



Public Policy Institute for Wales  
Sefydliad Polisi Cyhoeddus i Gymru

# Measuring Progress on Well-being: The Development of National Indicators

August 2015

# Measuring Progress on Well-being: The Development of National Indicators

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## Summary

The Minister for Natural Resources has asked the PPIW to advise the Welsh Government on the development of National Indicators, to be put into consultation. These will be designed to measure progress towards the well-being goals set out in the Well-being of Future Generations (Wales) Act.

To date, based on desk research, interviews and a workshop with stakeholders (see Annexes 4 and 5) we have developed:

- A conceptual framework identifying the outcomes that the indicators will measure, based on the descriptions of the goals as set out in the Act;
- A draft narrative which can be used to explain to the public what the indicators are for and what they measure (the conceptual framework being too complex for communication purposes); and
- A set of proposals on how to measure the outcomes identified in the conceptual framework, in some but not all cases illustrated with specific indicator proposals based on initial advice from the Welsh Government Statistical Service.

Based on this work, we recommend the following:

- There should be no more than 5-6 headline indicators;
- These should be underpinned by up to a further 34-35 second tier, whole-Wales indicators, making a total of no more than 40 National Indicators; and
- There should be a separate accompanying set of comparison indicators which would measure differences in outcomes as measured by some of the 40 National Indicators for different parts of the population or areas of Wales.

Work is now needed to develop a complete set of National Indicators, in some cases with alternatives, to be submitted to formal consultation. This involves non-trivial choices about whether and how to measure some of the outcomes. We have identified and articulated the issues to be considered and have made recommendations about how you might consider making these choices, including whose input we think is needed.

We propose that the PPIW works with officials, special advisors and external stakeholders to support this process, and in particular preparing a briefing paper for Ministers designed to help them make decisions on what is put into the formal consultation, including the conceptual framework and narrative, and the National Indicators themselves, as well as on the scope and process of the consultation.

## Introduction

The Public Policy Institute for Wales (PPIW) was asked by the Minister for Natural Resources to provide advice and support to the Welsh Government on the development of 'National Indicators' that will measure the progress of Wales as a whole towards the goals set out in the Well-Being of Future Generations (Wales) Act. This work is separate from the National Conversation on 'The Wales We Want' (see [thewaleswewant.co.uk](http://thewaleswewant.co.uk) for more information on this), although the National Conversation has informed this work.

The overarching aim of the Act is to improve the well-being of current and future generations, by improving both policy making and service delivery across the public sector in Wales. In future these will have to be in accordance with the sustainable development principle, and the intention is that they will be more 'joined-up', more focussed on the long term, and better aligned with the priorities and concerns of the people of Wales.

The Welsh Ministers are obliged by the Act to publish "National Indicators" and lay these before the National Assembly for Wales. These will be designed to support the aims of the Act, and they must "be expressed as a value or characteristic that can be measured... against a particular outcome... in relation to Wales or any part of Wales".<sup>1</sup> (In addition Ministers are obliged to publish "milestones" including "the criteria for determining whether the milestone has been achieved (by reference to the value or characteristic by which the indicator is measured), and the time by which the milestone is to be achieved" – however this report is concerned with the indicators and not the milestones as such).

The Welsh Government has published Sustainable Development Indicators in various forms since 2001, with extensive revisions in 2007 and further revisions since. These indicators reflect the Welsh Government's statutory sustainable development scheme, however their use by public bodies is voluntary. Similarly, since 2012 the Office for National Statistics has been publishing a set of National Well-being measures for the UK as a whole, the use of which is voluntary. By contrast, the National Indicators will have a central, statutory role in policy development. Ministers and public bodies specified in the Act will be required to set well-being objectives designed to maximise their individual contribution to achieving the well-being goals, and to publish annual reports of the progress they have made towards meeting these objectives. The National Indicators, by specifying how progress towards achieving the goals is understood, are likely to inform the development of these well-being objectives, as well as any indicators used to measure performance against these objectives.

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<sup>1</sup> Well-being of Future Generations (Wales) Act

This role for the National Indicators will be reinforced by the requirement that they are published in an annual wellbeing report by the Welsh Government, to be laid before the National Assembly for Wales. In addition, the statutory Future Generations Commissioner for Wales will have to take this report – and thus the indicators - into account when preparing his or her ‘Future Generations Report (as specified in section 21 of the Act and not to be confused with the ‘Future Trends Report’) on how Ministers and other public bodies should better safeguard the interests of future generations and look to the long term.

Note that because the National Indicators will measure progress towards the goals for Wales as opposed to the objectives of particular organisations, they will *not* constitute performance targets and should not be interpreted as defining the immediate objectives of particular policies or programmes.<sup>2</sup> They will not in themselves provide direct evidence for the success or failure of those programmes – other indicator sets will do that. However, naturally it is important that there is congruence between the National Indicators and these other sets.

These are ambitious aims. International experience and research has shown how challenging it is to design indicators to work in the way intended. There is a real risk that the National Indicators become ‘just another indicator set’, contributing to the surfeit of frameworks that the Williams report<sup>3</sup> identified and criticised. However, this can be avoided if (a) they are well-designed, in other words measure the right things and measure them in the right way and (b) the process for using them is well-designed.

This report is about the selection and design of the indicators. It is *not* about the processes and governance needed if they are to be used effectively. It includes recommendations on:-

- A conceptual framework which identifies a set of outcomes that the indicators will measure, based on the descriptions of the goals as set out in the Act;
- A draft narrative which can be used to explain to the public what the indicators are for and what they measure (the conceptual framework being too complex for communication purposes); and

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<sup>2</sup> This distinction between national goals and organisational objectives is critically important if complexity and confusion is to be avoided. The Results Based Accountability™ (RBA) framework makes a distinction between well-being outcomes as the ‘ends’ which we collectively seek, and the ‘means’ which are in part the programmes and schemes that public, third sector and other partners may implement in that context. No single organisation can deliver a well-being outcome and RBA suggests that because of this it makes no sense to set targets for well-being outcomes. What is required however is collective ownership of clear goals and metrics, ambition for change and improvement, and a shared plan to make progress.

<sup>3</sup> The Williams report (‘Commission on Public Service Governance and Delivery’ January 2014) drew attention to the way proliferation of indicators damages rather than enhances performance.

- A set of proposals on how to measure the outcomes identified in the conceptual framework, in some but not all cases illustrated with specific indicator proposals based on initial advice from the Welsh Government Statistical Service.

In more detail, the latter takes the form of a mix of proposals for:

- Specific indicators for some specific outcomes, more or less tightly defined depending on how far the Statistical Service work has gone;
- Sets of alternative indicators for some outcomes, together with the factors to be considered when choosing between them;
- Some additional indicators, about half of which can be chosen for inclusion in the indicator set, together with the factors to be considered when choosing between them;
- Details still to be resolved in the selection and design of certain indicators, together with the factors to be considered when resolving these details; and
- Processes now needed for resolving these details and developing a complete set of proposals that can be submitted to the formal consultation (in outline).

In developing proposals for how to measure outcomes we have followed the principles set out at Annexes 2 and 3 and published by PPIW in February in a discussion paper<sup>4</sup>. Those at Annex 2 guide the selection of the precise outcome to be measured within the generally quite broad definitions used in the conceptual framework – an essential stepping stone between the conceptual framework and indicator selection. Those at Annex 3 guide the selection and design of specific indicators to measure these more precise outcomes. The principles include the desirability of international comparisons and therefore the need to take note of the current work in progress on the UN’s Sustainable Development Goals.

The report represents the completion of the first of what we envisage will be five stages:

- Preparation of initial recommendations by PPIW to the Welsh Government (this report);
- Discussions with internal and external experts on key issues not yet resolved and an initial set of proposals and where appropriate alternatives agreed by Ministers;
- Consultation with the public, the Future Generations Commissioner, other public bodies and “such other persons” as Ministers “consider appropriate” (as specified by the Act);
- Publication of the National Indicators taking into account the consultation; and
- Publication of the First Annual Well-being report, using the National Indicators.

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<sup>4</sup> Public Policy Institute for Wales (2015) Measuring progress towards the achievement of Wales’s well-being goals: A discussion paper

## The conceptual framework

The Office for National Statistics, which in its work for the Welsh Government on National Indicators recommended the development of a conceptual framework, defined its function (quoting Miles and Huberman) as *“Explain[ing] either graphically, or in narrative form, the main things to be studied – the key factors, concepts or variables - and the presumed relationship among them.”*<sup>5</sup>

Thus the framework consists of a set of outcomes which would indicate achievement of the goals and identifies possible causal relations between these outcomes. These outcomes are those we recommend measuring in the National Indicator set. We have identified these outcomes on the basis of the goal descriptions set out in the Act, but expressed as measurable outcomes. The resulting outcomes are set out in Table 1 alongside the relevant parts of the goal descriptions

In addition, in Table 2 we have set out a small number of additional outcomes which, while not explicitly referred to in the Act, we believe need to be measured in order to demonstrate achievement of all the well-being goals as described in the Act. On the basis of our interviews, we believe they are an essential part of the conceptual framework – and will help to measure effectively achievement of the goals – because they are needed to underpin and explain relationships between certain outcomes that are defined using the goal descriptions. We therefore recommend that these outcomes are amongst those considered for measurement by the National Indicators.

In the diagram following the two tables we set out the conceptual framework itself – outcomes in boxes and assumed causal relations between them represented by lines. Note that the individual outcomes fall into two broad groups, on the one hand outcomes capturing aspects of Wales as a nation (represented by green boxes) and on the other outcomes capturing aspects of the people of Wales as individuals (represented by pink boxes). Within this broad categorisation the outcomes fit naturally into a number of sub-groups, represented in the diagram with larger, more lightly shaded boxes.

We thus have two ways of grouping the outcomes – according to the goals they support (Table 1) and according to who or what they apply to (diagram). *There is no one to one correspondence between the two kinds of grouping: an outcome or sub-group of outcomes may contribute to more than one goal.* It follows that any top line summary can either be about the goals, or about what has to happen for whom and to what for the goals to be achieved. We return to this in the section on the narrative.

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<sup>5</sup> Miles, M and Huberman A. (1994) Qualitative Data Analysis SAGE Publications

We are proposing that the goal of “A more equal Wales” is dealt with in two ways. There are some measures that are explicitly about equality (‘few deprived households’, ‘everyone can fulfil their potential’); in addition we will propose that inequalities in several outcomes for different groups and geographical areas should be measured (more on this in the section on the National Indicators themselves)

There are no targets implied in these outcomes – so for example we do not define what a ‘decent’ income is. The concept of ‘decent’ is intentionally broad so that the Welsh Government can in due course set milestones in terms of the National Indicators.

The framework helps guide the selection of indicators but it is not intended as a public facing document – that is the role of the narrative described in the next section. The latter is based on the framework, but the framework itself remains the ‘hidden wiring’ of the indicator set.

