

## **A revised NPF – ideas for structure and indicators**

### **1 Introduction**

This paper outlines ideas for a new structure and indicators for a reformed National Performance Framework (NPF). The Scottish Government's NPF was introduced in 2007 and is currently being re-examined in a cross-party roundtable. LINK submitted a briefing to the Roundtable in February 2014 and we are now seeking to take this further.

This paper firstly proposes that the Sustainable Development principles guide the structure of the NPF as a whole. It then makes specific suggestions about how indicators can be derived from that, concentrating on indicators for 'environmental limits', 'social wellbeing' and 'economic activity'. Environmental indicators need to gauge the impact we are having on the world as a whole as well as our care of the Scottish environment. We propose footprint type indicators to assess quantities of resources used in all products and services that Scotland consumes; and measures to assess the status of Scottish ecosystem health, biodiversity and pollution. Wellbeing indicators are to include aspects of wellbeing that are considered important to people, including people's local environment and access. Economic indicators need to gauge the direct household financial and employment benefits of economic activity, the resources used in production, and Scotland's asset base. In Annex 2 suggestions are made for specific indicators and measures.

### **2 Background**

Despite its well-rehearsed short-comings, GDP has remained the dominant indicator for 'progress'. Modified economic indicators exist, such as the Genuine Progress Indicator, which is now used by twenty US states as an alternative to GDP; and many initiatives have developed suites of indicators to assess different environmental, social and economic elements of progress. Scotland's National Performance Framework is one such initiative, which supports the delivery of the Government's Purpose and priorities.

The National Performance Framework was developed by the Scottish Government in 2007 and updated in 2011. The Framework sets out the Government's 'Purpose' which is supported by 8 high-level 'Purpose targets' and 16 'National Outcomes', which together describe the Government's aspirations for Scotland. Fifty 'National Indicators', covering areas such as health, justice, environment, economy and education, with associated measures, provide a means to assess progress.<sup>1</sup> It is considered an innovative tool that can be used to guide and evaluate policy and encourage partnership working across government.

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<sup>1</sup><http://www.scotland.gov.uk/About/Performance/scotPerforms>

The NPF is currently being reviewed by a roundtable on which LINK sits. LINK is concerned with improving the NPF, both in terms of how much emphasis it gives to the environment (and related social justice issues) and how it is used, and submitted a briefing to that effect in Feb 2014. The briefing called for indicators to fall into three areas, reflecting the three pillars of sustainable development, and made suggestions of various relevant indicators in an annex.

Although there are a number of environmental indicators in the NPF there is no visible rationale for what is included and there are important omissions. Many of today's most pressing environmental problems are caused by the overall scale of production and consumption, rather than specific harmful substances. Due to population growth and high levels of consumption, our natural resource base is in danger of over exploitation. The sheer scale and unsustainable character of human economic activity is pushing us towards and, in some cases, beyond environmental limits. With increased international trade and shifts in manufacturing, developed countries, such as Scotland, are increasingly outsourcing their environmental burden to other regions of the world. It is therefore necessary that our choice of indicators reflects this.

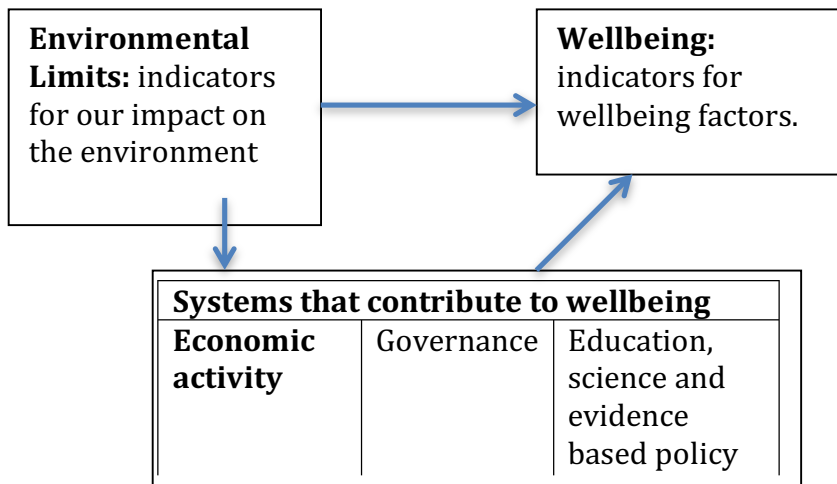
### 3 Re-examining the National Performance Framework – A Structure

