

Living Standards: A Short Guide to ‘Sustainability for the Future’

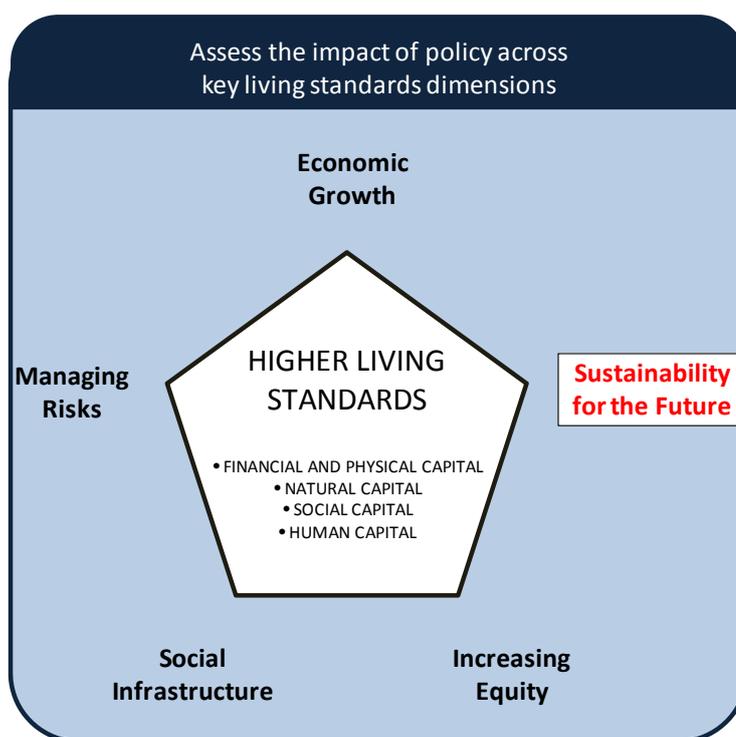
Sustainability – it’s all about the future

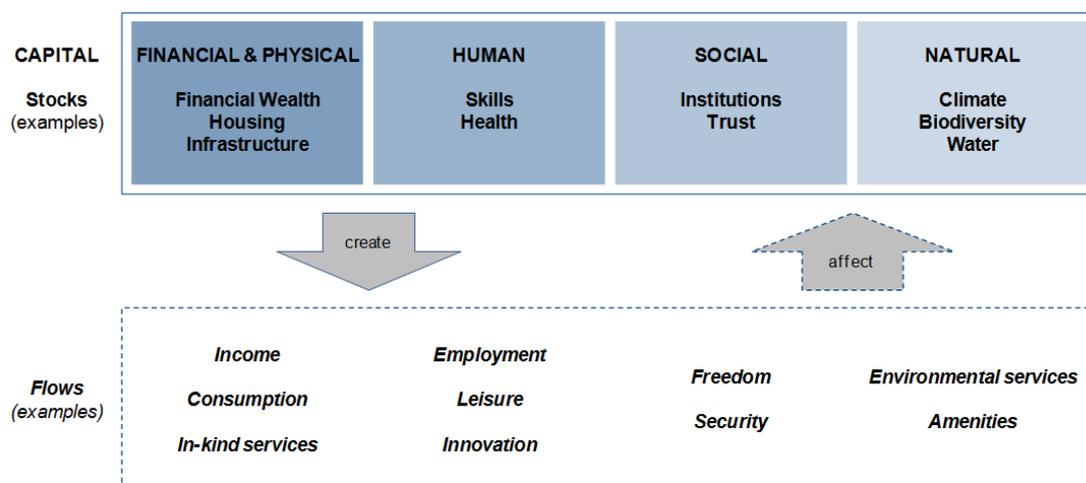
Sustainability is a fairly simple concept: the capacity to support, maintain or endure over time. From a policy perspective, however, its application is more complex, as there are competing views and theories about sustainability. Sustainability is all about the future, but achieving that sustainable future state requires us, as policy analysts, to determine which is the crucial decision, and to be able to make informed trade-offs in the present time.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The Treasury’s Living Standards Framework is based on the Brundtland definition of sustainability adopted at the World Commission on Environment and Development in 1987 and used extensively since. Brundtland defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. In this regard, it is closely related to intergenerational equity – where the needs of future generations are taken into account.