**Table 1 Key aspects of the goal descriptions and the associated outcomes in the conceptual framework**

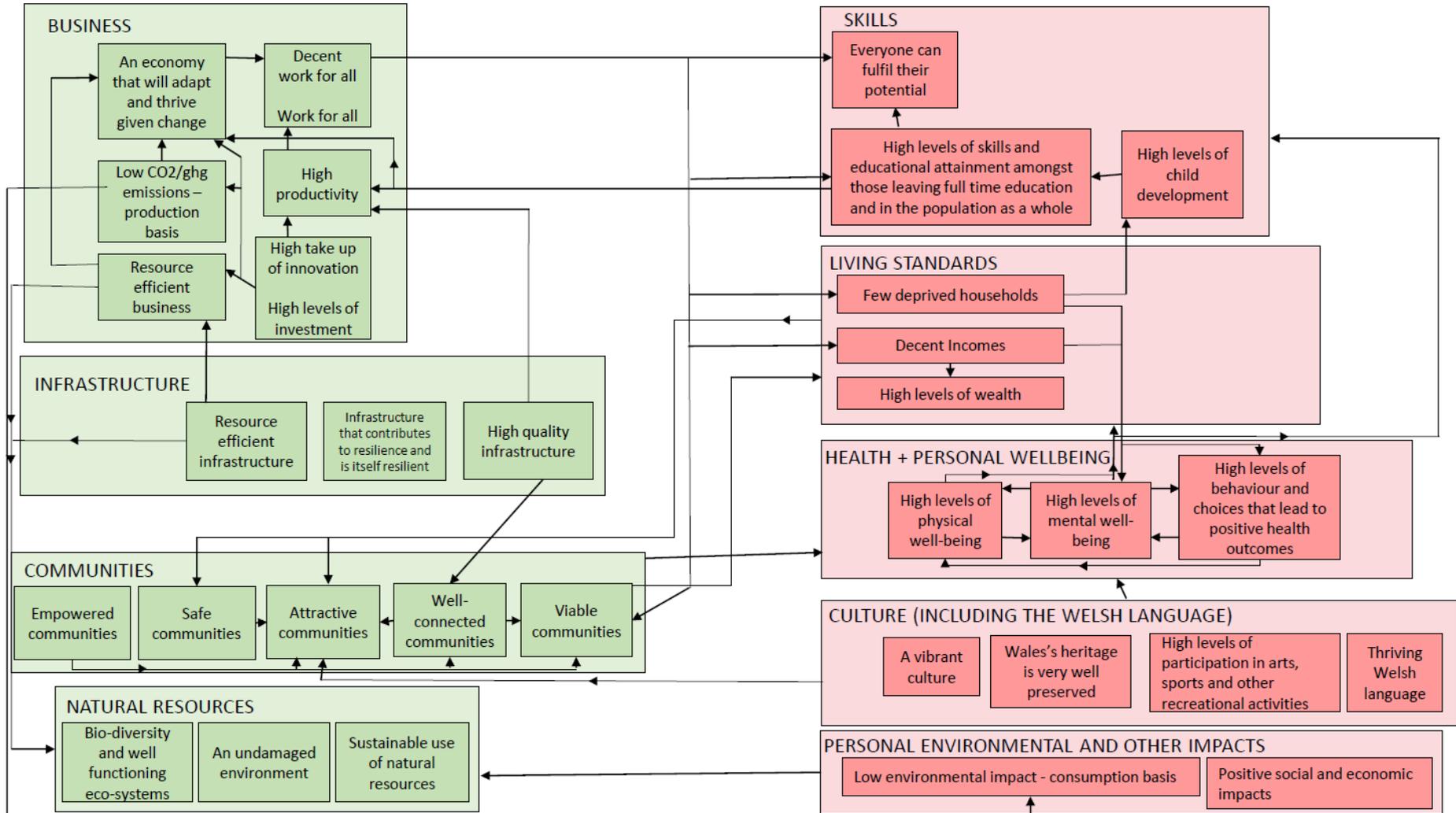
<b><u>A prosperous Wales</u></b>	
<p>An <b>innovative, productive and low carbon</b> society which recognises the limits of the global environment and therefore uses <b>resources efficiently and proportionately</b> (including acting on climate change); and which develops <b>a skilled and well-educated population</b> in an economy which generates <b>wealth</b></p>	<p>High take up of innovation</p> <p>High productivity</p> <p>Low CO2/greenhouse gas emissions measured on a production basis</p> <p>Resource efficient business</p> <p>Resource efficient infrastructure</p> <p>Low environmental damage measured on a consumption basis</p> <p>High levels of skills and educational attainment amongst those leaving full time education and/or in the population as a whole</p> <p>High levels of wealth</p>

<p>and provides <b>employment</b> opportunities, allowing people to take advantage of the wealth generated through securing <b>decent work</b>.</p>	<p>Work for all</p> <p>Decent work for all</p>
<p><b><u>A resilient Wales</u></b></p>	
<p>A nation which maintains and enhances a <b>biodiverse natural environment with healthy functioning ecosystems</b> that support social, economic and ecological <b>resilience</b> and the <b>capacity to adapt</b> to change (for example climate change).</p>	<p>Bio-diversity</p> <p>Well-functioning eco-systems</p> <p>Resilient infrastructure</p> <p>An economy that will adapt and thrive given change</p>
<p><b><u>A healthier Wales</u></b></p>	
<p>A society in which people's <b>physical and mental well-being</b> is maximised and in which <b>choices and behaviours</b> that benefit future health are understood.</p>	<p>High levels of physical well-being</p> <p>High levels of mental well-being</p> <p>High levels of behaviour and choices that lead to positive health outcomes</p>
<p><b><u>A more equal Wales</u></b></p>	
<p>A society that enables people to <b>fulfil their potential</b> no matter what their background</p>	<p>Everyone can fulfil their potential</p>

or circumstances (including their socio economic background and circumstances).	
<b><u>A Wales of cohesive communities</u></b>	
<b>Attractive, viable, safe and well-connected communities.</b>	<p>Attractive communities</p> <p>Viable communities</p> <p>Safe communities</p> <p>Well-connected communities</p>
<b><u>A Wales of vibrant culture and thriving Welsh language</u></b>	
A society that promotes and protects <b>culture, heritage</b> and the <b>Welsh language</b> , and which encourages people to <b>participate in the arts, sports and recreation.</b>	<p>A vibrant culture</p> <p>Wales's heritage is protected and promoted</p> <p>Thriving Welsh language</p> <p>High levels of participation in the arts, sports and other recreational activities</p>
<b><u>A globally responsible Wales</u></b>	
A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a <b>positive contribution to global well-being</b>	<p>Positive global social and economic impacts of decisions made in Wales</p>

**Table 2 Additional outcomes not specifically mentioned in the Act but needed to achieve the goals**

Decent income for all
Few deprived households
High levels of child development
High levels of investment
Empowered communities
High quality infrastructure
An undamaged environment
Sustainable use of other natural resources



## The narrative

If the National Indicators are to be effective they have to resonate with the public. However the public may not respond to numbers in isolation – they are much more likely to find them meaningful if the numbers are framed by a strong narrative that explains in simple, clear terms what the indicator set as a whole is measuring and why this matters.

This is not simply a matter of re-stating the goals. The goals form a relatively complex set of seven abstract ideas. The policy community that has been involved in the legislative process will be invested in the goals as articulated in the Act, but if the wider population in Wales is to engage with the goals and the associated indicators, there is a need for a narrative that expresses a much simpler more concrete idea.

We are therefore recommending that the narrative include a statement of *what is needed to achieve the goals*, as well as the goals themselves. The main focus should be on the people, businesses, communities – and the nation as a whole – who will achieve the goals.

The following represents our initial recommendation. It is not intended as a draft public statement – further work drafting will be needed even if the substance is agreed.

### **National Indicators narrative - summary**

The National Indicators measure the progress that the people of Wales are making towards creating a better society.

### **National Indicators narrative**

The National Indicators measure the progress that the people of Wales are making towards creating a better society. This will result in a Wales that is more prosperous, more resilient, healthier and more equal. It will have a vibrant culture and thriving Welsh language and be made up of cohesive communities. It will take its responsibilities in the world seriously.

The indicators measure this progress by measuring:-

- How well-equipped the people of Wales are as individuals to build this better society, now and in the future. This depends on: their living standards, skills, health and personal well-being<sup>6</sup>, culture (including the Welsh language), and personal environmental impact.

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<sup>6</sup> Well-being can be measured as an ultimate outcome – but personal well-being also creates positive feedback loops, better equipping people to create a high well-being society

- How well-equipped Wales is as a nation to support them in this task<sup>7</sup>. This depends on: its businesses, infrastructure, natural resources and communities.

The aim is that everyone, and every part of Wales, should be well equipped in these ways. Therefore the National Indicators measure inequalities as well as average levels.

The role of public bodies, including the Welsh Government, is to help equip both the people of Wales and Wales as a nation in these ways. The well-being objectives these public bodies publish will set out how they intend to do this and thus contribute to the well-being goals agreed by the Welsh Assembly. The National Indicators will help inform these objectives and thus facilitate inter-agency working.

### **Outcomes measured**

In Tables 3 and 4 on the next two pages we have set out the outcomes again, this time grouped not according to the goals as in Tables 1 and 2, but according to the groups used in the narrative, i.e. with a focus on what is needed to achieve the goals, the aspects of the nation and people of Wales that the outcomes apply to and that are intended to change. Outcomes set out in Table 2, i.e. those which are not explicitly referred to in the Act but which we recommend are measured because they are either implied or are important intermediate outcomes, are in italic. It will be seen that the grouping in Tables 3 and 4 is the one used in the conceptual framework – i.e. who or what the outcomes apply to. The diagram that follows is a simplified version of the conceptual framework, showing only the groups of outcomes referred to in the narrative.

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<sup>7</sup> Results Based Accountability, which emphasises the importance of distinguishing outcomes and the means of achieving these outcomes, and is widely adopted as an approach by the Welsh Government. In particular it emphasises population outcomes (as opposed to measures of environment etc.) in its introductory statements; however it does later allow for collective results as well.

**Table 3 The people of Wales**

<u>Living standards</u>	<i>Decent incomes</i>
	<i>Few deprived households</i>
	High levels of wealth
<u>Skills</u>	<i>High levels of child development</i>
	High levels of skills and educational attainment amongst those leaving full time education and/or in the population as a whole <sup>8</sup>
	Everyone can fulfil their potential <sup>9</sup>
<u>Health and personal well-being</u>	High levels of physical well-being
	High levels of mental well-being
	High levels of behaviour and choices that lead to positive health outcomes
<u>Culture (including the Welsh language)</u>	A vibrant culture
	Wales's heritage is protected and promoted
	High levels of participation in the arts, sports and other recreational activities <sup>10</sup>
	Thriving Welsh language
<u>Personal environmental impact</u>	Low environmental damage measured on a consumption basis

<sup>8</sup> We have combined two outcomes that appeared in an earlier draft for ease of exposition

<sup>9</sup> This should be taken to include through economic and non-economic activity

<sup>10</sup> Three outcomes set out in an earlier draft have been combined into one

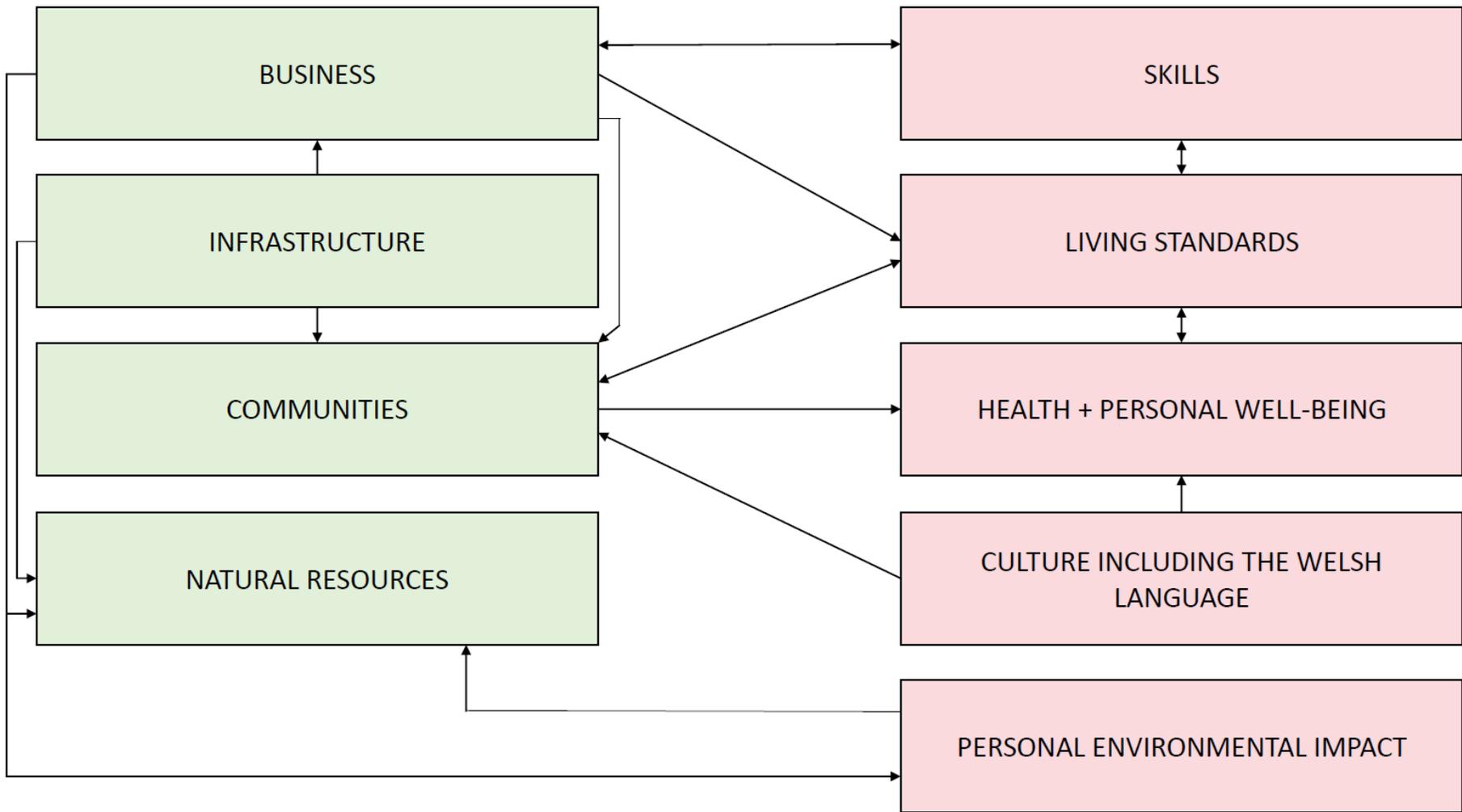
**Table 4 Wales as a nation**

<u>Business</u>	High take up of innovation
	High productivity
	<i>High levels of investment</i>
	Decent work for all
	Work for all
	An economy that will adapt and thrive given change
	Resource efficient business
	Low CO2/greenhouse gas emissions measured on a production basis
<u>Infrastructure</u>	Infrastructure that contributes to resilience and is itself resilient
	<i>High quality infrastructure</i>
	Resource efficient infrastructure
<u>Natural resources</u> <sup>11</sup>	Bio-diversity and
	Well-functioning eco-systems
	<i>An undamaged environment</i>
	<i>Sustainable use of other natural resources</i>
<u>Communities</u>	Attractive communities
	Safe communities
	Viable communities <sup>12</sup>
	Well-connected communities <sup>13</sup>
	<i>Empowered communities</i>

<sup>11</sup> The outcomes in this group are placeholders pending further discussions with expert parties

<sup>12</sup> By viable we mean communities where those living there of working age can find employment within a reasonable distance and where children can go to school within a reasonable distance. There are other possible definitions, but our view is that these are the central ones applicable to most communities

<sup>13</sup> By well-connected we mean with adequate transport and information technology infrastructure and services.