In this paper, the UK Sustainable Development (SD) principles and hierarchy (Annex 1), are taken as a lens through which to consider the NPF. Although the Government's Purpose, '*Creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth*', does partially reflect the SD hierarchy in its wording, we feel that to increase sustainable economic growth is an ambiguous phrase and not in keeping with SD. We would like the Purpose to be reworded, as per our February 2014 briefing, to '*To focus Government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through improving ecological, social and economic wellbeing*.' The NPF would benefit from a simpler structure with the outputs linking directly to indicators. This would make the NPF easier to use and more fit for purpose in terms of guiding and evaluating policy. Outputs and their indicators would fall into the areas denoted by the principles of sustainable development. Outputs should include the aspirations embodied in the sustainable development principles and hierarchy and should not be contrary to the constraints of sustainable development.

The remainder of this paper focuses on indicators relevant to the aspirations of sustainable development. The NPF already includes a broad suite of useful indicators which should be added to, to ensure that the principles of SD are embodied within the NPF. A revised NPF should have three areas of indicators: those that assess how society is doing with regard to **environmental limits**; those that show progress in delivering social **wellbeing**; and those that gauge **economic activity, and other systems**, which generate wellbeing<sup>2</sup>.

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<sup>2</sup> This is similar to a model suggested by NEF (Abdallah, S. *et. al.*, 2012).



**Figure 1: Framework structure**

Environmental limits indicators gauge the impact that the way we live has on our planet; wellbeing indicators should reflect those issues of wellbeing that have been rated as important to people, and economic indicators measure the direct benefits from and impacts of our production activities.

#### 4 Environmental limits

In order to gauge our environmental impact, ‘footprint’ type indicators are needed to measure a nation’s effects on the world’s natural environment. The carbon footprint is one such indicator and it already features as an indicator in the NPF. There are huge challenges in assessing global environmental impacts. The recent Oxfam Research Report, *The Scottish Doughnut*, makes good progress in gauging whether Scotland has breached its environmental ceiling based on adaptation of the Planetary Boundaries defined by the Stockholm Resilience Centre and demonstrates where further work is needed. The adoption of indicators to assess global environmental impact should not be delayed due to difficulties, but their selection becomes an exercise in pragmatism, finding the best indicators that can be practically measured

Additional footprint indicators should monitor our impact on global resources. A report by the Sustainable Europe Research Institute (SERI) in 2009<sup>3</sup> suggests an indicator set to cover footprints of materials, water, land area and carbon to gauge resource use. Materials are divided between biotic material (products from agriculture, forestry, fishing) and abiotic material (minerals) and are measured in weight. The land footprint is the area of land used in products and services, measured in hectares. The water footprint is the water input to products and services, measured in litres. The carbon footprint is the total amount of climate changing gases emitted. These footprints would be based on the assessment of all goods and services consumed by people living in Scotland – this is often referred to as ‘consumption oriented accounting of resources’.

