Making the Business Case: Costs of Toxics and Economic Evaluation

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This Session

- Costs of Toxics – the regs & requirements
- Economic Evaluation in TUR Plans
- Linking TUR to Business Drivers
  - Link to strategy
  - Integrate into the business
  - Speak the language

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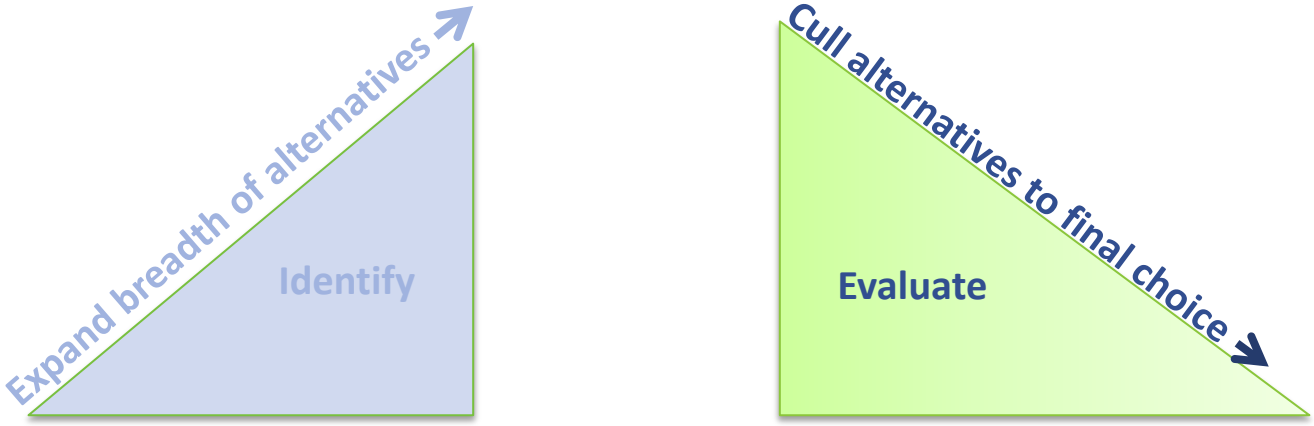
TUR Option ID and Evaluation Process

For *each* toxic in *each* production unit:



Eliminate Economically Infeasible Options

Evaluate Remaining Options

- Economic evaluation of relative costs of toxics
- Financial implications of new alternative