# The National Indicators: summary of recommendations, and issues for decision

## Introduction

This section summarises our recommendations.

First of all we set out our recommendation for the overall quantity of indicators.

Then we set out our outline recommendations on the processes now needed for developing a complete set of proposals that can be submitted to the formal consultation.

Then in Table 5 we set out

- For each outcome identified in the conceptual framework, either
  - A specific indicator, *or*
  - Two or more possible alternative indicators, *or*
  - A more precise specification of what should be measured than the outcome itself, but no actual indicator;
- Some additional indicators, some but not all of which can be included in the set; and
- Which of the processes we recommend for developing a complete set of proposals are appropriate for each group of outcomes.

In developing these recommendations we have started from the conceptual framework and narrative and have followed the principles set out at Annexes 2 and 3 and published in the discussion paper published by PPIW in February and referred to in the introduction<sup>14</sup>. Those at Annex 2 guide the selection of the precise outcome to be measured within the generally quite broad definitions used in the conceptual framework – an essential stepping stone between the conceptual framework and indicator selection. Those at Annex 3 guide the selection and design of specific indicators to measure these more precise outcomes.

In drawing up our recommendations we have adopted the following procedure:-

- We have made a recommendation between alternatives when
  - One option seems to us to fit the objectives of the Act as we understand them better than another *or*

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<sup>14</sup> Public Policy Institute for Wales (2015) Measuring progress towards the achievement of Wales's well-being goals: A discussion paper

- Another option seems to us to fit the objectives as well or almost as well as the other and either is clearly more feasible or clearly fits the principles set out in the annexes
- We have identified choices still to be made when none of the above conditions apply. In some cases these are choices between two or more indicators for an outcome, in other cases they are choices as to whether to include an additional indicator for that outcome.

At Annex 1 we give greater detail and the rationale behind our recommendations. We also set out the basis for choices between alternatives and about additional indicators, and a discussion of the other issues where further exploration is needed.

### **Overall quantity of indicators and structure of the indicator set**

We are recommending that there are two types of National Indicator:-

- 5 or 6 headline indicators
- 34-35 second tier indicators

In addition we recommend that there should be a separate accompanying set of 'Comparison Indicators' which would measure differences in outcomes as measured by *some* of the 40 National Indicators for different parts of the population or areas of Wales.

Whether these Comparison Indicators should be designated National Indicators for the purposes of the Act requires further discussion.

It is vital that the National Indicators mean something to the public – hence the need for the narrative. There is absolutely no chance of communicating a set of 40 indicators in a way that resonates with the public – or indeed a set of 30 indicators. The Office for National Statistics would agree that their 'wheel of wellbeing' with its 41 indicators has not achieved that much public traction largely because there are no headline indicators identified. What is more, there is some evidence that most people can only deal with around 5 pieces of information at a time.<sup>15</sup> Hence the need for a headline sub-set which will resonate with the public and work alongside the narrative. Clearly the choice of these headline indicators needs to reflect the way outcomes are grouped in the narrative. We have not made recommendations for these: further discussion is needed using the processes described in the next sub-section, with Ministers taking an initial view prior to the public consultation.

However of course the breadth of the goals and the resulting conceptual framework means that 5 or 6 indicators will clearly be too few for the set as a whole. Hence we are recommending a second tier. Again, though, experience of large indicator sets shows this is

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<sup>15</sup> See for example Cowan N (2010) 'The Magical Mystery Four: How is Working Memory Capacity Limited and Why?' *Current Directions in Psychological Science*, 19 (1): 51-57

a case where more is less – the indicators should reflect the conceptual framework and narrative, not drown it in detail. The role of the National Indicators is not to measure the detailed outcomes of particular programmes. On the other hand the goals and their descriptions do cover a very wide range of outcomes and the purpose of the second tier is not to achieve salience with the public (the role of headlines) but to provide a coherent framework for decision makers. Our judgement, based on the research we have done for this project, is that a total of 40 indicators is the right balance. This is reflected in our recommendations for specific indicators.

The well-being of present and future generations refers to the well-being of all parts of Wales and all the people of Wales. It is therefore important that figures about averages (means) do not obscure problems for particular areas or population groups (whether defined by age, disability, gender, race, sexual orientation and so on), in other words that inequalities are brought out. In some cases the indicator in the main set may capture inequality issues directly (for example an income ratio indicator will do this), but in other cases it will be important to capture the differences in outcomes for different groups and areas in other ways. The majority of indicators we have proposed can be disaggregated in this way (we have asterisked them in the table below). Not all of them will be worth disaggregating: the costs may be too great for the likely level of variation or interest. Further discussion about which indicators to disaggregate is therefore needed. In addition for some outcome areas distinctive indicators for some groups are needed – for example skills and children, or perhaps community and old people.

### **Processes for developing a complete set of proposals for consultation**

Depending on the nature of the choice to be made, we have recommended one of or a combination of six distinct processes for developing a complete set of proposals to be put into consultation:-

- Further investigation by the Statistics Service and Knowledge and Information division on likely availability of data or cost of creating it, for example on housing standards;
- Evidence review or analysis of statistical associations to determine which indicator best captures the outcome in question or has most predictive power, for example attainment at different ages;
- Expert interviews where we need a clearer understanding of technical issues and this can be achieved in this way, for example on the use of mental well-being scales;
- Workshops with officials and outside experts informed as appropriate by evidence reviews, where we need a clearer understanding of the outcomes to be measured and the issues are particularly complex or consensus needs to be achieved; we are

proposing four of these, on inequality and poverty, children, future business and the environment to address issues such as how best to measure bio-diversity;

- Informal public consultation (as distinct from the formal consultation process) to assess how meaningful different indicator options are to the public, for example alternative ways of presenting subjective well-being; and
- A judgement will need to be made by Ministers, informed by evidence reviews and/or the outputs of workshops, as to what to submit to consultation.

We have included which of these processes we recommend for which outcome in Table 5 below. The role of the processes in addressing specific issues is set out in more detail outcome by outcome at Annex 1 (in the sections headed ‘Discussion of choices and recommendations on how to make them’).

**Table 5 Recommendations on indicators and pre-consultation processes, outcome by outcome<sup>16</sup>**

<b>Outcomes</b> <i>Italic = outcome from Table 2</i>	<b>Recommended indicators (33)</b> <i>* = possible basis for comparison indicator</i>	<b>Possible additional indicators (21) – maximum of 7 to be chosen</b>	<b>Recommended process pre formal consultation</b>
<b><u>The people of Wales</u></b>			
<b>Living standards</b>			
<i>Decent incomes</i>	Median Household Income*		Assessment of data availability for housing
	An income ratio measure		Evidence review on housing
<i>Few deprived households</i>	Proportion in relative poverty* <u>or</u> proportion in persistent poverty <u>or</u> proportion suffering compound measure of deprivation	A child specific indicator*	Workshop on inequality and poverty
	A housing indicator*		Workshop on children Judgement by Ministers on

<sup>16</sup> See Annex 1 for greater detail, the rationale for the recommendations, and a discussion of the issues to be taken into account when making decisions about indicators.

<b>Outcomes</b> <i>Italic = outcome from Table 2</i>	<b>Recommended indicators (33)</b> <i>* = possible basis for comparison indicator</i>	<b>Possible additional indicators (21) – maximum of 7 to be chosen</b>	<b>Recommended process pre formal consultation</b>
High levels of wealth	-	An indicator of wealth distribution	additional indicator priorities for submission to consultation
<b>Skills</b>			
<i>High levels of child development</i>	Development and wellbeing (not attainment) at age 5*		Evidence review of employment and well-being impacts Evidence review of child development
High levels of skills and educational attainment amongst those leaving full time education and/or in the population as a whole	Quality of attainment at 16 <i>or</i> 19 <i>or</i> working age population with qualifications at NVQ3 or equivalent or above*	Work readiness of those recruited direct from education*	Workshop on children
Everyone can fulfil their potential	Differences in a range of outcomes between children in households in top and bottom of income decile or quintile		
<b>Health and personal well-being</b>			
High levels of physical well-being	Healthy life expectancy at birth		Assessment of data availability on life expectancy
	Inequalities in healthy life expectancy at birth		Evidence reviews on obesity and projected future smoking levels
	Percentage of children who are obese*		

<b>Outcomes</b> <i>Italic = outcome from Table 2</i>	<b>Recommended indicators (33)</b> <i>* = possible basis for comparison indicator</i>	<b>Possible additional indicators (21) – maximum of 7 to be chosen</b>	<b>Recommended process pre formal consultation</b>
High levels of mental well-being	Percentage of adults above (or below) a newly defined subjective well-being threshold*		Expert interviews on mental well-being  Informal consultation on saliency of life expectancy and mental well-being indicators  Judgement by Ministers on an exercise indicator to be submitted to consultation
		Percentage of children above (or below) a threshold on a subjective well-being scale tailored for children*	
High levels of behaviour and choices that lead to positive health outcomes	Percentage of adults who smoke*	Percentage of adults doing 150 minutes of exercise a week*	
<b>Culture (including the Welsh language)</b>			
A vibrant culture	Percentage of Welsh economic activity that is in culture, media, arts, sports or creative industries <u>or</u> percentage of adults who attend above a specified number of cultural, arts or sports events each year which they find very enjoyable*	Percentage of children who attend above an agreed number of cultural, arts or sports events each year which they find very enjoyable*	Evidence review of well-being impacts and drivers of future use of Welsh  Workshop on children  Judgement by Ministers on which indicators of vibrancy, Welsh language use (informed by the Welsh Language Commissioner) to submit to consultation and whether to include
Wales's heritage is protected and promoted		An indicator based on cultural heritage as experienced by people	

<b>Outcomes</b> <i>Italic = outcome from Table 2</i>	<b>Recommended indicators (33)</b> <i>* = possible basis for comparison indicator</i>	<b>Possible additional indicators (21) – maximum of 7 to be chosen</b>	<b>Recommended process pre formal consultation</b>
High levels of participation in the arts, sports and other recreational activities	Percentage of adults who take part in active hobbies (arts, non-vocational education, sports, DIY, volunteering etc.) regularly*	Percentage of children and young people who take part in arts activities or sports regularly <i>or</i> just arts activities <i>or</i> just sports activities*.	children's indicators in this section, informed by the Workshop on Children
Thriving Welsh language	Percentage of people able to speak, read and write in Welsh <i>or</i> percentage of people who speak Welsh daily*	Percentage of 5 year olds able to speak Welsh fluently at home <i>or</i> percentage of 15 year olds entered for a GCSE Welsh first language *	
<b>Personal environmental impact</b>			
Low environmental damage measured on a consumption basis	CO2/greenhouse gas emissions per head measured on a consumption (footprint) basis	Other environmental impacts measured on a consumption (footprint) basis.	Workshop on environmental indicators  Judgement by Ministers on additional indicator to be submitted to consultation
<b><u>Wales as a nation</u></b>			
<b>Business</b>			
High take up of innovation	For review		Assessment of data availability on progression
High productivity	GDP or GVA per hour worked*		Evidence review on long term
<i>High levels of investment</i>	-	Net investment as a percentage of GDP/GVA	unemployment and innovation indicators

<b>Outcomes</b> <i>Italic = outcome from Table 2</i>	<b>Recommended indicators (33)</b> <i>* = possible basis for comparison indicator</i>	<b>Possible additional indicators (21) – maximum of 7 to be chosen</b>	<b>Recommended process pre formal consultation</b>
Decent work for all	Percentage of workforce employed in decent work, defined as at or above living wage, in a healthy work place (decent conditions) with threshold level of job satisfaction (extrapolated from survey data)*	Proportion of workforce covered by collective bargaining agreements	Expert interviews on innovation interviews Workshop on future business Workshop on inequality and poverty Workshop on environmental indicators
	Levels of job progression <u>or</u> percentage of workforce where their work actually requires their qualification level		Informal consultation on decent work indicator Judgement by Ministers on resource efficiency indicator and additional indicators to be submitted to consultation
Work for all	Youth unemployment rate <u>or</u> proportion of age group who are NEET*	Overall level of employment <u>or</u> Long term unemployment*	
An economy that will adapt and thrive given change	-	Proportion of employment that is in target sectors/activities	