<sup>3</sup>[http://www.foeeurope.org/sites/default/files/publications/FoEE\\_SERI\\_measuring\\_europes\\_resource\\_use\\_0609.pdf](http://www.foeeurope.org/sites/default/files/publications/FoEE_SERI_measuring_europes_resource_use_0609.pdf)



There are arguments pointing out that measures of resource use do not necessarily equate to environmental impact and, other than for carbon, we don't know what the limits or fair share of resource use would be. However, there are also strong points in favour of using such footprint indicators – as mentioned above, it is the scale and rate of increase in human consumption that is the biggest environmental threat, and these footprints assess the resource use and contribution to climate change of that activity; they are tangible and relate directly to policy decisions; and they can be produced now, albeit in a rather limited way for the water and land footprints<sup>4</sup>. The 'CREEA' (Compiling and refining of economic and environmental accounts) project published the *Global Resource Footprint of Nations* (2014), which covers 43 countries<sup>5</sup>.

The recently revised EU Accounting Directives require the European Commission to develop guidance for corporate reporting of the Four Footprints establishing an EU-wide standard<sup>6</sup>.

These footprint indicators should be complemented by indicators that assess the health of Scotland's environment - the status of terrestrial and marine ecosystems and biodiversity, and levels of pollution. Biodiversity indicators are limited in the current NPF to the status of terrestrial breeding birds<sup>7</sup> and the condition of protected nature sites. However, additional data is available on wetland and sea birds, on butterfly populations and on vascular plant diversity. Also the status of habitats and species of European importance should be included. Usefully data from various sources is brought together in the Natural Capital Assessment Index and in its disaggregated form, this index provides ecosystem health and biodiversity data for 2000 - 2010.

Data for marine biodiversity is very limited, although will need to be collected in order to monitor the status of the new MPAs and is benchmarked in the Scottish Government's Marine Atlas. The Marine Strategy Framework Directive (2008/56/EC) (MSFD) has a requirement to establish and implement coordinated monitoring programmes for the on-going assessment of the environmental status of marine waters. Part II of the UK Marine Strategy (2014)<sup>8</sup> sets out the UK's marine monitoring programme. This will be implemented in 2016 and information from it should greatly enhance the current NPF measure for improving the state of Scotland's marine environment.

Indicators and measures available for pollution include river water quality, air quality<sup>9</sup> and toxic chemical build up.

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<sup>4</sup> see [http://ec.europa.eu/environment/enveco/resource\\_efficiency/pdf/FootRev\\_Report.pdf](http://ec.europa.eu/environment/enveco/resource_efficiency/pdf/FootRev_Report.pdf) for an overview of methodological developments and data availability

<sup>5</sup><http://creea.eu/index.php/7-project/8-creea-booklet>

<sup>6</sup> Eurostat's Data Centre on Natural Resources and Products covers The Four Footprints

[http://epp.eurostat.ec.europa.eu/portal/page/portal/data\\_centre\\_natural\\_resources/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/data_centre_natural_resources/introduction);

<sup>7</sup>Although included, monitoring is insufficient and can fail to pick up scarce species. Additional monitoring is needed.

<sup>8</sup>[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/341146/msfd-part-2-final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341146/msfd-part-2-final.pdf)

<sup>9</sup> The ONS includes these in their Sustainable Development Indicators

[http://www.ons.gov.uk/ons/dcp171766\\_368169.pdf](http://www.ons.gov.uk/ons/dcp171766_368169.pdf)

## 5 Wellbeing

Wellbeing indicators should include indicators such as the availability and quality of housing, health, the local environment and feeling safe. Oxfam, the Office for National Statistics and others have done considerable work to identify a representative suite of wellbeing indicators and a range is suggested in Annex 2. The environment, particularly the local environment, is important to people's wellbeing for access, aesthetics and mental and physical health, and needs to feature in the wellbeing indicators. To *'increase people's use of Scotland's outdoors'* and *'improve people's perceptions of their neighbourhood'* are indicators in the current NPF. A good additional indicator would be *'to increase people's connectedness to nature'*.