The sustainable development model seeks to integrate the four capitals– natural, economic (physical and financial), human and social by understanding the interrelationships and dependencies between them. The policy challenge is maintaining viable levels of all the capitals in a world looking for higher living standards.





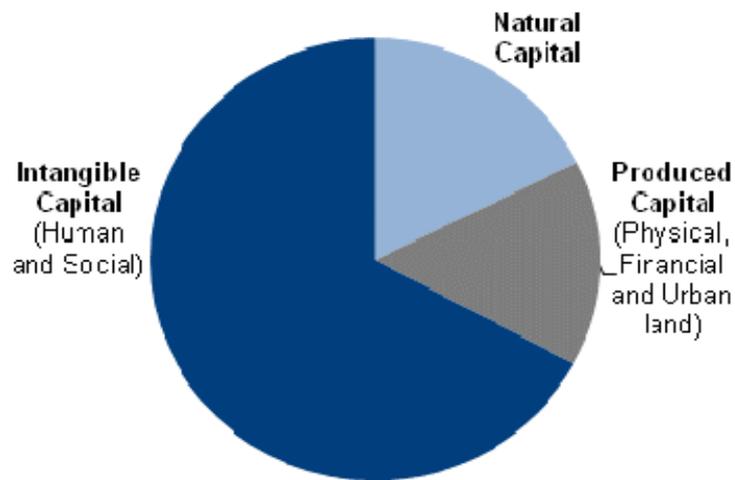
New Zealand's wealth is in its environment, people and physical capital

Like most developed countries, New Zealand has highly developed stocks of human capital (the education, health and skills of its people) and of social capital (its social institutions, the effectiveness of law and order, the level of trust in society, and the effectiveness with which society is organised).

Unlike most other developed countries, New Zealand's economy is heavily reliant on primary production for export (agriculture, forestry and fisheries) and tourism. New Zealand has a very high level of natural capital (18%) compared to the OECD average of 2%. In contrast to New Zealand, however, many OECD countries are more readily able to import natural capital from outside the immediate region (from countries such as New Zealand) to sustain economic growth beyond their inherent carrying capacity. That the sustainability of New Zealand's current and any future living standards will continue to rely on our natural resource base has been reflected in a programme of work on sustainability undertaken by the Treasury over the last decade¹.

¹ See for example: [Adaptive Governance and Evolving Solutions to Natural Resource Conflicts](#) [Institutions and Decision Making for Sustainable Development](#)

The estimated distribution of New Zealand's capital stocks



Source: World Bank, (2007) Where is the Wealth of Nations?

It is important that each of the capital stocks are taken into account when considering the impact of a particular policy on sustainability for the future.

Question: Sustainability of what? Answer: Stocks, flows and sinks

The capitals are characterised by complex systems. These systems are made up of stocks, flows and sinks. These are concepts derived from our understanding of what makes natural ecosystems sustainable and help us to understand the concept of sustainability across each of the capitals.

The **stock** of any capital is the amount that exists now. Policy decisions often revolve around determining the 'right' amount of a particular stock, seeking to increase stocks through savings from the flow of new capital, or allowing stocks to decrease by consuming the existing capital in the current period.

Flows of capital arise from capital stocks. Capital flows can be increased, reduced and even destroyed over any period of time. Some capitals can be created by investing in new capital such as new buildings, or new skills for people. It can be destroyed by gradual deterioration (for example, depreciation of physical capital; pollution of the natural environment; or skills becoming obsolete) or by catastrophic destruction such as fires, earthquakes and deaths.

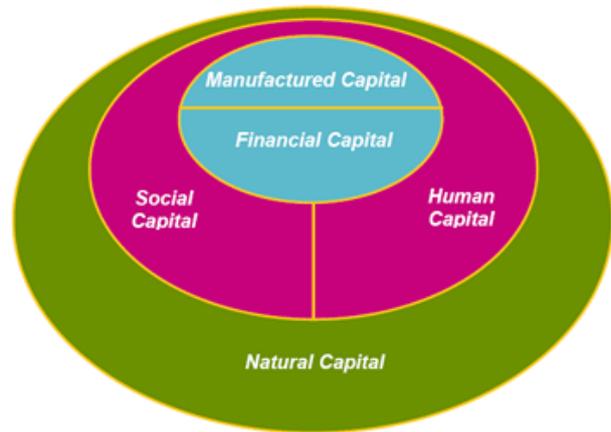
Sinks are the ability of a capital system to absorb and recycle its waste and by-products for future use. Sinks are readily observed in natural ecosystems, and are as critical to an understanding of natural capital and sustainability as are stocks and flows. The other capital stocks can also draw upon this analysis to consider the extent to which their capital has resilience against change (eg, the adaptability of physical capital, or the extent to which education provides transferable skills).