<b>Outcomes</b> <i>Italic = outcome from Table 2</i>	<b>Recommended indicators (33)</b> <i>* = possible basis for comparison indicator</i>	<b>Possible additional indicators (21) – maximum of 7 to be chosen</b>	<b>Recommended process pre formal consultation</b>
Resource efficient business	Consumption of specified scarce and environmentally damaging resources divided by GVA either for all business <u>or</u> for manufacturing and other resource intensive sectors <u>or</u> for all sectors but against sectorally weighted benchmark.		
Low CO2/greenhouse gas emissions measured on a production basis	Greenhouse gas emissions divided by GVA either for all business <u>or</u> for manufacturing and other carbon intensive sectors <u>or</u> for all sectors but against sectorally weighted benchmark		
<b>Infrastructure</b>			
Infrastructure that contributes to resilience and is itself resilient	An indicator of flood risk	Additional indicators for review	Assessment of data availability  Workshop on environmental indicators
<i>High quality infrastructure</i>	Congestion levels <i>or</i> an alternative indicator for review		

<b>Outcomes</b> <i>Italic = outcome from Table 2</i>	<b>Recommended indicators (33)</b> <i>* = possible basis for comparison indicator</i>	<b>Possible additional indicators (21) – maximum of 7 to be chosen</b>	<b>Recommended process pre formal consultation</b>
Resource efficient infrastructure	Proportion of homes that are energy efficient to agreed standard* <u>or</u> proportion of all buildings energy efficient to agreed standard*.		
<b>Natural resources</b>			
Bio-diversity and well-functioning ecosystems	An indicator of bio-diversity weighted towards ecologically important and culturally important species		Workshop on environmental indicators  Ministerial decisions on which additional indicators to submit for consultation
<i>An undamaged environment</i>	-	A composite indicator of environmental damage <u>or</u> a simple indicator of a high salience and serious problem which can be dealt with over time	
<i>Sustainable use of other natural resources</i>	-	An indicator of Wales's natural resource depletion if there is an important aspect of this not captured by the other two indicators	

<b>Communities</b>			
Attractive communities	Levels of participation in the community <u>or</u> subjective sense of belonging <u>or</u> subjective levels of trust of neighbours*	An indicator of attractive communities designed to capture the experience of old people	Evidence review of well-being impacts and levels of anti-social behaviour and pollution  Judgement by ministers on choice of indicators for attractive communities and additional indicators
	Levels of satisfaction with the physical aspects of the neighbourhood*	Percentage of the population suffering from noise or air pollution*	
Safe communities	Police recorded crime rate per 1,000 of the population <u>or</u> crime rate based on British Crime Survey*	Levels of anti-social behaviour*	
Viable communities	An indicator comparing communities based on the main decent work indicator <u>or</u> if feasible an indicator based on population declines		
Well-connected communities	Quality of public transport connections measured subjectively*		
<i>Empowered communities</i>	The extent to which residents feel they have a say in local decisions based on survey data*	An indicator of trust in government	

## Next steps

There is now a need to:-

### Before the formal consultation

1. Ensure that the recommendations to date are acceptable to Ministers and that any apparent inconsistencies with existing outcome frameworks are addressed;
2. Create a more precisely defined structure and process for resolving the various issues identified during the work to date, including the choice of headline and comparison indicators (and any additional issues that stakeholders identify); this will include steps both before and during the formal consultation;
3. Manage the recommended process in the period up to the formal consultation;
4. Conduct certain evidence reviews where the Welsh Government is unable to do so itself; and
5. Ensure that Ministers are fully briefed on the results of this, and are thus equipped to make necessary decisions ahead of the consultation, both on the substance of the National Indicator set and on the scope and process of the formal consultation

### During and shortly after the formal consultation

6. Plan the development of milestones and consider the implications of these for the indicators themselves; and
7. Draw together the various inputs, including from the formal consultation, in an impartial way and prepare a further briefing for Ministers.

Once these steps have been taken the National Indicator set can be published and work start on developing milestones and on creating the baseline report.

# Annexes

## 1. The National Indicators: detailed recommendations

	<u>Recommendations on indicators/what to measure</u>	<u>Choices to be made</u>
<b><i>The people of Wales</i></b>		
<b><u>Living standards</u></b>		
<b>Decent incomes</b>	Median Household Income, before or after housing costs	Whether to base on income before or after housing costs
	An income ratio measure	Which ratio
<b><u>Basis for recommendations</u></b>		
<p>The goal is decent incomes for all (a more prosperous Wales, a more equal Wales) and therefore the distribution as well as the average (mean) level must be taken into account. Professor Tony Atkinson has recommended against relying on a combination of average (mean) and inequality indicators since the mean number tends to get all the attention. Therefore we recommend using a measure of <i>median</i> household income which represents the typical household and filters out increases confined to the top (or bottom) of the income distribution. This is an increasingly accepted choice elsewhere. The alternatives are various indicators of mean income (e.g. GDP per capita, GDHI per capita), which we advise against for the reason just given, and indicators of earnings (such as median hourly wages), which we advise against since they do not cover those who are not working.</p> <p>Median income does not capture all the distributional effects and so should be accompanied by a direct measure of equality. We recommend using an income ratio (for example how much the top 10% receive as a multiple of the amount the bottom 40%) since this is relatively easy to understand as compared with the Gini coefficient (a standard metric of inequality).</p> <p>Inequalities between areas and population groups need to be captured, but should be captured in a supplementary comparison indicator set.</p>		
<b><u>Discussion of choices and recommendation on how to make them</u></b>		
<p>Income after housing costs will be appropriate if housing inflation is significantly different from general inflation. However if this reduces comprehensibility of this indicator the 'raw' figure should be use. This requires review of existing evidence on house prices and if appropriate testing in the public consultation.</p> <p>The choice of ratio depends in part on the nature of inequality in Wales as it is now or likely to be in the future, national priorities as identified by Ministers and what is being used or likely to be used elsewhere. We recommend a short workshop during the consultation for those studying inequality and poverty in Wales (in and out of government) and statisticians which would make recommendations to Ministers.</p>		

<b>Few deprived households</b>	Proportion of households in relative poverty (less than 60% - or other percentage - of UK median income, after housing costs) <u>or</u> proportion suffering material deprivation (to be defined), in either case either in any year or three years out of four.	Choice of whether to use standard relative poverty measure or deprivation and if the former what % of median income to set. Also choice of whether to measure in a single year or three years out of four (persistent poverty)
	<u>Possibly</u> a child specific indicator	Choice of whether to include, and if so whether to use relative poverty, material deprivation or both
	A housing indicator	Choice between the proportion of homes meeting the Welsh Housing Quality standard, a measure of homelessness (e.g. number of homeless households with children), and a measure of housing satisfaction.

Basis for recommendations

Relative poverty is thought by many to be more appropriate than absolute poverty when incomes are rising, although not when they are falling as recently (when relative poverty can fall even as absolute poverty rises). The recommendation depends on the assumption that over the long term incomes will rise. The percentage of median income to use depends on where the problem is seen to lie. After housing costs (AHC) is widely preferred both because housing inflation may be higher (or lower) than inflation generally and to cut out the impact of housing benefit. There is however a case for using an absolute measure based on a compound measure of material deprivation, even though this is more difficult to communicate.

Eliminating child poverty is widely seen as a priority. This is a 'possibly' because it depends what child specific indicators are adopted elsewhere in the set.

Poor quality housing is an important ingredient of deprivation (and has a major impact on health) and is not captured in the broader relative poverty measure, especially if AHC is used. It also a topic which resonates with the public.

We considered various other possibilities which we are not recommending. Workless households do not capture in-work poverty. Fuel poverty is important, but we felt it would struggle to be prioritised in a 35 indicator set. Benefit dependency is too susceptible to change because of changes to the benefits regime.

Discussion of choices and recommendation on how to make them

There are a number of issues here:-

1. Should relative poverty be used based on a percentage of median income?
2. If so what percentage is most appropriate?
3. Alternatively should a compound measure of material deprivation be used, capturing some absolute elements of poverty and the ability to participate in society?
4. In either case should persistent poverty be prioritised over poverty per se?

These questions should be discussed in the round with those studying poverty and inequality and we recommend they are on the workshop on inequality and poverty proposed above.

Whether to include a children-specific indicator will depend on the relative priority of this as against other children-specific indicators, and the overall balance of the list. We recommend a short workshop during the consultation for those studying the position of children in Wales (in and out of government) and statisticians which would make recommendations to Ministers.

The choice of housing indicator will be primarily driven by data availability and the cost of extending it. The ideal would be the proportion of homes meeting the Welsh Housing Quality Standard - data currently only exists for social homes, but could in principle be extended to all rented homes or all homes. Alternatives would be satisfaction with rented accommodation or homelessness, which is potentially a proxy for deprivation more generally (although as a rule proxies of this type should be avoided).

<b>High levels of wealth</b>	<u>Possibly</u> an indicator of wealth distribution based on the Wealth and Assets Survey	
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Basis for recommendations

Wealth offers benefits from income – in particular security. It could also be a useful additional indicator of the chances everyone has of reaching their potential. Our view is that what is important and distinct from the income benefits is best captured in distributional numbers rather than in mean or median figures, particularly given that a large proportion of the population has no wealth at all.

Discussion of choices and recommendation on how to make them

If wealth distribution follows the income distribution very closely it may be redundant. This should be researched and the value of including a measure of wealth should be discussed at the workshop on inequality and poverty that we are proposing.

**Skills**

<b>High levels of child development</b>	Development and wellbeing (not attainment) at age 5, possibly based on the new baseline assessment at reception/year 1 if these are sufficiently broadly based	Whether or not to use the new baseline assessment currently being piloted.
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Basis for recommendations

We are not recommending measuring skills or attainment at age 5 but all round development, including health and wellbeing. Such a measure is potentially a good leading indicator and it is widely agreed that early years are crucial to long term outcomes. An

alternative would be a similar measure of development at age 11 but we have not heard a strong case for this.

Discussion of choices and recommendation on how to make them

If the baseline assessment of children in reception/year 1 currently being piloted provides a good basis for a leading indicator of later attainment and more broad well-being outcomes it can be used. This should be added to the agenda for the workshop on children’s outcomes recommended above.

**High levels of skills and educational attainment amongst those leaving full time education or in the population as a whole<sup>17</sup>**

Quality of attainment at 16, based on L2/Welsh Bac attainment or quality of attainment at 19 based on one of several measures in development, including one based on advanced Welsh Bac or working age population with qualifications at NVQ3 or equivalent or above

Which of these to include  
If attainment at age 19 is included, which measure of attainment to adopt

Possibly work readiness of those recruited direct from education based on UKCES survey

Whether to include this

Basis for recommendations

Quality of attainment at 16 and 19 are more direct measures of this outcome. However the proportion of working age population at NVQ3 (or equivalent) and above is a broader measure and it is unlikely there will be room for both indicators.

Work readiness may be a useful complement to qualification based indicators – the two concepts are not the same.

We considered various other possibilities which we are not recommending as priorities, either because they may suggest the skills of most people are not important (proportion of graduates relative to an age group or the population as a whole) or because they struck us as unlikely to be *long term* aspirational (e.g. proportion achieving NVQ2 or equivalent, standards of basic literacy and numeracy). These remain important objectives for the Welsh Government in the medium to short term of course.

Discussion of choices and recommendation on how to make them

In principle qualifications in the population as a whole is a more important and broader measure than attainment at 16 or 19 and captures the impact of adult education and training. However there may be measurement issues – that is it is not clear which of the alternatives identified best predicts employment and wellbeing outcomes and an analysis of existing evidence is needed to identify this. It may be that a richer measure of population level skills can be developed and this could be discussed at the workshop on future business we are proposing.

Work readiness may be a useful complement if there is a low association between it and formal qualifications and could even be a replacement if it is a better predictor of

<sup>17</sup> We have combined what were two outcomes in an earlier draft for ease of exposition

employment and wellbeing outcomes – again a review of the evidence and potentially some analysis of statistical associations is required.

<b>Everyone can fulfil their potential</b>	Differences in a range of outcomes between children in households in top and bottom of income decile or quintile, either at age 5 or at KS4.	Whether at age 5 or KS4 Whether to use quintiles or deciles Which outcomes
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Basis for recommendations

If everyone can fulfil their potential then differences in outcomes will not be significantly influenced by the incomes of parents. Clearly, achieving this is a long term aspirational goal because at the moment household income is an important driver of differences in children’s life chances.

