



# Sustainability Assessment Modelling

## Description

Sustainability Assessment Modelling (SAM) is an accounting technique that quantifies the social, financial, environmental impacts and resources uses of specific projects and their components or parts.

Alongside other forms of full cost accounting, SAM highlights the social and environmental impacts and incorporates them into the full cost of the project. The social, environmental, economic and resource use impacts are assessed over the project's lifecycle. SAM differs from other sustainability evaluative tools by taking the project as its focus. SAM may provide a useful starting point for discussing sustainability issues.

The main categories that SAM uses to calculate impacts and resource uses are financial flows, resource usages, environmental impacts ([environmental impact assessment](#) 🌱) and social impacts ([social impact assessment](#) 🌱). Financial flows are the economic benefits the project generates for the organisation/ community and its stakeholders. Resources usages are the value of resources that are not usually accounted for in financial flows. Environmental impacts arise primarily from the environmental damage produced by project activities. Social impacts capture both positive and negative aspects of the project not captured by the other categories (i.e. indirect employment changes associated with project).

## How and when the tool is used

SAM was initially developed in the early 2000s by British Petroleum, Genesis and the University of Aberdeen to assess the sustainability of oil and gas projects. It provided a decision making and accountability framework that incorporates sustainability issues.

SAM has been used in New Zealand at differing scales by organisations such as the Christchurch City Council in areas such as:

- Landfill
- Forestry
- Housing
- Aquaculture

## Application

SAM is flexible and, given its full-cost accounting framework, the values obtained are given in dollar terms so that they are easy to understand by different groups and different projects and their components are comparable.

Some of the problems that have been identified in SAM's use include:

- Accurately costing project components;
- An overemphasis on deriving values in dollar terms;
- A tendency to reduce non-economic values (such as a sense of belonging) to dollar terms, which may then be traded-off;
- A focus on total economic value of the project rather than *who* actually gains or loses from the project.



## **Our evaluation**

The strength of the Sustainability Assessment Model is that it provides organisations and communities with a practical profile of the social, financial, and environmental impacts and resource usages of a given project. It enables comparisons to be made between different investment projects and their components ([cost-benefit analysis](#) 🌱). SAM can help facilitate discussions about sustainability issues centred on the project. This allows communities to participate in a more informed manner.

Although SAM does have limitations, its strength is that these limitations are visible and able to be discussed when evaluating the project. SAM can be a valuable tool in encouraging discussions over resource allocation between different projects, and decision making for individual projects.