## 6 Economic activity

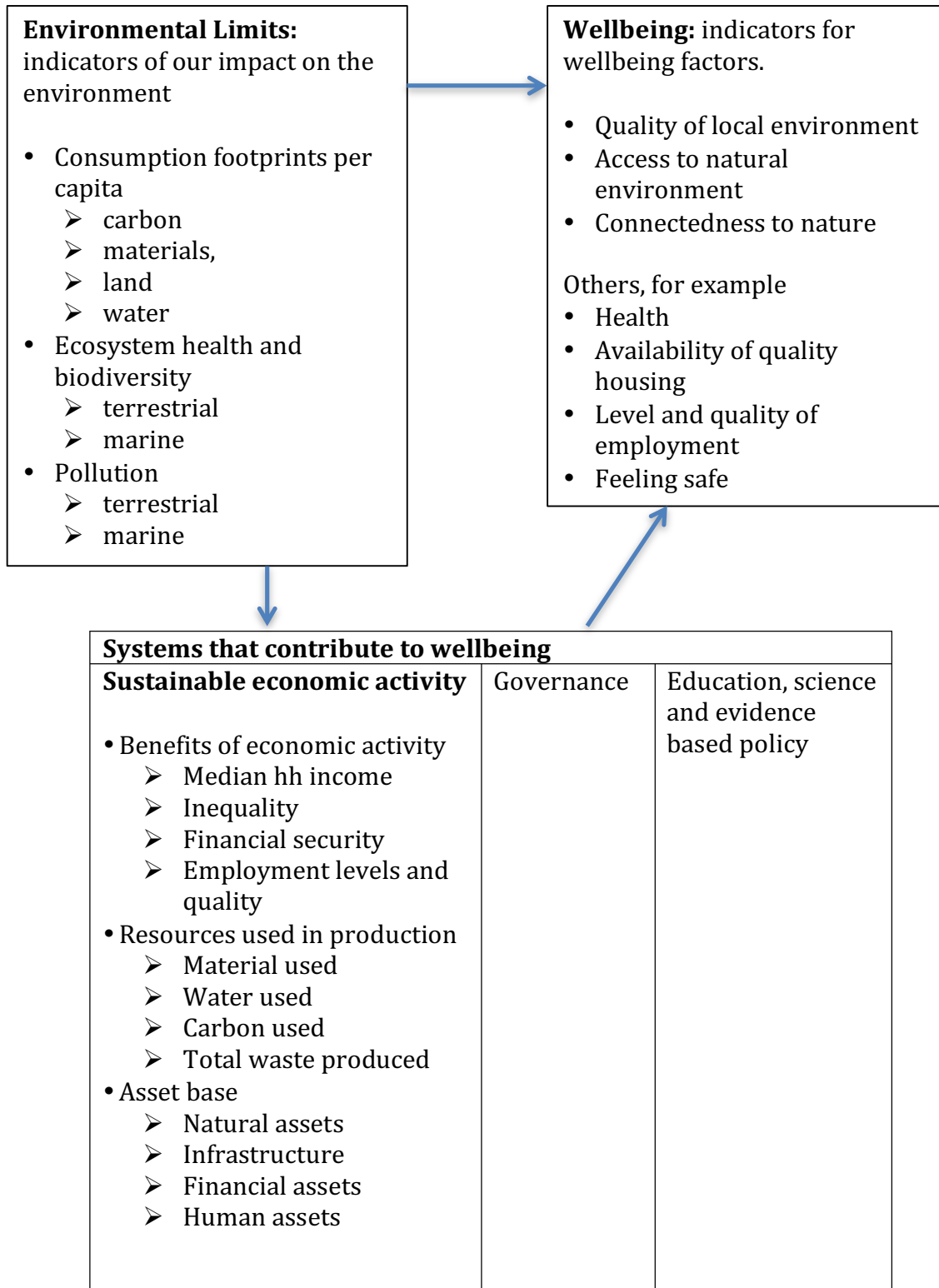
Indicators for economic activity need to gauge whether our production of goods and services is sustainable and provides enough for those in need. A sustainable economy should deliver sufficient employment and household income for households to meet wellbeing needs without over-exploiting the environment. As well as indicators on employment and household incomes, indicators for waste generated, and quantities of materials, land, water and carbon used in production (production oriented accounting of resources) are needed. Indicators for the status of our assets are also needed: the status of our natural assets, the status of infrastructure, levels of credit/indebtedness, and our human assets – knowledge and skills<sup>10</sup>.