We considered using differences in outcomes between children in need (or children needing help from social services) and others but took the view this is too narrow a measure relevant to too small a proportion of children in Wales to fit the objectives of the Act. We also considered using the number of NEETs but this is not an outcome measure and is also somewhat narrow.

We recommend that indicators based on differences between areas and between different groups (ethnic, gender etc.) are also developed in parallel as part of the set of comparison indicators (i.e. not part of the main set).

Note that several other indicators will measure progress towards this as well.

Discussion of choices and recommendation on how to make them

The choice of age group (5 or KS4) depends on where intervention needs targeting (early years or later), while the choice of which income groups (quintile, decile etc.) to compare depends on the extent to which there are significant variations in life chances as you take larger and larger groups (the difference will be less sharp the larger the group you take) and what messages are salient with the public. We recommend these questions are analysed and added to the agenda for the workshop on children recommended above, and in addition alternative indicators are tested with the public during the consultation.

**Health and personal well-being**

<b>High levels of physical well-being</b>	Healthy life expectancy at birth	
	Inequalities in healthy life expectancy at birth	
	Percentage of children who are obese at reception <u>or</u> year 6 <u>or</u> all ages (2-15)	Which of these to adopt

Basis for recommendations

Healthy life expectancy at birth is a standard measures capturing a wide range of health outcomes and has obvious resonance. Inequalities in this outcome are particularly striking and we recommend are included as one of the main indicators rather than simply as a comparison indicator.

Childhood obesity is regarded by the World Health Organisation as one of the most serious global public health challenges for the 21<sup>st</sup> century. It is a good predictor of adult obesity and of a range of ill-health conditions. 19% of children in Wales aged 2-15 are obese and a further 15% overweight (worse than in England or Scotland) although the trend is slightly positive. It is also strongly associated with deprivation – with roughly double the levels in the 10% most deprived areas as compared with the 10% least deprived areas.

We considered various other possibilities which we are not recommending as priorities: premature death (but definition of premature may seem arbitrary), self-reported health (very strongly associated with subjective well-being, not obvious why preferable to objective measures), low birth weight rate (quite a narrow measure, and overall percentage has not moved very much recently).

#### Discussion of choices and recommendation on how to make them

The choice of age at which to measure childhood obesity should depend on the relative importance to long term obesity of behaviours at different ages. We recommend this is analysed.

<b>High levels of mental well-being</b>	Percentage of adults above (or below) a newly defined threshold on the WEMWBS scale <sup>18</sup> or based on a composite of the subjective well-being questions asked in the Annual Population Survey	What threshold to use  Whether to present the results as those above or below the threshold  Whether to use WEMWBS or the APS questions
	<u>Possibly</u> percentage of children above (or below) a threshold on a subjective well-being scale tailored for children, for example that developed by New Philanthropy Capital	What scale to use  What threshold to use  Whether to present the results as those above or below the threshold

#### Basis for recommendations

Using a threshold below which people are deemed to suffer low levels of wellbeing makes the indicator more meaningful than a simple average, is probably more relevant to public policy, and there is some evidence that indicators based on thresholds move more than indicators based on averages given the same underlying data.

The WEMWBS scale, now used by the ONS in its national wellbeing framework, is a good way of capturing different aspects of mental wellbeing. However the ONS questions in the APS represent an alternative.

<sup>18</sup> Commissioned by NHS Scotland from Warwick and Edinburgh universities. See <http://www.healthscotland.com/scotlands-health/population/Measuring-positive-mental-health.aspx>

The wellbeing of children is important in its own right and because it is a driver of future well-being. It is marked as a possible because this needs to be considered alongside other child-specific indicators and priorities.

We considered various other possibilities which we are not recommending: using a composite of the questions asked in the ONS Annual Population Survey (but this would not measure a single construct in the way that WEMWBS does), using means (which we rejected for the reasons already given), and measuring mental ill-health (which may go up because there are more diagnoses).

Discussion of choices and recommendation on how to make them

The decision about what thresholds to use should be based on the distribution of results and the views of expert users of WEMWBS, the APS (or appropriate scale for children) and we recommend these are collated during the consultation. Data availability may also be an issue.

The choice between WEMWBS and the APS questions should be based on expert interviews.

Relevant experts should also be consulted about suitable scales for children, and if there is no consensus the issues should be discussed at the recommended workshop on children's issues. The New Philanthropy Capital scale could be used. This and the decision as to whether to prioritise this indicator can be discussed at the workshop on Children that we are recommending.

The question about whether to present the percentage above or below the threshold depends on impact on the public and can be tested during the public consultation.

<b>High levels of behaviour and choices that lead to positive health outcomes</b>	Percentage of adults who smoke	
	<u>Possibly</u> percentage of adults doing 150 minutes of exercise a week	Whether to include this

Basis for recommendations

These are the two of the most important behavioural drivers of health. Smoking, like childhood obesity, is twice as prevalent in the most deprived areas as in the least deprived areas. Exercise is marked possibly because of possibly competing priorities in the set as a whole.

We considered various other possibilities which we are not recommending: levels of active transport (too narrow, and too marginal to transport policy in the foreseeable future), use of outdoor space for physical exercise (too narrow), fruit and vegetable consumption (too narrow), excessive alcohol consumption (link between a snapshot of alcohol consumption and harm is weak, and the problem may be declining), air pollution related illness (air pollution can be covered elsewhere), work related illness (physical as opposed to mental health issues likely to be a declining problem and measures of decent employment may cover this), childhood immunisation coverage (not an outcome measure, essentially a public service performance measure).

Discussion of choices and recommendation on how to make them

Whether to include exercise depends on competing priorities in the set as a whole. The impacts of exercise requires further discussion with public health experts; this can inform a decision on priorities by Ministers.

**Culture, including the Welsh language**

<p><b>A vibrant culture</b> <i>(This section has not yet been discussed with the Statistical Service)</i></p>	<p>Percentage of Welsh economic activity that is in culture, media, arts, sports or creative industries <u>or</u> percentage of adults who attend above a specified number of cultural, arts or sports events each year which they find very enjoyable (or similar)</p>	<p>Which of these to include If the population measure is included, what the number of events to be used is Whether to include sports events</p>
	<p><u>Possibly</u> percentage of children who attend above an agreed number of cultural, arts or sports events each year which they find very enjoyable (or similar)</p>	<p>Whether to include this If it is included what the number of events to be used is Whether to include sports events</p>

**Basis for recommendations**

The measure of economic activity in this sector is a measure both of cultural vibrancy and of economic sustainability, since this is a sector that is likely to survive and thrive in any transition to a low carbon, sustainable economy. The measure of attendance captures both quantity and quality of cultural experience. Inequalities in this measure based on income quintiles, areas or groups would be a useful part of the comparison indicator set (whereas the economic indicator could not be used in this way).

Children’s experience may be particularly important to the extent that it sets patterns for life. It is marked as a ‘possibly’ because of the need to prioritise between different children-specific indicators.

**Discussion of choices and recommendation on how to make them**

The decision between the economic and the experiential indicator is ultimately a value judgement and political: which aspect of vibrancy is more important? This is not specified in the Act and is therefore a decision for Ministers.

Sports events may be regarded as part of a vibrant culture and so we recommend they are included, but this should be confirmed by Ministers.

Whether to include a children-specific indicator depends on the relative importance of different children-specific indicators, and how much room there is overall. The first question should be discussed at the workshop on children’s issues we are proposing. The second will be a decision for Ministers at a later stage once it is clear what the trade-offs are across the set as a whole.

<p><b>Wales's heritage is protected and promoted</b></p> <p><i>(This section has not yet been discussed with the Statistical Service)</i></p>	<p><u>Possibly</u> an indicator based on cultural heritage as experienced by people</p>	<p>What this indicator should be</p>
<p><u>Basis for recommendations</u></p> <p>Heritage may refer to something broader than the built heritage ('castles') but defining this will require further discussion. This is marked as possible because it is not clear at this stage that we will develop an indicator sufficiently different from those measuring the vibrancy of the culture to merit inclusion.</p>		
<p><u>Discussion of choices and recommendation on how to make them</u></p> <p>As with all possible indicators, the decision depends on priorities, but in this case will be informed by how much additional information any feasible indicator would provide. This will require discussions with the Statistical Service.</p>		
<p><b>High levels of participation in the arts sport and other recreational activity<sup>19</sup></b></p> <p><i>(This section has not yet been discussed with the Statistical Service)</i></p>	<p>Percentage of adults who take part in active hobbies (arts, non-vocational education, sports, DIY, volunteering etc.) at least once every [period to be defined].</p>	<p>Frequency to use</p>
	<p><u>Possibly</u> percentage of children and young people who take part in arts activities or sports at least once every [period to be defined] <u>or</u> just arts activities <u>or</u> just sports activities.</p>	<p>Whether to include one of these</p> <p>If so which of these to include</p> <p>Frequency to use</p>
<p><u>Basis for recommendations</u></p> <p>It is likely that the well-being benefits flow from some kind of participation in creative or demanding activity and whether this is artistic, educational, sporting, practical etc. will vary from individual to individual. It follows that a broad indicator of take up of hobbies is most relevant.</p> <p>This is a good indicator to form the basis for a comparison indicator for disabled people.</p> <p>There may be a case for a separate indicator for children focussing on arts and sports. Some thought should be given as to whether an indicator of sustained participation beyond adolescence can be included.</p>		
<p><u>Discussion of choices and recommendation on how to make them</u></p> <p>The choice of frequency should be based on a review of any evidence on the differential impact on wellbeing of more or less frequent attendance (so for example there may be evidence that attending once a month is significantly better than attending once a year, but</p>		

<sup>19</sup> We have merged three outcomes - participation in arts, participation in sports, participation in other recreational activity – since we are recommending a combined activity

attending once a week is not significantly better than attending once a month). If no evidence is available on this a frequency based on common patterns of attendance should be used.

Whether to include a children-specific indicator depends on the relative importance of different children-specific indicators, and how much room there is overall. The first question should be discussed at the workshop on children's issues we are proposing. The second will be a decision for Ministers at a later stage once it is clear what the trade-offs are across the indicator set as a whole.

<b>Thriving Welsh language</b>	Percentage of people able to speak, read and write in Welsh <i>or</i> percentage of people who speak Welsh daily	Which of these to include
	<u>Possibly</u> percentage of 5 year olds able to speak Welsh fluently at home <i>or</i> percentage of 15 year olds entered for a GCSE Welsh first language	Which of these to include

Basis for recommendations

The recommended indicators are ones for which data are available and which capture outcomes similar (not identical for data availability reasons) to those identified by the Welsh Language Commissioner.

The indicators for children are good leading indicators.

Discussion of choices and recommendation on how to make them

The choice between capacity and daily use is a matter of priorities and should be decided by Ministers following consultation with the Welsh Language Commissioner. There is a case for both of course, and whether to include both will depend on relative priorities across the set as a whole, to be decided by Ministers.

Whether to include a children-specific indicator is a matter of overall priorities given constraints on the number of indicators. This will be a decision for Ministers at a later stage once it is clear what the trade-offs between indicators are.

The choice between a measure of 5 year old fluency and GCSE Welsh first language is a matter of which is the better leading indicator of future use regular use of the language, and we recommend the necessary analysis is done.

**Personal environmental impact**

<b>Low environmental damage measured on a consumption basis</b>	CO2/greenhouse gas emissions per head measured on a consumption (footprint) basis	
	Possibly other environmental impacts measured on a consumption basis	Whether to include this

Basis for recommendations

This is a standard measure and takes into account imports, avoiding the distortions associated with 'exporting emissions'.

Discussion of choices and recommendation on how to make them

CO2 is not the only impact of consumption. Others – e.g. water – are also important. There is a case for introducing additional impact measures provided they are sufficiently focused on real impact to have public salience. Data availability will also be an issue. This can be discussed at a workshop on environmental indicators which we recommend holding for internal and external experts. However Ministers will need to decide whether to take this forward once trade-offs across the whole indicator set can be seen.

**Wales as a nation**

**Businesses**

<p><b>High take up of innovation</b> <i>(This section has not yet been discussed with the Statistical Service)</i></p>	<p>For review</p>	<p>An appropriate indicator</p>
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Basis for recommendations

Our initial discussions revealed that there was no entirely adequate indicator of innovation, however this remains an important driver of progress, hence we believe further work is justified to identify a direct or proxy indicator.

We considered the BIS survey of self-reported innovation, levels of employment in fast growing companies and levels of employment in fast growing companies over five years, but none of these are entirely satisfactory.

An alternative, if no adequate indicator is found, is to rely on levels of investment (see next section).

Discussion of choices and recommendation on how to make them

The choice will be between well-designed survey questions and effective objective proxies (e.g. patents registered, business growth). Given that the ultimate purpose of innovation is to create well paid jobs over the long term, some expert interviews and analysis of the association between what is measured by different indicators and the latter will be needed, potentially resulting in improved survey questions.

