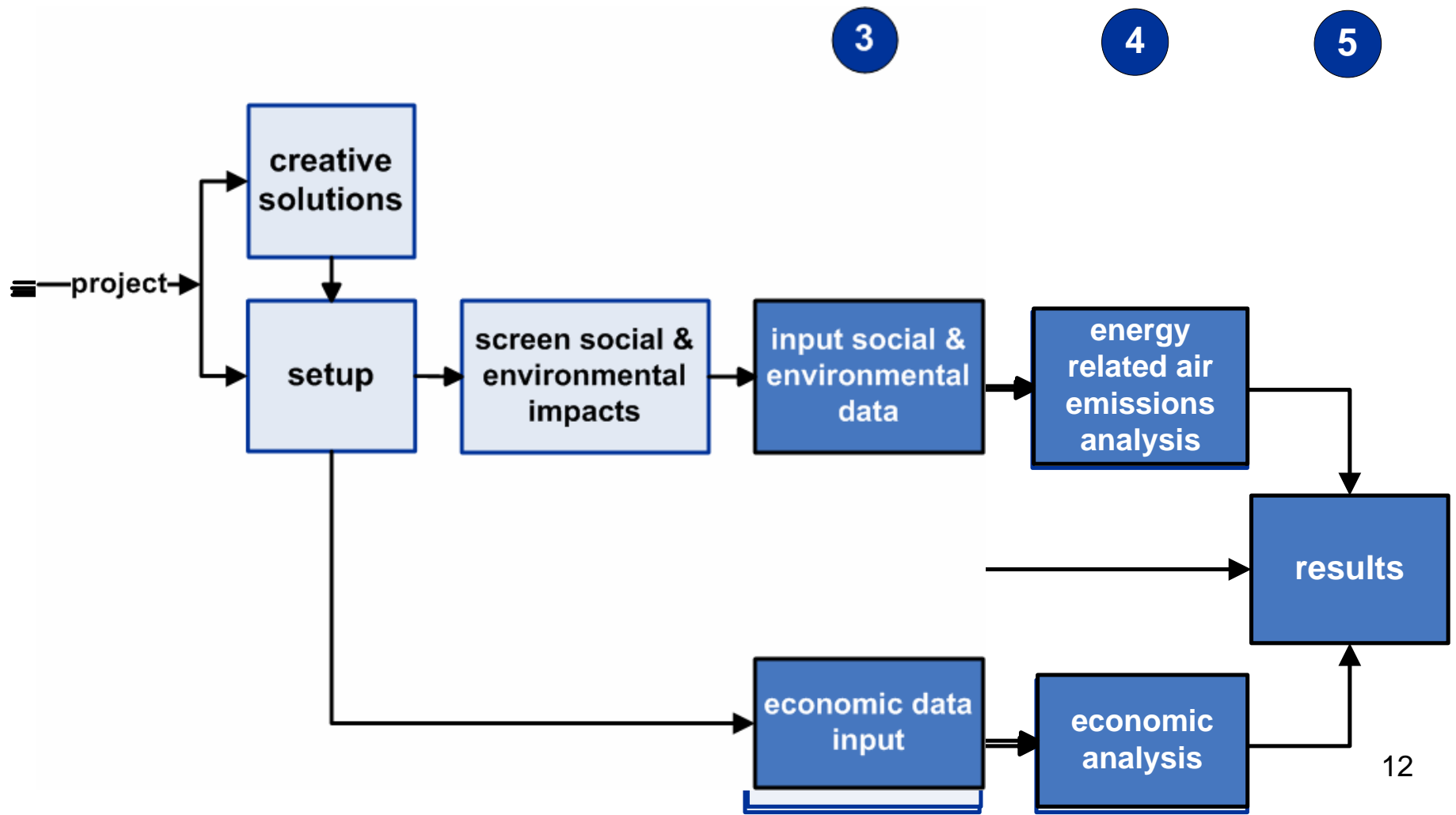
- Provides framework for comparing project options at the preliminary design stage based on consistent environmental, social and economic metrics
- Summarizes social, environmental and economic impacts for integration in Preliminary Design Business Cases