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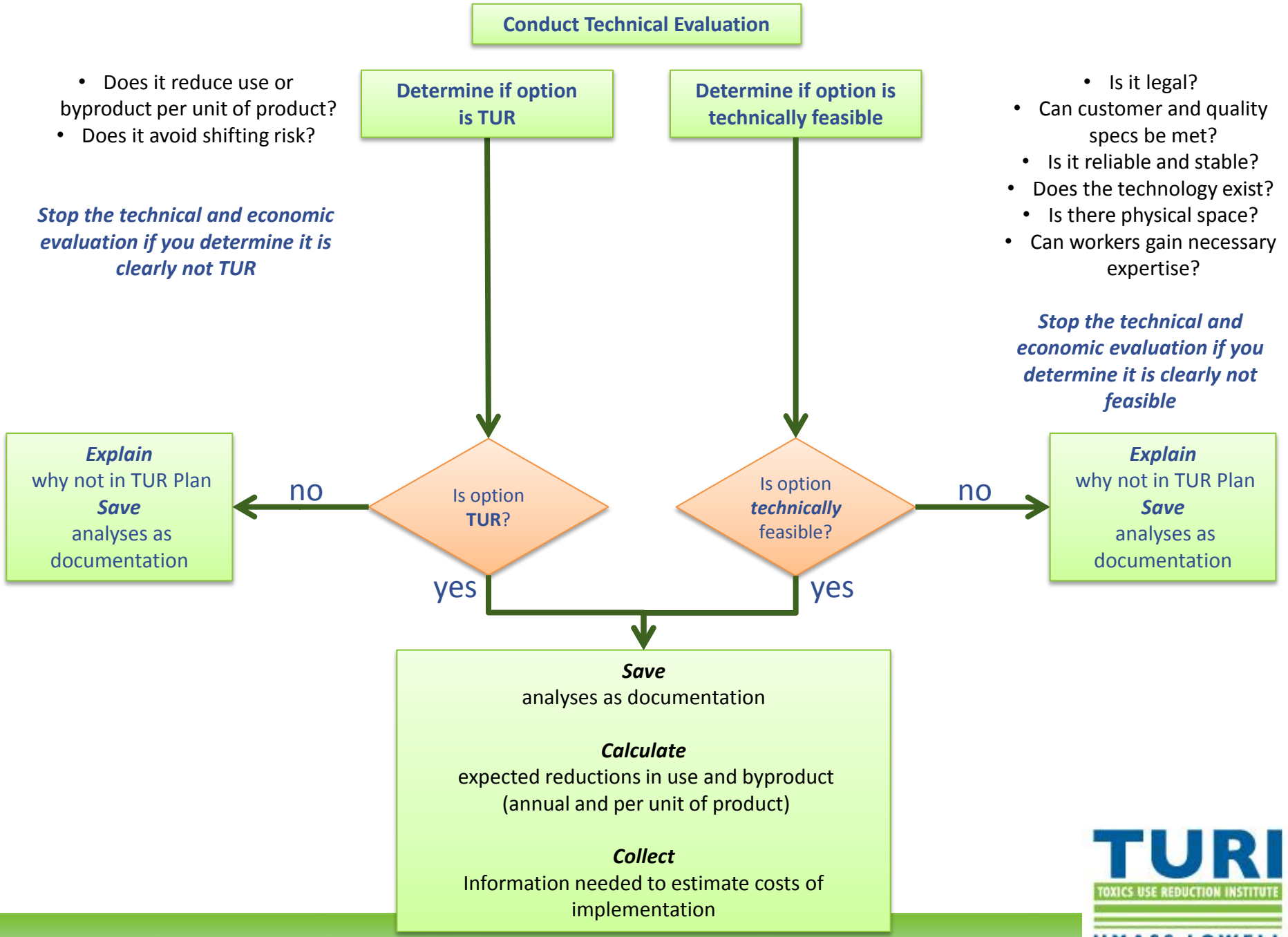
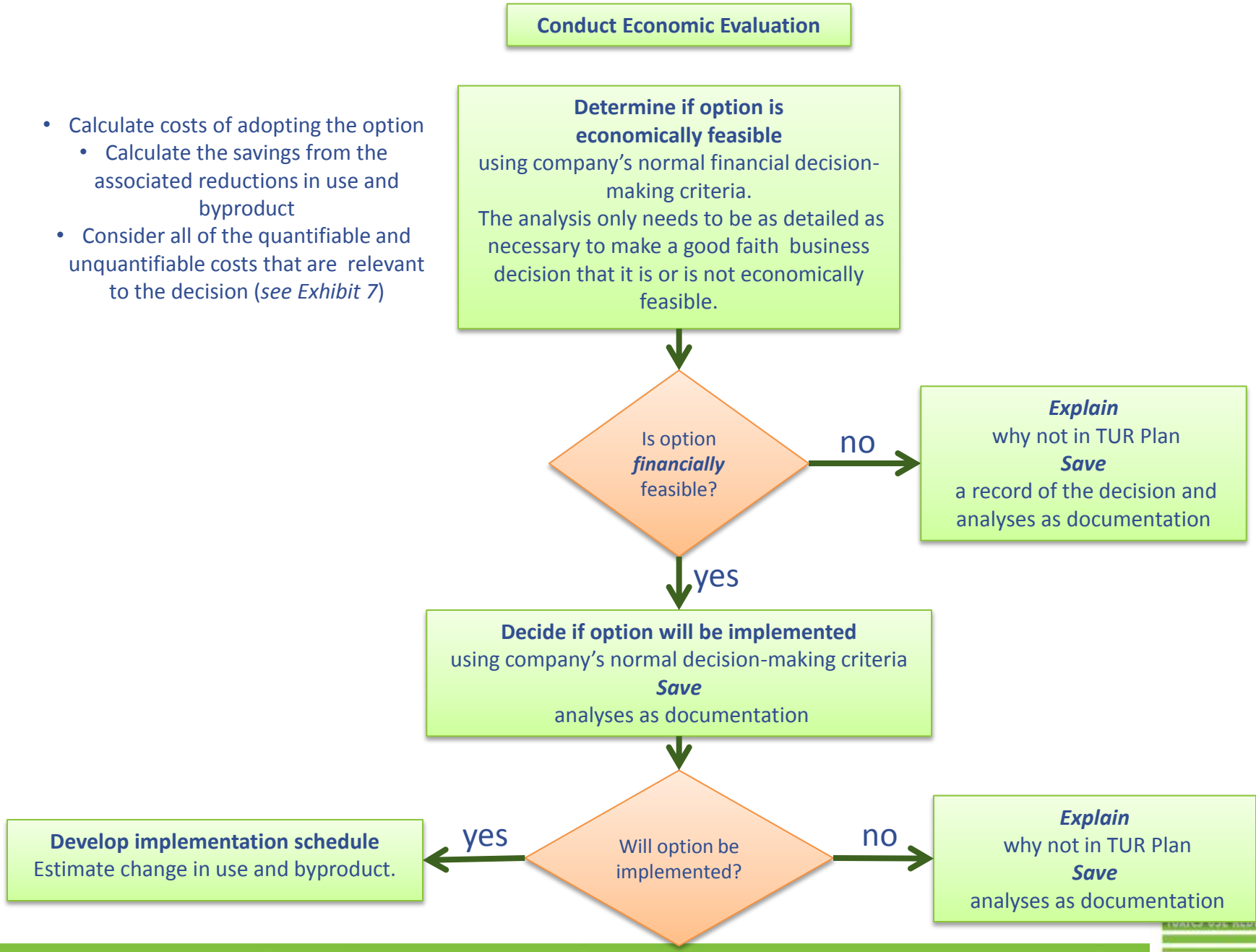