The results of this investigation should then be discussed at a workshop on future business, attended by employers, unions, business academics and officials, and where several other issues raised in this part of the recommendations can be discussed.

<p><b>High productivity</b> <i>(This section has not yet been discussed with the Statistical Service)</i></p>	<p>GDP or GVA per hour worked</p>	
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Basis for recommendations

GDP per hour worked is a standard definition of productivity and productivity is a key driver of living standards.

<p><b>High levels of investment</b><sup>20</sup> <i>(This section has not yet been discussed with the Statistical Service)</i></p>	<p><u>Possibly</u> net investment (by all sectors) as a percentage of GDP/GVA</p>	
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Basis for recommendations

Productivity – and job creation – are largely driven by levels of investment. It may be a useful indicator if it signals the importance of investment and of Wales being attractive to business. We also considered inward direct investment as a driver, but saw no good reason to exclude Welsh managed firms and UK investors from the measure.

Discussion of choices and recommendation on how to make them

We have marked this as ‘possibly’ since its impacts are largely captured through productivity and decent work for all. However it may remain a policy priority and whether to include it will be a decision for Ministers at a later stage once it is clear what the trade-offs between indicators are.

<p><b>Decent work for all</b> <i>(This section has not yet been fully discussed with the Statistical Service)</i></p>	<p>Percentage of workforce employed in decent work, defined as at or above living wage, in a healthy work place (decent conditions) with threshold level of job satisfaction (extrapolated from survey data)</p>	<p>Details of definition</p>
	<p><u>Possibly</u> percentage of workforce covered by collective bargaining agreements</p>	<p>Whether to include this</p>
	<p>Levels of job progression <u>or</u> percentage of workforce where their work actually requires their qualification level</p>	<p>Which of these to include</p>

Basis for recommendations

Decent work is part of the definition of a prosperous Wales and the proposed indicator is a direct measure of this. The components could draw on ILO definitions. Given different preferences, job satisfaction may be the best way of capturing this, but more work is needed on this.

International evidence indicates that collective bargaining agreements are a core driver of decent work (just as investment is of productivity) and may therefore be a useful leading indicator.

<sup>20</sup> We have added this outcome since the earlier draft

The decent work indicator does not fully capture whether the potential of the workforce is being reached, hence the proposed measure of progression or utilisation of qualifications (Scotland uses an indicator similar to the latter but only for graduates).

We considered various other alternatives which we are not recommending, including components of the decent work indicator (better to have a single indicator of decent work), and work related injury and ill-health (too narrow).

Discussion of choices and recommendation on how to make them

The precise design of the decent work indicator needs more work and alternative proposals should be discussed at the workshop on future business proposed.

Prevalence of collective bargaining agreements may be considered controversial. This is a decision for Ministers but we recommend that in the first instance it is discussed at the workshop on future business proposed above.

The choice between an indicator of job progression or use of qualifications depends in the first instance on whether the former can be effectively measured: it is an important component of decent work as of everyone reaching their potential, however the latter can be measured through a UKCES survey question. Data availability (or cost of new data) should be further investigated by the Statistical Service. We then recommend further discussion as to which better captures maximising the potential of the workforce at the workshop on future business proposed above.

<b>Work for all</b>	Youth unemployment <u>or</u> number of NEETs	
	<u>Possibly</u> long term unemployment <u>or</u> overall employment rate	

Basis for recommendations

Youth unemployment is particularly relevant to future generations since it can have a permanent scarring effect.

Long term unemployment is more likely to be under the Welsh Government's control than unemployment per se and is particularly damaging to well-being, having more of a permanent scarring effect. We have marked it as a possible because it affects a small proportion of the population.

We considered unemployment pure and simple but excluded it because we believed indicators of decent work and long term and youth unemployment were priorities, for the reasons given, and that including an overall indicator of unemployment would detract from the importance given to these other indicators, especially given the constraints on numbers.

We also considered the economic activity rate and new business start-ups but are not recommending these given the importance of long term and youth unemployment.

Discussion of choices and recommendation on how to make them

Whether to include long term unemployment should be informed by an assessment of how serious this is likely to be, with evidence presented to the poverty workshop and future business workshop.

<p><b>An economy that will adapt and thrive given change</b> <i>(This section has not yet been fully discussed with the Statistical Service)</i></p>	<p><u>Possibly</u> proportion of employment that is in target sectors/activities, which may be defined <u>either</u> as NOT likely to go into decline because of trends in international and UK markets and in sustainability regulation <u>or</u> as likely to expand globally given need for sustainability and other trends <u>or</u> in some other way</p>	<p>Whether to include this and if so how to define target sectors and activities</p> <p>What these target sectors and activities are</p>
<p><u>Basis for recommendations</u></p> <p>Achieving the well-being goals requires that Welsh businesses can compete globally while paying decent wages. It is now widely accepted that an industrial strategy designed to deliver strong and competitive target sectors and supply chains is important to delivering this. These indicators will measure the success of such a strategy.</p> <p>We also considered exports minus imports (considering the rest of the UK as part of ‘abroad’) but this is better as a way of measuring short term fluctuations than a long term trend (although this could be reviewed at the workshop on future business we recommend).</p>		
<p><u>Discussion of choices and recommendation on how to make them</u></p> <p>These indicators will need to be consistent with the Welsh Government’s sectoral growth strategy identifying target sectors and activities. Note that what these targets are can change over time – the success of the strategy is measured by movement towards whatever the target at that time is, and the indicators need to be designed to allow for this.</p> <p>Whether the strategy should be used for National Indicators should be discussed at the workshop on future business, but ultimately this is a decision for Ministers.</p> <p>Note that the relevant indicator could be added to the set later if it is not feasible in the short term.</p> <p>It is possible that some measure of local control of businesses (the extent to which economies are locally controlled) could be a measure of the resilience of business. It is not clear that this is the case, but it merits investigation.</p>		
<p><b>Resource efficient business</b> <i>(This section has not yet been discussed with the Statistical Service)</i></p>	<p>Consumption of specified scarce and environmentally damaging resources divided by GVA either for all business <u>or</u> for manufacturing and other resource intensive sectors <u>or</u> for all sectors but against sectorally weighted benchmark</p>	<p>Which of these to include</p> <p>Which resources to include</p> <p>How to measure resource use (by weight or other means)</p>
<p><u>Basis for recommendations</u></p> <p>This is a direct measure of the outcome. Note that different kinds of resources (finite and renewable for example) will need to be treated differently in any composite indicator. Ideally the indicator design will use environmental limits (as referred to in the Act) to help weight the cost of different resources.</p>		

We considered measures of waste and the circular economy or waste in particular industries such as food, but these only capture some drivers of resource use. It may be possible to integrate some measure of the circular economy into a broader resource use indicator.

Discussion of choices and recommendation on how to make them

A sectorally based indicator is preferable in so far as it measures whether there has been a genuine efficiency gain rather than simply a switch to e.g. service sectors which require less material resources (with the result that resource use is ‘exported’). On the other hand increased efficiencies in retail and health (for example) are also important. In addition it may be that a switch to less resource intensive sectors is good for economic resilience and that the overall reduction in resource use is therefore valuable. Both measures are needed for policy purposes – the question is which should be in the National Indicator set.

If an indicator measuring the success of industrial strategy as proposed above is developed then this will capture the overall economic resilience of the economy and it will be better to adopt a sectorally based indicator. If not, then the question is whether to give weight to global responsibility (the sectorally based measure) or prosperity and resilience (the universal measure). This is a decision for Ministers.

Which resources to include depends on impacts and requires expert advice. The ideal way to measure usage is in terms of impact, but whether this is feasible requires further discussion with experts and statisticians. This should be an item on the agenda at a workshop on environmental indicators for officials and external experts.

<p><b>Low CO2/greenhouse gas emissions measured on a production basis</b></p>	<p><u>Possibly</u> greenhouse gas emissions divided by GVA either for all business <u>or</u> for manufacturing and other carbon intensive sectors <u>or</u> for all sectors but against sectorally weighted benchmark (alternatively could be integrated into resource efficiency measure)</p>	<p>Whether to include this as a separate item or integrate into resource efficiency measure</p>
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Basis for recommendations

This is a direct indicator of this outcome. Dividing by GVA ensures that recession does not artificially inflate performance and focusses on how efficient business is being. The consumption based measure we propose (see above) is an absolute measure and draws attention to the ultimate goal – reducing carbon emissions in absolute terms.

We also considered proportion of electricity generated by renewables. This is merely one amongst many drivers of carbon efficiency and arguably not one of those the Welsh Government has the most influence over (although this may change). We therefore decided not to recommend this.

Discussion of choices and recommendation on how to make them

Whether or not to include it as well as the consumption based indicator depends on whether having both is confusing for the public, to be tested in the public consultation, and overall priorities for the set to be decided by Ministers once trade-offs across the set are clear.

One possible option would be to integrate it into the resource efficiency indicator by creating a weighting for carbon-emitting resources – although whether this is feasible or not has not been discussed.

The same considerations on sectors as for resource efficiency apply.

**Infrastructure**

<b>Resilient infrastructure</b>	An indicator of flood risk	Which indicator to select
	<u>Possibly</u> an additional indicator of infrastructure resilience for review, for example of infrastructure adaptability to rising temperature	What this indicator should be

**Basis for recommendations**

Flood risk is one of the most publicly salient impacts of climate change, and a measure of it reinforces the importance of building infrastructure that contributes to resilience.

There may be a case for a broader indicator of the contribution of infrastructure to resilience – although we have not yet identified this.

**Discussion of choices and recommendation on how to make them**

There are several Programme for Government flooding indicators. Further discussions with the Stats Service and testing with the public through consultation are needed.

A discussion of a broader indicator of the contribution of infrastructure to resilience should be put on the agenda of the workshop on environmental indicators recommended above.

<b>High quality infrastructure</b> <i>(This section has not yet been discussed with the Statistical Service)</i>	Congestion levels <i>or</i> an alternative indicator for review	How to measure this
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**Basis for recommendations**

This is a reasonable way of assessing road and public transport infrastructure.

There may be alternative indicators covering a wider range of infrastructure and potential alternatives should if possible be discussed at the future business workshop recommended above.

We considered broadband access but this is unlikely to be an issue in the long term. There may be an issue with whatever succeeds broadband, but it is difficult to create an indicator for something we cannot predict.

We also considered Welsh Government debt as the other side of the balance sheet. However we decided not to recommend this as arguably this is a performance measure for the Welsh Government rather than a population level indicator suitable for the National Indicator set.

**Discussion of choices and recommendation on how to make them**

How best to measure this for the whole of Wales while focussing on those areas where congestion is a problem requires discussion with the Statistical Service.		
<b>Resource efficient infrastructure</b> <i>(This section has not yet been discussed with the Statistical Service)</i>	Proportion of homes that are energy efficient to agreed standard <u>or</u> proportion of all buildings energy efficient to agreed standard.	Which of these to include
<u>Basis for recommendations</u> This is a simple indicator of this outcome		
<u>Discussion of choices and recommendation on how to make them</u> Clearly all buildings is preferable. The decision will be based on data availability, Statistics Service to advise.		
<b><u>Natural resources</u></b>		
<b>Bio-diversity and well-functioning eco-systems</b> <i>(This section has not yet been discussed with the Statistical Service)</i>	An indicator of bio-diversity weighted towards ecologically important and culturally important species	What this indicator should be
<u>Basis for recommendations</u> Bio-diversity is mentioned in the Act. But what is valued is not simply the number of species, but the contribution of bio-diversity to well-functioning eco-systems and the existence of certain species (golden eagles not cockroaches).		
<u>Discussion of choices and recommendation on how to make them</u> The existing SD indicators of priority species may be fit for purpose, but they need to be reviewed. We recommend expert opinion is sought and any disagreements discussed at the workshop on environmental indicators proposed above.		
<b>Environmental damage</b> <i>(This section has not yet been discussed with the Statistical Service)</i>	Possibly a composite indicator of environmental damage <u>or</u> a simple indicator of a high salience and serious problem which can be dealt with over time	Whether to include this Which of these to include If a composite, how to construct it If a simple indicator, which problem to measure
<u>Basis for recommendations</u> We are not at this point making a substantive recommendation, i.e. our recommendation covers all options.		
<u>Discussion of choices and recommendation on how to make them</u>		

This is marked as a possible since it needs to be determined how much it adds to the biodiversity indicator and how serious the issues are – for discussion at the workshop on environmental indicators that we have recommended above.

A simple indicator will have more salience, but will only be appropriate if an issue can be identified which matches the criteria mentioned much better than any other issue.

We recommend this is also discussed at the workshop on environmental indicators we have recommended.