The concept of the circular economy encourages reuse, remanufacture and repair, resulting in less waste overall and lower resource input to production. There is considerable interest in this model in Scotland and its adoption would help achieve a sustainable economy. However, care needs to be taken in assessing resource use - some argue for indicators on waste or resource use per unit of GVA – this gives a measure of resource intensity and decoupling, but not of overall use, so does not help us keep within limits. It is important to have indicators for absolute levels of resource use and waste produced.

As noted in Fig. 1, there are other systems important to sustaining wellbeing, such as good governance and the use of sound science. This paper does not address these areas.

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<sup>10</sup>The 'Inclusive Wealth Index' measures the social value of an economy's capital assets. Summary at <http://oneworld.org/2014/12/08/more-than-half-of-countries-consuming-beyond-their-means/>



**Figure 2: A summary of areas to be covered by 'sustainable development indicators'**



## 7 Indexes

The previous sections have discussed a suite or ‘dashboard’ of indicators which are considered individually, gauging progress, or otherwise, on individual specific important areas. There are times when it is useful to have a single figure to sum up progress and for communication purposes, although such a figure is not to be seen as a substitute for the disaggregated dashboard. One of the most widely used indexes has been the Index of Sustainable Economic Welfare. This has been developed and re-emerged as the Genuine Progress Indicator (GPI) which is being used by 20 states in the USA.

GPI starts with personal consumption expenditure, which is a major component of GDP, and adjusts it using 25 components.. These adjustments include incorporating the negative effects of income inequality on welfare; adding positive elements such as household work, volunteer work, and higher education; and subtracting environmental and social costs such as crime, unemployment, and pollution<sup>11</sup>. GPI is designed to measure sustainable economic welfare rather than economic activity alone. There are inherent methodological challenges in combining different entities and the substitutability implied. It must also be noted that such an index does not factor in consumption based impact indicators, so progress on environmental limits always need to be considered separately, in parallel.