Development of the Sustainability Business Casing Tool

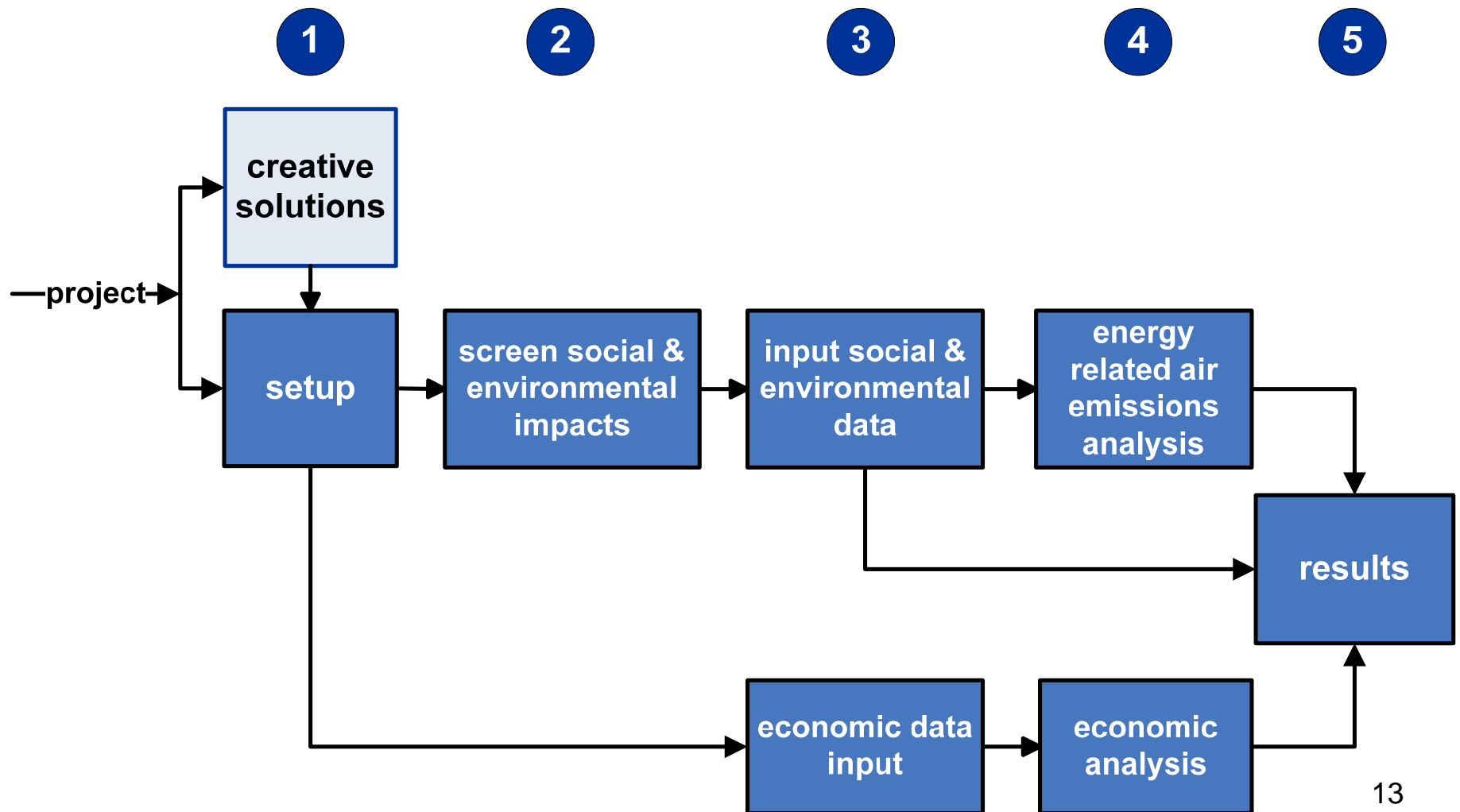


- No existing tool available
- Chose a well defined scope for application
- Drew from internal expertise

Structure of GVRD Sustainability Business Casing Tool



Structure of GVRD Sustainability Business Casing Tool



Environmental Impacts

Phase	Impact Category	Key question	Applicable	Help
Construction	Air quality	Will any of the options create dust or particulates during construction?	Yes	Help
	Noise and vibration	Will any of the options create noise or vibration during construction?	Yes	Help
	Natural system disturbance	Will any of the options disturb natural systems such as protected areas, wildlife corridors, wildlife or fisheries habitat during construction?	Yes	Help
Operation	Air emissions (energy related)	Will any of the options involve on-going energy use?	Yes	Help
	Air emissions (other)	Will any of the options produce emissions associated with specific processes (e.g. water treatment) during operation, excluding those associated with energy use?	Yes	Help
	Odours	Will any of the options produce odours during operation?	Yes	Help
	Noise and vibration	Will any of the options create noise or vibration during operation?	No	Help
	Solid or liquid waste	Will any of the options generate solid or liquid waste during operation?	Yes	Help
	Potable water use	Will any of the options use potable water during operation?	Yes	Help
	Stormwater	Will any of the options change the amount of stormwater generated relative to pre-existing conditions during operation?	Yes	Help