Depending on the extent to which one can be substituted for another, stocks, flows and sinks are critical to the achievement of higher living standards. Measurement of the levels of these capital stocks, flows and sinks are used as key indicators of sustainability².

Inter-relationships between the capital stocks

Each of the capitals depends on other capitals to maintain stocks and flows; capitals are not independent. People are reliant on the capacity of the natural environment to support their needs. In turn, natural capital, as a finite resource, relies on the ability of people to manage it for sustainable, long-term use.

Similarly, the productivity of machines and other physical capital depends upon the human capital available to use it, and the efficiency and effectiveness of the societal environment in which the capital exists. Without appropriately skilled staff and an institutional infrastructure that supports industry, the value of the available physical capital will be reduced.



Sustainability and Resilience

Changes to how the systems of capital stocks, flows and sinks operate can cause thresholds or tipping points to be reached, and systems may undergo both swift and irreversible change to new states. We can observe this in ecological systems where the trigger may be exceeding the carrying capacity of the environment. In the social sphere, an equivalent could be when the level of trust in social institutions falls below a critical level and the institutions cease to be viable.

Resilience is the ability of these systems to absorb and respond to both cumulative change and to shocks. To achieve sustainability, resilience must be built into the system.

Economies, and their associated living standards, can exceed the inherent carrying capacity of each of their capitals. Ultimately, living standards cannot be higher than the capital required to support them without triggering significant changes to the capital and its associated stocks flows and sinks, even though some capitals may be able to be supplemented through trade and other mechanisms. The development of sustainable policies for economic growth and material living standards need to be situated within the context of finite and changing capital stocks. When thinking about sustainability, the past is not a predictor of the future. Change is not always linear, and, although logical, not always predictable.

² See for example: http://www.stats.govt.nz/browse_for_stats/environment/sustainable_development/sustainable-development.aspx

Achieving sustainability in policy analysis and decision making

Analysing policy issues from a sustainability perspective and making decisions that lead to sustainable outcomes analysis requires us to analyse whether:

- ▶ current or higher living standards in terms of material wealth are sustainable
- ▶ the *means* we are using to achieve our living standards are sustainable.

This requires us to make judgements about preventing activities that reduce sustainability in favour of those that increase it.

The starting point is to use the tenets that underpin the sustainable development model:

- ▶ Place a positive value on the long run.
- ▶ The contribution of all the capital stocks in underpinning human well-being need to be taken into account.
- ▶ The constraints on capital stocks, and their resilience and robustness need to be taken into account.

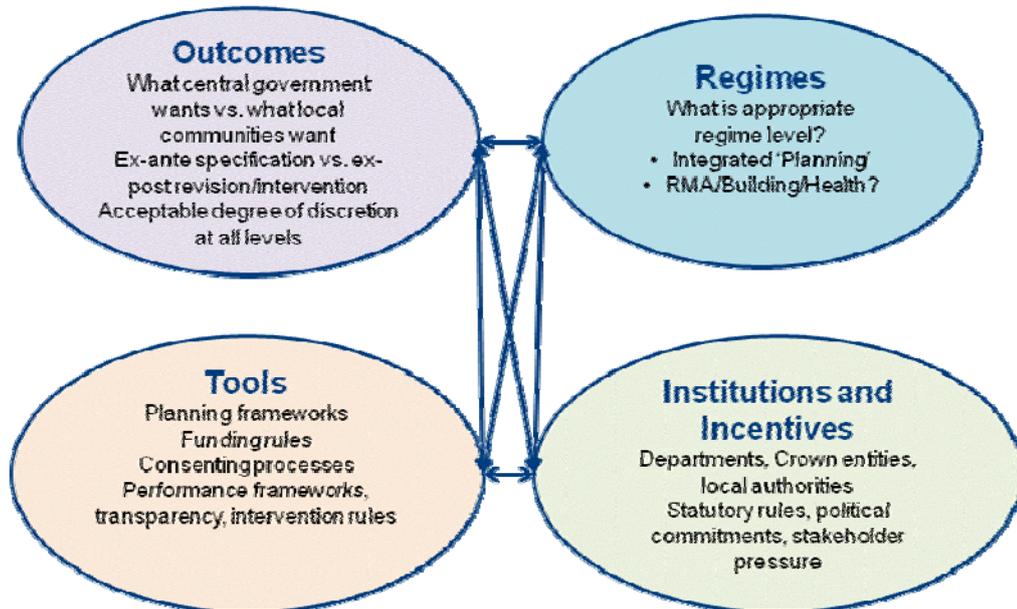
These tenets can be applied to key strategic decisions, such as whether to pursue green growth, issues that are irreversible, have pervasive externalities, and have potentially significant economic, environmental or social impacts.

