Total Balance

Total Balance compares whole system **Measures** with a **Narrative** adding it all up

- Comparing:
  Before and After, Adjustments, Targets, Compensations
- Measures - using a combination of comprehensive methods
  (*all represent themselves as comprehensive & most fall very far short*)
  - LEED & Green Globes rating systems Energy Star targets
  - EF Environmental Footprinting, GHG protocol CO^2+ inventory, Athena Life Cycle Impacts
  - Total Accountable Impacts Life-Cycle Inventory US National Database
  - Total Unaccountable impacts $shadow - HDS global share of embodied energy method
  - General Indicators Sustainability Measures - Numerous qualitative & quantitative measures
- Narrative summary of
  - Design process principles, explorations, and promising discoveries
  - Design process report on resource use & coordination
  - Global impacts & linkage with work of others

Start with sizing the global unaccountable energy share.

Before: Add up the capital and operating costs for the prior use of the site or prior function being replaced, convert to 1995$ and multiply by 8000btu/$. That is the approximate global average energy use per dollar of GDP in 2008.

After: Then Add up the capital and operating costs for the proposed use.

Adjustment: Then factor in the known major energy using and energy saving features of the project.

Targeting: Use one of the several ways to decide what would be a responsible level of energy use, and adjust the design.

Compensation: For the Total Balance, develop realistic compensations equal the project's short comings.

The tough part of starting from a global share is understanding what it means. Statistically there's about the same amount of hidden energy behind every dollar. That's what it means. It's usually about 10 times or more than what you can account for. **It helps ask questions about what's not being counted.**

The figures you use are total project first costs and operating costs. I use life-cycle amortized first costs so they can be included with annual whole project impacts. The simple way to estimate life-cycle building costs for renters is,... well, the rent!

Adjustments to correct the average global share can then be made for directly accountable parts. One can factor in unusual energy contributions according to their 'value added', but it's simpler and almost completely correct to just add the direct energy uses to the global economic share estimate. That would mean adding the total btu's of direct fuel use to the 8000btu/$ amount.

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