Social Impacts

Phase	Impact Category	Key question	Applicable	Help
Construction	Worker health and safety	This impact category must be evaluated for each option.	Yes	Help
	Public health and safety	This impact category must be evaluated for each option.	Yes	Help
	Traffic	Will any of the options disrupt traffic or pedestrians during construction?	Yes	Help
	Historical, cultural and archaeological resources	Will any of the options impact historical, cultural and archaeological resources during construction?	Yes	Help
Operation	Worker health and safety	This impact category must be evaluated for each option.	Yes	Help
	Public health and safety	This impact category must be evaluated for each option.	Yes	Help
	Public space	Will any of the options increase or decrease the amount of public space available?	Yes	Help
	Traffic	Will any of the options disrupt traffic or pedestrians during operation?	Yes	Help

Low (L)

Little disruption of traffic over pre-project levels.

Medium (M)

Some disruption of traffic that affects minor number of people (<100).

High (H)

Regular disruption/diversion of traffic that affects moderate number of people (>100 and <1000).

Very High (VH)

Disruption/diversion of traffic over entire construction period that affects significant number of people (>1000).

Environmental Data Input

Phase	Metric	Units or Rating	Option 1	Help
Construction	Air quality			
	• Number of days air quality affected	Days		Help
	• Potential impact	N:L:M:H:VH	Choose:	
	Noise and vibration			
	• Number of days air noise/vibration created	Days		Help
	• Potential impact	N:L:M:H:VH	Choose:	
	Natural systems disturbance			
	• Potential impact	N:L:M:H:VH	Choose: <input type="text"/>	Help
	Air emissions (energy related)			
	• Electrical energy use	MWh / yr		
	• Other energy use technologies			
	Please choose technology from list:			
	Please choose technology from list:			Help

Social Data Input

Phase	Metric	Units or Rating	Option 1	
Construction	Worker health and safety			
	• Potential impact	N:L:VL:M:U	Choose: ▼	
	Public health and safety		Choose:	
	• Potential impact	N:L:VL:M:U	none	
	Traffic		negligible	
	• Period traffic affected	Days	very low	
	• Potential impact	N:L:M:H:VH	low	
			medium	
			unacceptable	
	Historical, cultural & archaeological			
	• Potential impact	N:L:M:H:VH	Choose:	
Operation	Worker health and safety			
	• Potential impact	N:L:VL:M:U	Choose:	
	Public health and safety			
	• Potential impact	N:L:VL:M:U	Choose:	

