

Route2: Capital Stock Fact Sheets

Financial
Capital

Human &
Intellectual
Capital

Manufactured
Capital

Natural
Capital

Social
Capital

"The natural capital is not income, but we spend our natural capital as if it were revenue, as if it were going to come back next year without any problems, whereas these renewals in nature can take hundreds of years."
Susan George, 2005

• What is Natural Capital?

Natural Capital relates to the stocks of natural assets that include mineral resources, the soil, air, water and all living things. It is from this capital stock that humans derive a range of benefits (called ecosystem services) that make our existence and indeed all economic activities possible. The most obvious services include the air we breathe, the food we eat and the water we drink. But we also depend on less tangible services such as the climate regulation and flood attenuation services afforded by forest ecosystems. A comprehensive classification of ecosystem services is offered by the Common International Classification of Ecosystem Services [CICES]

• Why measure Natural Capital?

The measurement and economic valuation of natural capital factors, allow organisations to be better prepared to manage the risks and opportunities associated with environmental degradation or enhancement. Every business directly or indirectly impacts and depends on natural capital. Impacts can be negative - such as pollution, but can also be positive such as improved water quality. All impacts have their associated costs and benefits to the business and for the wider society. Understanding the connection between business and society enriches and better optimises business decision making.

• How do we determine the value of Natural Capital Stocks?

Route2 extends the principles embodied in the balance sheet statement of financial accounts, where the economic values of assets and liabilities associated with manufactured and financial capital are recorded. Our starting point is establishing the annual economic value of individual services delivered from a given ecosystem. For example, the timber and greenhouse gas sequestration services provided from a forest ecosystem. The former is simply the annual quantity produced multiplied by the average market price. The latter is the estimated quantity multiplied by a unit external benefit value (for a tonne of greenhouse gas absorbed). The sequestration rate and external benefit (as with all non-market values) are sourced from the relevant scientific literature. These annual values are assumed to be delivered over a specified time period (say 50 years). Therefore the net present value of the ecosystem service being delivered over the 50 years is calculated using a social discount rate equal to 3.5%. This net present value of the current and future flow of timber and sequestration services would then represent a partial natural capital stock value of the forest ecosystem. Partial because the forest ecosystem service offers further services such as water or air purification services.

• How do you measure changes in the value of Natural Capital?

Route2 extends to natural capital the principles embodied in the profit and loss statement of financial accounts, where the economic value of inputs to - and outputs from - production activities are recorded. This process provides organisations with valuable intelligence as to how and why its Natural Capital Stock is being enhanced or impaired over an operating period. **Positive indicators (benefits) for a forest ecosystem include:** Investment - such as planting or deferred harvesting - or improved ecosystem productivity owing to better forest management or favourable weather. **Negative indicators (costs) for a forest ecosystem include:** resource depletion due to over-harvesting (exceeding maximum sustainable yield or natural regeneration), or reduced productivity due to tree disease. These positive and negative flows vary depending on ecosystem type and the level or quality of management by asset owners or asset stewards.

• Route2 Examples and Application

Route2 performed comprehensive Natural Capital assessments for The Crown Estate and Yorkshire Water; natural capital assessment is always considered as part of Route2's core Value2Society offering, see the [Case Studies](#) page on Route2's web site.