**Sustainable use of other scarce natural resources**

*(This section has not yet been discussed with the Statistical Service)*

Possibly a measure of Wales’s natural resource depletion if there is an important aspect of this not captured by the other two indicators or by the resource efficient business indicator.

Whether to include this and if so what it should be

Basis for recommendations

We are not making a substantive recommendation at this stage, i.e. our recommendation covers all options

Discussion of choices and recommendation on how to make them

The first questions is whether there is any important aspect not covered by the other two indicators and the resource efficient business indicator, then what it is and then how to measure it. Many of the same issues apply as to the resource efficient business indicator. This should be covered in the workshop on environmental indicators recommended above.

**Communities**

**Attractive communities**

*(This section has not yet been discussed with the Statistical Service)*

Levels of participation in the community, defined to include membership of associations (not necessarily locally based) volunteering and informal interactions with neighbours or subjective sense of belonging or subjective levels of trust of neighbours

Which of these to choose  
If levels of participation is chosen, how to design this indicator

Possibly percentage of the population suffering from noise or air pollution

Requires setting a threshold

Levels of satisfaction with the physical aspects of the neighbourhood

Possibly an indicator of attractive communities

	designed to capture the experience of old people.	
<p><u>Basis for recommendations</u></p> <p>These indicators are designed to cover the social and physical aspects of communities. We considered access to green space or use of green space, but decided not to recommend these as the former will change too slowly and the latter is very narrow.</p> <p>The indicator of old people's experience is a possibly only because it may be possible to integrate this into the main indicator – however we think it likely that a separate indicator will be needed.</p>		
<p><u>Discussion of choices and recommendation on how to make them</u></p> <p>The choice between the three 'social' indicators may be done objectively by comparing the strengths of association with personal well-being. To the extent that no significant differences emerge this is a judgement to be made by Ministers.</p> <p>Whether to include the pollution measures depends on the projected prevalence of the problems. This requires a review of the evidence.</p> <p>Thresholds for pollution should draw on wellbeing and health data and we recommend the analysis is done.</p>		
<b>Safe communities</b>	Police recorded crime rate per 1,000 of the population <u>or</u> crime rate based on British Crime Survey	Which source to use
	<u>Possibly</u> levels of anti-social behaviour	Whether to include this
<p><u>Basis for recommendations</u></p> <p>Both of these are important elements of community safety. Crime is the more important, but anti-social behaviour may loom large for some people.</p> <p>We considered a number of other possibilities which are not recommending: violent crime (levels are low and over emphasis on this can increase fear of crime), hate crime (an important issue but too narrow for the National Indicator set), fear of crime (can be influenced by extraneous factors such as press coverage), subjective safety (ditto), traffic accidents and deaths (too narrow a measure).</p>		
<p><u>Discussion of choices and recommendation on how to make them</u></p> <p>It may be better to capture people's experience of crime rather than the police figures. The different drivers of the two forms of data should be investigated.</p> <p>In addition there is a question as to how serious anti-social as opposed to criminal behaviour is – and how it affects people. This could be extended to include 'door-step' crime which may not be picked up in official figures. Evidence on this is needed. Depending on what this shows, whether this should be a sufficient priority to appear in the National Indicator set is a question for Ministers.</p>		

<b>Viable communities</b> <i>(This section has not yet been fully discussed with the Statistical Service)</i>	A comparison indicator based on the main decent work for all indicator <u>or</u> if feasible an indicator based on population declines	
<u>Basis for recommendations</u> <p>It was difficult to identify distinctive indicators for this outcome<sup>21</sup>: We initially concluded that levels of decent employment were the best indicator of viability in any community and that therefore comparisons between communities on this dimension were the best method. It was suggested at the workshop on 30 March that an indicator based on population declines below the threshold where public services are viable (e.g. schools or social services for the elderly) could be a key variable.</p> <p>We considered subjective measures of viability but decided this was too unreliable, or number of communities above or below a threshold but decided these would be difficult to communicate.</p>		
<u>Discussion of choices and recommendation on how to make them</u> <p>It is not clear if the population based indicator is feasible. There should be discussions with the Statistical Service and if a robust and effective indicator can be developed it should be proposed.</p>		
<b>Well-connected communities</b>	Quality of public transport connections measured subjectively	
<u>Basis for recommendations</u> <p>This is an issue for relatively isolated communities. Short of a massive road building programme (which is unlikely), there is relatively little that will change connectivity for car users: the issue is the frequency and reliability of public transport for those who do not have access to a car. Of course if there are no public transport connections, the quality is zero.</p> <p>For urban areas the congestion indicator under the infrastructure outcome is a good indicator of connectivity.</p> <p>We also considered excessive commuting time, but this only affects a minority many of whom may choose a long commute. We therefore are not recommending it. We also considered using an objective measure of public transport quality but took the view this would be too complex to define and collect data on.</p>		
<b>Empowered communities</b>	The extent to which residents feel they have a say in local decisions based on survey data	<u>Possibly</u> an indicator of trust in government
<u>Basis for recommendations</u>		

<sup>21</sup> Viable is defined as 'capable of working successfully'. What does a community have to be like to work successfully? This depends on the nature of the community – a community with young families must have a school, a community with old people must have facilities for old people. It is therefore difficult to identify specific indicators to capture this outcome.

This was a strong recommendation from the pilot National Conversation, and an important driver of cohesive communities

Discussion of choices and recommendation on how to make them

Trust in government is a driver of well-being, and an ingredient of a cohesive national community. However this may not be a priority given other candidates for the indicator set. Its relative importance as a driver and the extent to which it varies should be included in a briefing to Ministers who will need to take a decision on this.

## 2 Principles for deciding what to measure<sup>22</sup>

Principle	Comments
1) The indicators should measure <b>outcomes</b> .	As stated in the Act. <sup>23</sup> However see principle 8.
2) These outcomes should <b>resonate</b> with and matter to the public, and the choice must take account of the pilot National Conversation and the formal Consultation during 2015.	Many of the choices to be made are not technical or based on analysis but will reflect values. These choices must be reached through a process of public debate <sup>24</sup> .
3) There should be a <b>limited number</b> : no more than 40 altogether, including 5 or 6 headline indicators.	This relates to and flows from principle 2, as only a very small number of indicators can get noticed by the public. <sup>25</sup>
4) The indicators should form a <b>coherent set</b> , which can be justified by a rationale and framed by a narrative about what progress means for Wales.	Not every interest can be represented in the set, so the selection must be defensible. The set has to help the public hold public bodies to account; this requires a narrative reflecting what matters to them. <sup>26</sup>
5) The outcomes need to be ones where significant <b>progress can be achieved</b> over the long term and where milestones can be measured over a 5-15 year period.	If progress is to be measured there has to be the possibility of change within a reasonable period, but this need not be too short – the results of some successful interventions only show up in statistics over the long term and the aim is to strengthen focus on the long term. <sup>27</sup>
6) In principle the outcomes need to be <b>sensitive to decisions made in Wales</b>	If the National Indicators are to influence objective setting, they have to be of outcomes

<sup>22</sup> These are taken from Public Policy Institute for Wales (2015) Measuring progress towards the achievement of Wales's well-being goals: A discussion paper

<sup>23</sup> Indicators "must be expressed as a value or characteristic that can be measured quantitatively or qualitatively against a particular outcome." Outcomes are typically defined in terms of impacts and are contrasted with inputs and outputs; for example less congestion is an outcome from a new road (output) which results from increased investment in roadbuilding (input).

<sup>24</sup> The transformative potential of indicator sets is more difficult to realise if they are developed through a purely top down process – a conclusion of the BRAINPOoL project (Whitby, Alastair, March 2014, The BRAINPOoL Project: Beyond GDP – From Measurement to Politics and Policy. A collaborative programme funded by the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No. 283024).

<sup>25</sup> The indicator set must communicate with the general public if it is to get political and thus policy traction. A standard idea in cognitive psychology is that most people can only hold seven pieces of information in their head at a time. The UK wellbeing wheel has 42 indicators and, partly for this reason, it has achieved very little public recognition. On the other hand, it would be very challenging to create a set of say six indicators for the six goals that fully captured the breadth of the goals. Hence the proposal for two tiers. Ideally the headline set would represent the larger set, in the sense that changes at the lower level could be expected to result in changes at the higher level. This does not mean the headlines would have to be composites – just that a causal relation would be inferred between the respective outcomes.

<sup>26</sup> The BRAINPOoL project (see note 3) argued that if indicators are to achieve political traction, the selection of outcomes needs to shape and reflect a compelling narrative, one which both explains how the world works and sets out how things must change to improve people's lives.

<sup>27</sup> The Act requires Ministers to specify the period of time to which indicators relate

(although not just by public bodies) – and to the extent that decisions made elsewhere are critical this needs to be made clear.	public bodies can influence. But some outcomes important to the public will be mainly driven by decisions made outside Wales.
7) Where possible the outcomes should not have a 1:1 relationship to goals, but <b>reflect progress on two or more goals</b> ; however, the set as a whole needs to support all the goals in a balanced way.	This reflects the systemic nature of many of the issues and the consequent need for unsiload working – and also the need to measure progress with relatively few indicators
8) A significant proportion of the outcomes should <b>help us predict the well-being of future generations</b> , not <i>just</i> how the past was – so they are not <i>just</i> outcomes.	Indicators are not predictions but can help predict. This may not be straightforward: extrapolating trends and relying on milestones is not always enough. <sup>28</sup>
9) The outcomes should be about the <b>population of Wales as a whole</b> <sup>29</sup> – although inequality measures require disaggregated data and could focus on minorities.	Given their role, National Indicators do not <i>need</i> to be broken down by area – except where they involve comparisons. Other indicator sets will provide area information <sup>30</sup> .
10) Decisions on outcomes must not be driven by existing indicator sets; however these – and work in progress (including on the UN Sustainable Development Goals) – are <b>useful input</b> for the development process.	The National Indicator set may help rationalise specific public body performance indicator sets, perhaps through ‘contribution analysis’. <sup>31</sup> It should be designed with this in mind.

<sup>28</sup> While in some cases year on year trends may represent suitable milestones (i.e. be sufficient for predicting future wellbeing), in other cases, particularly those where short term changes are invisible, or where long term investment is required, year on year trends can be misleading. Then it may be necessary to choose outcomes which the evidence suggests are also drivers, for example levels of investment, or educational attainment.

<sup>29</sup> As opposed to performance or the achievement of objectives by individual public bodies.

<sup>30</sup> Of course if disaggregated data are available, then they should be provided with the main indicator data.

<sup>31</sup> As practiced in Scotland. This can help organisations identify their contributions to changes in the outcomes and “show that they are working towards the well-being goals” as per the Policy Intent Statement

### 3. Principles for deciding how to measure – selection of indicators<sup>32</sup>

Principle	Comments
<i>Effective communication</i>	
1) What the indicator measures should be capable of being summed up briefly in a way that will be immediately grasped by the public.	This does not require an understanding of how the indicator is constructed, which can be complex even while what it measures is simple. Inflation rate is a good example of this.
2) The indicator should allow comparisons to be made over time. Thus comparisons should remain valid even as policies or data collection methods change, there should be secure sources of data, and the value of the indicator should be capable of change over time.	Entitlement to free school meals is an example of an indicator that fails this test since the rules for who qualifies can change.
3) Ideally the indicator should allow comparisons with other places and so should be internationally recognised. <sup>33</sup>	However the availability of international statistics cannot drive national priorities - Welsh language use cannot be compared internationally.
4) The significance of any changes should be immediately obvious.	It must not be arguable that changes are just random fluctuations (as with say average temperatures); it must also be agreed which direction is good and which bad.
5) All audiences need to believe that the indicator really does measure the outcome effectively and reliably, and the indicator should be understood in the same way by different groups.	For example, if GCSE results are used as an indicator of educational attainment, public, teachers and relevant officials need to believe that these results really do reflect attainment.
6) Indicators must provide up-to-date information and with sufficient frequency to allow judgements about progress and to stimulate appropriate action.	Because the set should be communicable as a whole, ideally it will contain indicators of a similar frequency and timeliness – but this may not be achievable
7) Indicators must be selected and designed to avoid encouraging actions that improve the indicator at the expense of wider outcomes.	Examples include waiting time targets which can distort hospital priorities, or exam league tables which encourage ‘teaching to the test’.
<i>Accuracy</i>	
8) Where survey data are used, it should be shown that respondents give consistent answers to the questions on different occasions.	In general, potential measurement errors should be noted.

<sup>32</sup> These are taken from Public Policy Institute for Wales (2015) Measuring progress towards the achievement of Wales’s well-being goals: A discussion paper

<sup>33</sup> For example, it will be useful to take note of indicators developed to measure progress of the UN Sustainable Development Goals.