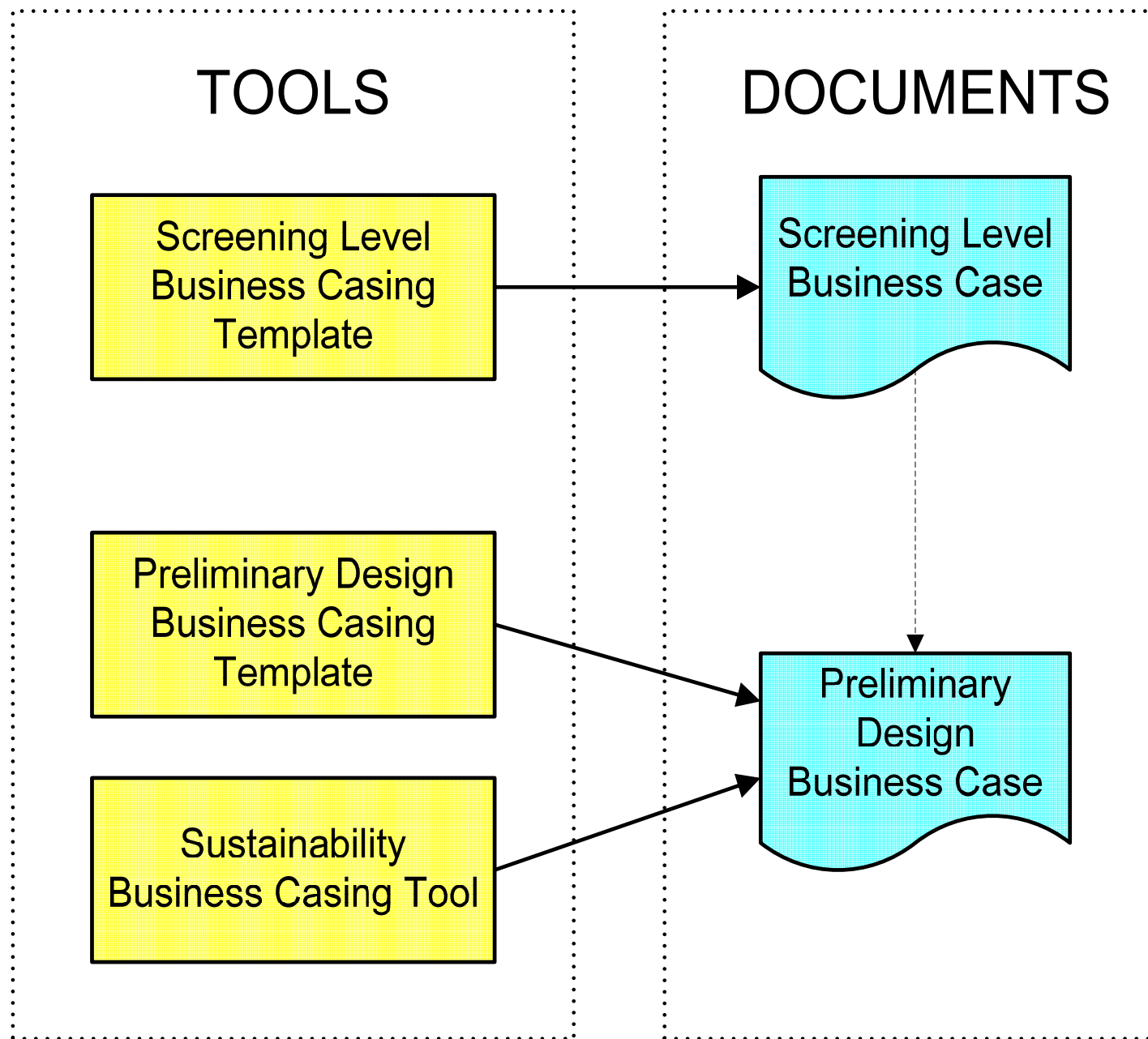
Economic Analysis

Item	Description	Local	Frequency	First Year	Last Year	Amount	Escalation
Preconstruction Costs							
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Construction Costs							
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
O&M Costs							
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Decommissioning Costs							
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Benefits & Costs Savings							
Choose:		No	100%	Choose:	2006	2081	\$ - 0%
Choose:		No	100%	Choose:	2006	2081	\$ - 0%

Results Table

	Economic Metrics	Units or Rating	Lagoon Drive	Stanley Park
Economic	Net Present Value	2006 \$	-\$744,988	-\$761,238
	Internal rate of return	%	n/a	n/a
	Discounted B/C Ratio		0	0
	Discounted payback period	years	n/a	n/a


	Environmental & Social Metrics			
Construction	Air quality			
	-- duration	days affected	50	75
	-- severity	N:L:M:H:VH	low	low
	Health and safety			
	-- worker	N:L:VL:M:U	low	very low
	-- public	N:L:VL:M:U	very low	very low
	Traffic			
	-- duration	days affected	70	105
-- severity	N:L:M:H:VH	medium	high	
	Historical, cultural & archeol.	N:L:M:H:VH	low	medium
Operations	Odours	N:L:M:H:VH	low	medium
	Noise and vibration	N:L:M:H:VH	low	low
	Health and safety			
	-- worker	N:L:VL:M:U	very low	very low
-- public	N:L:VL:M:U	very low	very low	



Preliminary Design Business Case



- MS Word template
- Outlines options being considered
- Provides rationale for the recommended option based on
 - results of BCT analysis
 - technical considerations
 - other aspects of the projects



PRELIMINARY DESIGN BUSINESS CASE

PROJECT NAME

[Enter a unique project name]

PROJECT INFORMATION

Division Manager		Department	
Project Proponent		Division	
Entity		Program	
Date submitted to UBPG		Date reviewed by UBPG	

PROJECT DESCRIPTION

[Describe the overall project]

BACKGROUND AND CONTEXT

[Provide background and context for the overall project]

PROJECT OPTIONS

[List and briefly summarize each project option considered]

RECOMMENDATION

[State recommended project option]

ANALYSIS OF OPTIONS

Benefits of Sustainability Business Casing



- Encourages more explicit and consistent consideration of a project's significant economic, social and environmental impacts
- Helps maximize the value generated by the GVRD's limited resources
- Facilitates a fairer comparison of alternative project options
- Contributes to a more transparent project development process

Current Status of Sustainability Business Casing at GVRD



- Trained >100 senior engineers (Fall '05)
- Piloting all three tools (Fall '05 - Fall '06)
- Conducted an online survey for User feedback (April '06)

- Will re-evaluate the process and tools after one year



Lessons Learned

- Start with strategic objectives
- Look at existing decision making process before you build tools
- Start with a well-defined scope for tool application
- Have management support
- Pilot new tools and involve user group as much as possible

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