## 8 Conclusion

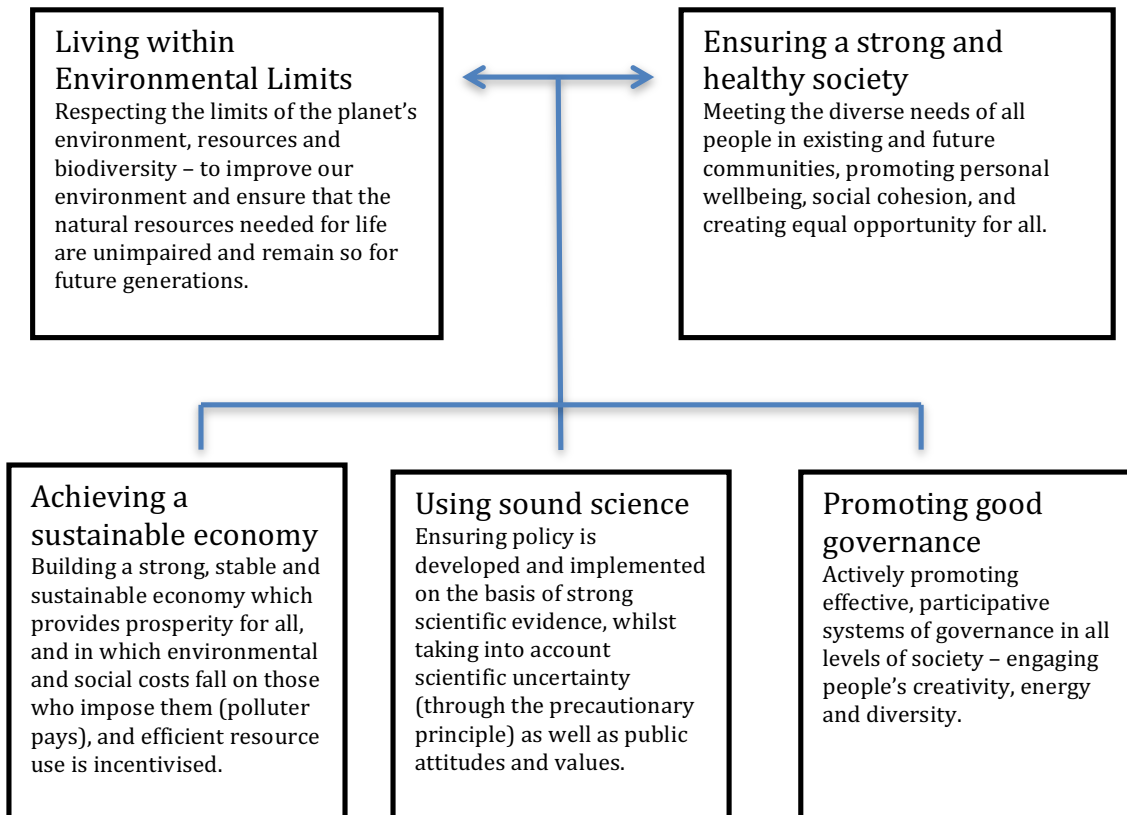
This paper has emphasised the usefulness of using the sustainable development principles and hierarchy to consider an indicator set for the NPF. It has highlighted the need to look beyond our Nation’s boundaries in assessing our environmental impact and that consumption orientated accounting of resources, through footprint indicators for materials, water and land, would complement the existing carbon footprint indicator. It is not yet possible to assess our global impact on biodiversity or ecosystem health, but this can be assessed at the Scotland level as can various components of pollution – together these indicators gauge our position regarding ‘environmental limits’. Wellbeing indicators include people’s local environment, access to the natural environment and connectedness to nature as well as other aspects of wellbeing such as housing and health. Production orientated accounting of resources, through indicators that assess the quantities of materials and water used and carbon emitted in our production activities are useful in gauging how sustainable our economic activities are. We also need to assess the direct benefits to households of our economy in terms of jobs and incomes; the waste generated by our economic activities and our asset base.

These proposed indicators are seen as a minimum suite of indicators to address the core areas of ‘sustainable development’. As noted, we have not attempted to cover all wellbeing indicators, although suggestions are included in Annex 2. Additionally, there will be other useful indicators that may have relevance to particular policies or outcomes.

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<sup>11</sup> <http://vtgpi.org/indicators/index.html>  
<http://genuineprogress.net/genuine-progress-indicator/>

## ANNEX 1 Sustainable Development Principles and Hierarchy







## ANNEX 2 Suggested Indicators and Measures for NPF

Indicators	Measures	Notes
<b>Environment</b>		
Reduce Scotland's material footprint	RMC - Raw Material Consumption <sup>12 13</sup>	These footprint indicators to be complimented by land footprint when data becomes available for Scotland
Reduce Scotland's water footprint	Water footprint <sup>14</sup>	
Reduce Scotland's carbon footprint	Annual greenhouse gas emissions from consumption	
Increase renewable electricity and heat production	% of renewable energy produced in Scotland, excluding large scale biomass <sup>15</sup>	Although reflected in the carbon footprint, this is a key policy indicator
Reduce or reverse the rate of biodiversity loss across land and sea	Farm, woodland and upland birds. Seabirds, water and wetland birds <sup>16</sup> .	
	Butterfly index	
	Plant diversity in key habitats <sup>17</sup>	
	Conservation status of Scottish species and habitats of European importance <sup>18</sup>	This is measured by ONS using data from JNCC. If data is not available for Scotland only an alternative would be the status of UK BAP priority species and habitats reported by SNH.
	Environmental status in Scotland's Marine Atlas <sup>19</sup>	
Improve ecosystem health	Status of regulating and maintenance elements of NCAI	
Reduce or reverse the	% designated terrestrial and	Although reflected