Placing a positive value on the long run

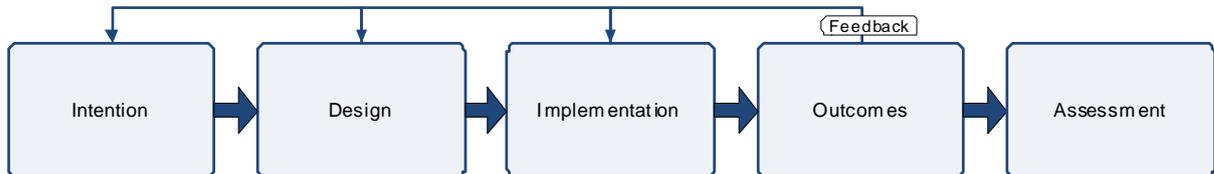
A long-term focus requires ensuring the timeframes we use are long enough to pick up all the effects and risks. This may mean:

- ▶ extending our analysis over years or even decades, especially where intergenerational effects are significant
- ▶ dealing with uncertainty in decision making. How we balance the risk of making (or not making) decisions given the information available and the cost of acquiring more
- ▶ using an appropriate discount rate in cost-benefit analysis and assigning values to long-term and intangible benefits, including monetising where possible.

Sustainability also requires considering the interactions between the different lenses through which Government views and implements its policies; focusing on just one lens risks ignoring critical interdependencies, diminishing returns and taking too static an approach. For example, 'fixing' a problem by changing the rules, without considering how people will respond to the new rules.



Delivering long-term goals also requires taking a lifecycle approach to our interventions, whether regulatory, institutional or financial.



For example, when managing natural capital we need to concern ourselves with outcome setting, legislative design, how and by whom planning decisions will be made, consenting processes and ongoing monitoring and oversight. Decisions made at each stage affect what actually happens and the balance between appropriate flexibility and endless re-litigation can be a fine one.

Key questions when thinking about sustainability

Taking into account the contribution of all capital stocks, including social and environmental factors as well as economic ones may require a multi- or interdisciplinary approach based on evidence-based technical information, taking a broader local, national or global perspective. This may mean more cross-agency work to determine impacts and drawing on agency-specific knowledge and expertise.

Policymakers might want to ask:

- ▶ **Has the analysis considered constraints, resilience and robustness?** Achieving long-term sustainability requires understanding and measurement of the limits of capital stocks, especially finite natural stocks, flows and sinks. Tools that help us to determine

limits to stocks, flows and sinks include systems thinking, impact assessments, risk assessments, multi-criteria analysis and sensitivity analysis.

- ▶ ***Is the information base adequate to support sustainable decisions?*** Where information is available, it should be integrated into processes. Where uncertainty exists there should be guidance on when to make or defer decisions, and how to adjust those decisions as information emerges over time.
- ▶ ***Is the policy outcome itself sustainable in social terms?*** For limits in particular to be sustainable, they must be based on a broad social consensus about the outcomes sought and the tools for achieving them. Policies that must last decades require transparent, participatory processes for working in partnership with agencies and sectors such as Maori, business, local government and other sectors to achieve durable, innovative and mutually reinforcing solutions.
- ▶ ***Is the allocation of roles and responsibilities between central and local government and non-government providers the most effective and efficient for supporting sustainability?*** Are decisions that have impacts beyond a particular community adequately supported by regional or national level policies and institutions?