Conduct Technical Evaluation
Determine if option is TUR
Determine if option is technically feasible
• Does it reduce use or byproduct per unit of product?
• Does it avoid shifting risk?
Stop the technical and economic evaluation if you determine it is clearly not TUR
• Is it legal?
• Can customer and quality specs be met?
• Is it reliable and stable?
• Does the technology exist?
• Is there physical space?
• Can workers gain necessary expertise?
Stop the technical and economic evaluation if you determine it is clearly not feasible
Is option TUR?
Is option technically feasible?
no
yes
no
yes
Explain why not in TUR Plan
Save analyses as documentation
Explain why not in TUR Plan
Save analyses as documentation
Save
analyses as documentation
Calculate
expected reductions in use and byproduct (annual and per unit of product)
Collect
Information needed to estimate costs of implementation

- Calculate costs of adopting the option
  - Calculate the savings from the associated reductions in use and byproduct
  - Consider all of the quantifiable and unquantifiable costs that are relevant to the decision (*see Exhibit 7*)



50.46A: Economic Evaluation of Potential TUR Techniques

1. Toxics users shall evaluate the economic feasibility of each TUR option identified as technically feasible *as compared to the current operations involving the toxic*. The following items must be considered if relevant:
   a) indirect and direct labor and materials costs;
   b) purchase or manufacturing cost of the toxic and its alternative chemical;
   c) capital and equipment costs;
   d) storage, accumulation, treatment, disposal, and handling costs associated with toxics and byproducts;
   e) costs associated with activities required to comply with local, state, or federal laws or regulations, (e.g., fees, taxes, and costs associated with treatment, disposal, reporting and labeling);
   f) worker health or safety costs associated with the toxic and its alternative chemical (e.g., protective equipment, and lost employee time due to accidents or routine exposure to the toxic);
   g) insurance;
   h) potential liability costs; and
   i) loss of community goodwill and product sales lost to competing non-toxic products.

Economic Infeasibility "Off-Ramp"

50.46: Technical Evaluation of Toxics Use Reduction Techniques

2) Toxics users need not complete the evaluation of a particular TUR option if, during the evaluation, the toxics user determines that the TUR option being evaluated is not appropriate for any of the following reasons:

   b) the technique is clearly economically infeasible, as determined pursuant to 310 CMR 50.46A;

   c) implementation of the technology, procedure, or training program is not likely to result in a decrease in the amount of toxics used per unit of product or the amount of toxics generated as byproduct per unit of product.

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Exercise Part 1 – *Determining Cost of Toxics*

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Environmental professional relationship to the business

- Compliance overshadows all else
- Technical area not well understood except by practitioners
- Not typically included in the general business discourse

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Integration into the business

- Talk in a language they understand (typically $$$)
- Integrate into the way the company makes decisions
- Align environmental activities with company strategy

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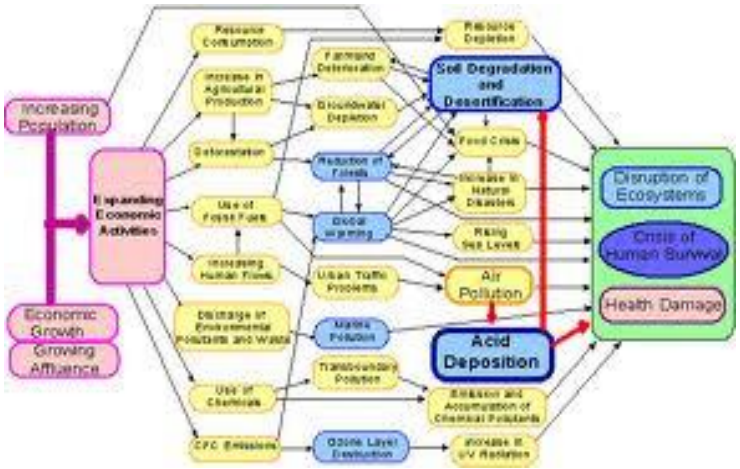
Talk money

Success metrics of the company are financial
……this is the language that management talks!