<sup>12</sup>[http://epp.eurostat.ec.europa.eu/portal/page/portal/environmental\\_accounts/documents/Project\\_Estimates\\_for\\_Raw\\_Material\\_Consumption\\_%28RMC%29\\_and.pdf](http://epp.eurostat.ec.europa.eu/portal/page/portal/environmental_accounts/documents/Project_Estimates_for_Raw_Material_Consumption_%28RMC%29_and.pdf)

<sup>13</sup><http://www.ons.gov.uk/ons/rel/wellbeing/sustainable-development-indicators/july-2014/sustainable-development-indicators.html#tab-Headline-Environment--Indicators-9-to-12->

<sup>14</sup> The Water Footprint Network support governments in implementing water footprint accounting <http://www.waterfootprint.org/?page=files/WFN-mission>

<sup>15</sup> Data from DECC

<sup>16</sup> The farm, woodland and upland birds are currently included as measures in the NPF. ONS also reports on seabirds and water and wetland birds which are also monitored by SNH

<sup>17</sup> UK Countryside survey

<sup>18</sup> Reported for UK by JNCC <http://jncc.defra.gov.uk/page-6566>

<sup>19</sup> <http://www.scotland.gov.uk/Publications/2011/03/16182005/0>



rate of biodiversity loss on designated sites	marine sites in favourable condition	in general biodiversity indicator, it is important to ensure that our best sites are performing well in enhancing biodiversity
Restore 15% of degraded ecosystems with a focus on ecological connectivity	Number of projects delivering large scale ecological restoration work across land and sea	Indicator specifically relates to Biodiversity Strategy, EU Biodiversity and Aichii targets.
Improve river water quality	Proportion of rivers with biological quality classed as good or high	This indicator relates to the Water Framework Directive
	Proportion of rivers that pass on chemical status	
Improve air quality	% of days when air quality is moderate or high <sup>20</sup>	
Reduce the build up of toxic chemicals	Levels of persistent organic pollutants in fish	
<b>Social wellbeing</b>		
Life satisfaction	Subjective wellbeing measures <sup>21</sup>	There are 4 subjective wellbeing measures. If aggregated they provide a useful summary indicator for wellbeing.
Increase healthy life expectancy	Healthy life expectancy	Most of the remaining social wellbeing indicators are taken from the previous LINK briefing and are based on input from Oxfam.
	Proportion of adults completing 30 minutes of at least moderate exercise 5 days a week.	
Good quality relationships with family and friends	Quality of relationships with friends and family <sup>22</sup>	
Increase access to affordable, decent and	Housing cost as a % of income <sup>23</sup>	

<sup>20</sup> Pollution days are defined using the Daily Air Quality Index banding system determined by the concentration of particular matter, nitrogen dioxide, sulphur dioxide and ozone. Data from DEFRA and AEA Energy and Environment, reported by ONS [http://www.ons.gov.uk/ons/dcp171766\\_368169.pdf](http://www.ons.gov.uk/ons/dcp171766_368169.pdf)

