

Clean Energy Project Analysis with RETScreen[®] Software

RETSCREEN[®] INTERNATIONAL Clean Energy Project Analysis Course

www.retscreen.net



(f) UNEP





Five Step Standard Analysis 🕀



click on blue hyperlinks or floating icon to access data

GHG

Analysis







D 1/12 Natural Canada

Natural Resources Ressources naturelles Canada Canada © Minister of Natural Resources Canada 2001 - 2004



Objectives

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- Illustrate role of preliminary feasibility studies
- Demonstrate how the RETScreen[®]
 Software works
- Show how RETScreen[®] makes it easier to help identify & assess potential projects





How accurate is an energy project analysis tool?

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It depends on the tool

It depends on the accuracy of the inputs

How much does it cost to use an energy project analysis tool?

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It depends on the tool

It depends on the accuracy of the inputs

Cost is related to accuracy

What accuracy do we need?

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- Tenders: ± 5 to 10%
- Engineering phase: ± 10 to 20%
- Feasibility study: ± 15 to 25%
 Attaining this level of accuracy is still very expensive
 What if the project doesn't go ahead?
- Prefeasibility study: ± 20 to 50%
 - We want to answer the question "are we in the ballpark?" as quickly and cheaply as possible

Energy Project Implementation Process

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Clean Energy projects not being routinely considered up-front!

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Construction & Commissioning



Are photovoltaics cost-effective?

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 On-grid: not without subsidies (in most areas)

 Off-grid: most cost-effective power supply



Notion of cost-effectiveness only exists by way of comparison



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• Cost-effective compared to what?

- Compared to a genset or batteries or grid extension, photovoltaics are cost-effective
- Compared to conventional generation, photovoltaics are not cost-effective on grid without subsidies

RETScreen always compares two options

- Proposed case versus base case
- Clean energy technology versus conventional technology

Example: Base case versus proposed case power system for SCADA system at natural gas well head

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- Incremental initial costs: Cost of PV system cost of genset
- Annual credits: fuel, maintenance
- Periodic credits: genset overhaul
- Periodic costs: battery replacement

What is RETScreen[®] 4 for ?

www.retscreen.net

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 RETScreen 4 provides an approximate answer fast: "Is this project in the ballpark?"

RETScreen is *not* an engineering design tool

Why Use **RETScreen[®]?**

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Simplifies preliminary evaluations

- Requires relatively little user input
- Provides key outputs
- Standardized procedures allow objective comparisons
 Validated methodology
- To learn about clean energy technologies
 As a repository of tools and data



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For further information please visit the RETScreen Website at **www.retscreen.net**