Change this



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Simple Payback Period

- Quick, simple, useful for initial screening
- Does not account for time value of money

Net Present Value (NPV)

- PV(cash inflows) – PV(cash outflows)
- Accounts for time value of money
- Useful to compare different uses of capital

Internal Rate of Return (IRR)

- Discount rate for which NPV = 0
- If IRR > **Hurdle Rate** accept project
- Applies internal financial rules to potential project

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“Selling” TUR

- Get to the right decision makers
- LISTEN – understand ***business*** goals, not just environmental goals
- Communicate the right message the right way

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Possible business strategic priorities

- Increased profit = reduced costs + increased revenue
- Increased market share
- Greater operational efficiency
- Faster time-to-market
- Good neighbor
- Breakthrough products or services

Leadership in…

- Price
- Quality
- Technology
- Customer response

Parent company goals

GHG reduction

Energy efficiency

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Features

- Aqueous cleaner in place of chlorinated solvent

Advantages

- Far less toxic

Benefits

- Reduced risk
- Reduced costs of PPE, ventilation, insurance, haz waste management, permitting, etc.
- Improved worker safety – improved labor relations
- Improved PR
- Market advantage of “green” operations

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OUR FUTURE AND YOURS,
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....to GREEN
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Less Toxic Chemicals
for a Safer
Neighborhood!
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Mr. John's Cleaners
the greener cleaner

Link EHS activities to company strategy

When the EHS project generates recognized business value….
……your voice in the company changes!

Change this

to this

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- Manufactures and supplies world markets from multiple manufacturing locations

Quality Assurance

- Committed to quality assurance in every aspect of our business
- Continuous improvement programs
- Internal and customer-derived statistical data
- Close relationships with each customer
- Works with analytical laboratory
- Accreditations include:
  TS 16949 (Quality Management System), ISO 17025 (Laboratory) and ISO 14001 (Environmental)

Qualitative Issues

- Productivity
- Product Quality
- Market Share
- Employee Health and Safety
- Stakeholder Relations
- Public Image
- Criminal Liability
- Financial Liability
  - Storage and Disposal
  - Real Property Damage
  - Civil Actions/ Toxic Tort Suits
  - Fines and Penalties

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Existing Company Processes

Companies have methods for making decisions
……use the existing – don't invent a new one!

WCPM Project Budget Worksheet — Project R — 17-Feb-02

Ref	Type	Description	Monthly Breakdown: Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sub-Totals	Total
	Staff costs												
		Project Team	30,000	60,000	60,000	75,000	75,000	75,000	75,000	75,000	30,000	535,000	535,000
		IT Department				40,000	40,000	40,000	40,000	20,000	20,000	200,000	200,000
		Contractors					20,000	20,000	20,000			60,000	60,000
		IT/Participants	10,000	20,000	20,000	20,000	10,000	10,000	50,000	100,000	20,000	280,000	280,000
		Training deployment						10,000	10,000	50,000		70,000	70,000
			40,000	80,000	80,000	135,000	145,000	155,000	195,000	245,000	70,000	1,145,000	
	Consultancy fees												
		WCPM Consultants	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	180,000	180,000
		WCPM Expenses	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	18,000	18,000
		Change Management specialist		5,000			10,000	10,000	10,000	10,000		45,000	45,000
			22,000	27,000	22,000	22,000	32,000	32,000	32,000	32,000	22,000	243,000	
	Staff expenses												
		Travel/Subsistence	5,000	1,000	1,000	1,000	1,000	1,000	5,000	5,000		20,000	20,000
			5,000	1,000	1,000	1,000	1,000	1,000	5,000	5,000		20,000	
	Capital												
		Development Platform		330,000								330,000	330,000
		Production Platform							850,000			850,000	850,000
				330,000					850,000			1,180,000	
	Direct Costs (Non-capital)												
		Development		50,000								50,000	50,000
		Development PCs		30,000								30,000	30,000
		User PC upgrade							100,000			100,000	100,000
		User PC offr							50,000			50,000	50,000
		Hire of training facilities							5,000	5,000		10,000	10,000
				80,000					155,000	5,000		240,000	
	Central costs												
		Accommodation	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	90,000	90,000
		HR services	4,000					4,000	4,000	4,000	4,000	20,000	20,000
			14,000	10,000	10,000	10,000	10,000	14,000	14,000	14,000	14,000	110,000	
	TOTAL COSTS		81,000	548,000	133,000	168,000	188,000	202,000	1,251,000	301,000	106,000	2,958,000	2,958,000

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Exercise Part 2 – *Presenting the Business Case*

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Questions / Discussion

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