<sup>21</sup> Used by ONS and included in the Integrated Household Survey

<sup>22</sup> From Growing up in Society and Understanding Society surveys

<sup>23</sup> Data from Family Resource Survey



safe homes	Satisfaction with housing <sup>24</sup>	
	Increase the number of good quality new homes	
	Improve access to suitable housing options for those in need	
	Overcrowding <sup>25</sup>	
Increase the number of neighbourhoods with a clean, healthy environment and access to high quality green space	% who feel they live in a 'pleasant environment'	
	% who feel their area has a sense of community and friendly people	
	% who feel their neighbourhood has good amenities	
	% who live close to natural environment or wooded area	
	Availability of play areas <sup>26</sup>	
Increase people's connectedness to nature	% of school time spent outdoors	This indicator is a new suggestion.
	% of school time spent learning about the environment	
	% adults making outdoor visits <sup>27</sup>	
Increase the skills and education people need to live a good life	% of young people in learning, training or work	
	% of graduates in positive destinations	
Improve public services	Improve people's perceptions of the quality of public services	
	Improve the responsiveness of public services	
Increase engagement in cultural activities	% who participate in sports or culture <sup>28</sup>	
Human rights/voice	% who feel that Scotland should get rid of all prejudice <sup>29</sup>	
	% who feel that they can influence decisions in their	

<sup>24</sup> From Scottish Household Survey

<sup>25</sup> From Scottish Home Conditions Survey

<sup>26</sup> All five measures using data for Scottish Household Survey

<sup>27</sup> From Scottish Recreation Survey

<sup>28</sup> From Scottish Household Survey

<sup>29</sup> From Social Attitudes Survey



	local area <sup>30</sup>	
<b>Economic</b>		
Median household income to afford a decent standard of living	Median household income	
Income and wealth inequality	GINI coefficient	
	Palma ratio <sup>31</sup>	
	Wealth inequality measure	
Financial security	% with access to savings of £500/£1000	
	% in debt	
Solidarity	Overall income and % of income earned by three lowest income deciles	
	% of individuals living in poverty	
Work quality indicator	% satisfied with their job <sup>32</sup>	
	Underemployment	
	Job security/contract lengths/number in job after 6 months	
	Rates of pay	
Cohesion	Gap in participation between Scotland's best and worst performing regions	
Reduce the material input to economic activity	DMC – Domestic Material Consumption <sup>33</sup>	These five indicators gauge how circular the economy is.
Reduce the water input to economic activity	Direct abstractions from non-tidal surface water and ground water <sup>34</sup>	
Reduce the carbon input to economic activity	GHG emissions (production based)	
Reduce waste which is not recycled or composted	Tonnage of waste to landfill or incineration	There needs to be caution with this measure as it can lead to an incentive to re-use heavy waste.

<sup>30</sup> From Scottish Household Survey

<sup>31</sup> Ratio of the richest 10% of the population's share of gross national income divided by the poorest 40%'s share and addresses the Gini index's over-sensitivity to changes in the middle of the distribution

<sup>32</sup> From Social Attitudes Survey

<sup>33</sup> [http://www.un.org/esa/sustdev/natlinfo/indicators/methodology\\_sheets/consumption\\_production/domestic\\_material\\_consumption.pdf](http://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets/consumption_production/domestic_material_consumption.pdf)

<sup>34</sup> Reported by ONS in [http://www.ons.gov.uk/ons/dcp171766\\_368169.pdf](http://www.ons.gov.uk/ons/dcp171766_368169.pdf) Data from Environment Agency



Reduce total waste arising	Tonnage of waste	
Increase Scotland's natural assets	Natural Capital Asset Index <sup>35</sup>	
	Proportion of commercial fish and shellfish stocks at or below MSY	
Maintain appropriate levels and types of infrastructure	Total non-financial assets net worth	This is the measure used by ONS. Care needs to be taken that appropriate levels are the target
Maintain healthy levels of financial capital	Levels of national net debt	Note we support the use of borrowing powers to invest in social and environmental wellbeing
	Levels of total individual net debt	
Increase human assets	Levels of knowledge and skills	

<sup>35</sup>This index is useful but in need of refinement. Of particular concern is the inclusion of 'provisioning services' with no recognition that yields beyond sustainable levels are detrimental to other aspects of natural capital.