9) The indicators should not be based on sample sizes that statisticians judge too small to justify conclusions about the outcome measured.	It is often for this reason that indicators cannot be disaggregated by locality.
10) The intention is that National Indicator datasets will be 'National Statistics.' Thus where possible indicators should use existing National Statistics, or at least have been tested and found adequate for research purposes.	National Statistics are those certified as compliant with the Code of Practice for Official Statistics by the UK Statistics Authority.
<i>Balance</i>	
11) The set as a whole should contain subjective as well as objective indicators.	Subjective outcomes – for example 'fear of crime' – are often as important as objective ones.
12) The set as a whole can contain indicators based on qualitative as well as quantitative data	This is as permitted by the Act. It is not clear at this stage what these indicators would be.
<i>Feasibility</i>	
13) It is preferable for the data and ideally the indicator itself to already exist for cost reasons but this is not essential.	If the cost and any burden on respondents can be justified, new data can be gathered, or existing data can be gathered more frequently or quickly.

#### **4. What we have done to produce these recommendations**

Our work was based on the Act itself, internal and external interviews, a review of other indicator sets in Wales and elsewhere, and a review of other relevant reports and documents. For details see below. On the basis of this research, we took the following steps:-

1. We drew up a list of criteria that should guide decisions about what to measure and what indicators to use to measure these things (published by the Public Policy Institute for Wales in Measuring progress towards the achievement of Wales's well-being goals: A discussion paper).
2. We took the well-being goals and the goal descriptions as set out in the Act as amended, and drew up a list of outcomes on which achieving the goals would depend. The bulk of these corresponded with the wording of the goal descriptions, but some were what we, on the basis of the interviews we conducted, judged to be implicit in the descriptions and/or necessary intermediate outcomes for achievement of the goals as described.
3. We then organised these outcomes into a conceptual framework, that is a map of possible causal relationships between the different outcomes. Some outcomes are drivers of other outcomes and these may be particularly useful to measure if they help us predict what will happen to future generations. It is this framework that lies at the heart of our recommendations.
4. We then created a long list of items that might be measured to assess achievement of these outcomes.
5. We then created a narrative that can be used to explain the goals, the indicator set and the conceptual framework in broad and relatively simple terms. Rather than referring to all the outcomes in the framework, it referred to groups of outcomes, and is thus a simplification of the framework.
6. We then re-organised our long list into a hierarchy: the groups of outcomes in the narrative, under these the outcomes in the framework, and under these individual items to be measured.
7. We then reviewed this long list and made recommendations as to whether each of these should be carried forward, using our understanding of the goals, the narrative and conceptual framework and the selection criteria developed for the Discussion Document
8. We then asked the Statistical Service to recommend indicators for those items we recommended were taken forward.
9. We then reviewed these recommendations and prepared a draft of this paper, which we revised following comments from officials.

10. We then held a workshop for internal and external stakeholders and produced this final version of this paper.

## **Terminology**

*Goals:* The goals as set out in the Act, for example 'A prosperous Wales'.

*Goal descriptions:* The descriptions of the goals as set out in the Act.

*Outcomes:* The outcomes on which achieving the goals depends; these are as set out in the conceptual framework

*Outcome groups:* The nine groups of outcomes identified in the narrative

*Items:* The things that could be measured to assess whether the outcomes are being achieved

*Indicators and National Indicators:* The statistical tool used to measure the items

*Conceptual framework:* The list of outcomes on which achieving the goals depends, and the presentation of causal relations between these

*Narrative:* The headline explanation of the set of National Indicators, setting out what it measures and why.

## **Sources**

### *Internal interviews*

Steve Marshall, Glyn Jones, Jo Salway, Simon Brindle, June Milligan, Piers Bisson, Jonathan Price, Caren Fullerton, Toby Mason, Chris Roberts and Jo Kiernan, Gareth Jones, Simon Dean, Chris Tudor-Smith and Cathy Weatherup, Marion Stapleton, Amira Irshad, Emily Finney

### *External interviews*

Clive Thomas et al, Tim Peppin et al, Dewi Wyn Jones, Chris Sutton, Rita Singh, Tracey Cooper and Mansel Aylward, Peter Davies, Meri Huws, Martin Mansfield, Ruth Marks, Lazlo Pinter, Anne Meikle, Peter Jones

### *Workshop attendees*

Caryn Cox (Public Health Wales), Sir Mansel Aylward (Public Health Wales), Sumina Azam, (Public Health Wales), Anne Meickle (WWF Cymru) , Julie Boswell (Natural Resources Wales), Ruth Tipping (Natural Resources Wales), Martin Mansfield (Wales TUC), Peter

Davies (Sustainable Futures Commissioner for Wales), Rachael O'Shaughnessy (Sustainable Development Co-ordinators Cymru), Rita Singh (Cynnal Cymru), Tim Peppin (WLGA)

From the Welsh Government: Alyson Francis, Bethan Sherwood, Chris Tudor-Smith, Glyn Jones, Jonathan Price, Matt Wellington, Steve Marshall, Andrew Charles

*Indicator sets reviewed*

ONS Measuring National Wellbeing indicators, Proposed SDG indicators in January report by SDSN, Sustainable Development Indicators for Wales, the National Survey, PFG indicators, NEF recommendations on Northern Ireland economic indicators, OECD Better Life Index, Scotland Performs,<sup>34</sup> ILO Decent Work indicators

*Other sources reviewed*

Background briefings on the Act, Williams report, RBA web-site, ONS presentation and report on the National Indicators, Interim report from the pilot National Conversation on The Wales We Want, January report by SDSN on SDG indicators and process, BRAINPOoL final report and Case Study on Welsh SDIs, draft chapter on what to measure based on the pilot National Conversation on the Wales We Want, paper from Commissioner for Older People's on well-being indicators, paper from Welsh Government social services on well-being outcomes, Report of the Resilient Eco-systems workshop (Feb 2015)

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<sup>34</sup> The Scottish National Outcomes heavily overlap with the Act goals and goal descriptions, not surprisingly, but put more emphasis on being good for business and on independence for the old, and make more explicit the needs of children and families at risk

## **5. Report on the stakeholder workshop held on 30 March 2015**

On 30 March we presented a draft of this report to internal and external stakeholders (for attendees see Annex 4 above). We have taken on board many of the comments by modifying our recommendations, but set out here a fuller account of what was said. It is structured around the main groups of outcomes as presented in the narrative. There is first a section containing comments on the narrative as a whole.

### **Comments on narrative**

The narrative is not designed to present the goals but how Wales will reach the goals. However perhaps the language of the goals should perhaps be used more explicitly in the narrative – the connection is perhaps not explicit enough. The problem is that the seven goals together are too complex to convey as a single idea.

The ‘nation’ outcomes can be seen to be underpinning the ‘people’ outcomes. They can be thought of as about various forms of capital.

Health should perhaps be separated from personal well-being.

There is a case for transferring ‘communities’ to the ‘people’ section of the narrative.

### **Living standards**

It is possible that income is not the best measure of living standards and we should use material/multiple deprivation style measures. Also we need to pick up people right at bottom of pile – e.g. those with sustained very low incomes. This might mean 60% is the wrong percentage for assessing relative poverty or we should use a persistent poverty indicator (e.g. 3 years out of 5) rather than a snap shot. Another possibility would be a measure of benefit dependency, although it may not be clear what the desired direction is here – a fall in dependency could just reflect a reduction in benefit coverage.

A housing indicator will be important: from a public health point of view three things are important: a decent home, decent work (or activity), decent income.

There was some disagreement about wealth – one point of view is that this is not what the Act intended, another being that wealth is an important complement to income, the latter not giving the whole picture. It is possible that a distribution based measure would satisfy both sides of this argument.

### **Skills**

Everyone can fulfil their potential is perhaps not adequately captured by a population skills indicator and an indicator about outcomes for children. More thought about this may be

needed – although the decent work indicators also capture this. We will need to measure outcomes for the whole population that capture this.

### **Personal well-being**

The smoking exercise should be the definite and the exercise the additional indicator to measure healthy behaviours.

Healthy life expectancy is preferable to disability free life expectancy: the disability indicator is based on a medical model of disability.

Health inequalities should perhaps be one of the indicator set – in addition to any comparison indicators developed.

The Children's mental well-being indicator description should include the word 'subjective'.

### **Culture, sport and the Welsh language**

Sports needs to be included in the attendance measure as well as the participation measure.

This is where disability should be included, e.g. disabled participation in sport – rather than in the health section.

The set would be unbalanced if all the suggested children indicators were included – and indeed the proposal is that only some of these will be included.

The economic measure of cultural vibrancy captures people outside Wales enjoying Welsh culture to some extent.

Heritage should not simply refer to 'castles' but to a cultural heritage that is owned by all the people. It is of the essence that those people have access to it. It is not about 'preserving' this but protecting and promoting it. However it is hard to pin down what this is – to create an indicator that captures it. Further discussion will be needed.

Would it be possible to measure the extent to which participation in e.g. sport is sustained over the life course? NB participation in sport might be area where you can ask adults and children the same question in surveys.

We may need more than one indicator on the Welsh language to capture both competence and daily use (the two main alternatives presented).

### **Personal environmental impact**

There is a need for both consumption and production based measures of environmental impact.

## **Business**

Some concern that individual outcomes (productivity, innovation) do not incorporate sustainability – and this has to be captured through other outcomes. We accepted this was true but were not sure how to integrate. In other words, as it stands, the indicators have to be seen as a set.

Local control of business could be an important aspect of the resilience of business - its capacity to thrive in conditions of change.

Job satisfaction may be an effective proxy for decent work – and deals with the problem that some people may want zero-hours contracts or flexible contracts: permanent fixed hours contracts should not be part of the definition of decent work. A living wage criteria does not capture the idea of a ‘fair reward’. Coverage by collective bargaining agreements is a better test – and more important than individual union membership. Individual opportunities to progress are also important.

Decent work should include healthy workplaces.

The employment rate (as opposed to unemployment rate) should be included with youth as a subsidiary measure - although arguably NEETS should be included rather than youth unemployment.

Resource efficiency issue is how to ensure we do not penalise resource intensive industries while including those industries that are not high resource but which can make a big difference (e.g. retail or health sector). NB IT is a big energy user. There is also an issue as to the extent to which supply chains are included. One can follow the standard procedures developed for carbon accounting.

## **Infrastructure**

Resilient infrastructure should include infrastructure that is itself resilient, not just that brings about resilience.

Definition of infrastructure is problematic.

Should the health service be considered part of the infrastructure? No – they are a public service and performance will be measured as part of the well-being objectives. Infrastructure is an ‘enabler’ of well-being, like natural resources.

In line with the thing behind the narrative, infrastructure is a form of capital, and should perhaps be measured accordingly.

## **Natural Resources**

There is no clear measure of scarce and environmentally damaging resource use that those in the room were aware of.

Finite and renewable resources have to be measured in different ways – the latter bearing in mind different limits. Environmental limits can be built into the indicators as appropriate (here and in the natural resources section).

The measure could include some measure of the circular economy, use of waste.

Renewable energy use could be an additional indicator – especially as Welsh Government powers may increase in this area, but we took the view this was a the next level down (measuring an objective not a goal).

On biodiversity, there are plenty of existing indicators, but it is not clear that these capture what is important, which is why NRW is reviewing, and shifting to an eco-systems approach. One suggestion was % of ecosystems that are meeting good environmental status. There are also proxy measures such as % of timber from FSC – i.e certified sustainably produced

## **Communities**

There is a case for some indicator of trust in government, although this is not included directly in the Act – it could perhaps fit into the communities section (ONS wellbeing measures do include trust in government).

Attractive communities – if there was a choice air pollution is worse than noise pollution, but one can have both (i.e. must be below a threshold on both to score).

Viable is hard to define, but one possibility is to use population movements as a n indicator, since communities can fall below a size at which services are viable, i.e. there is a tipping point.

The crime measure could be based on crime as reported by public (British Crime Survey) rather than police recorded crime. This might capture something important that the police figures don't. Fear of crime could also be used but there are problems with this.

Community indicators need to include something for old people – safety and social aspects of attractiveness are particularly important for them, and at the moment the proposed set is unbalanced in that it has plenty for children and young people and plenty for the working age (employment etc.) but nothing specific about old people. For example door step crime is an important issue for old people captured in trading standards data but not crime statistics.

Connected communities – public transport has to exist for it to be high quality. Will this be captured in any indicator?

Electronic connections are also important. Further thought about this is needed: will broadband achieve near saturation in the foreseeable future? If so is there something else we should be measuring?

There is an issue about services delivered via broadband – people need the skills to deliver and receive such services. The delivery aspects may be at the next level down but the idea of connectedness perhaps could incorporate the connections needed for effective service delivery. Some further thought needed on this.

Indicators are designed to measure national outcomes – when dealing with communities the aggregation may be done at an individual level (e.g. % of individuals in Wales without access to a car who are satisfied with public transport) or at the community level (e.g. % of communities in Wales where more than 70% of people without access to a car are satisfied with public transport).

### **Throughout**

Terms such as 'high' or 'higher' in the outcomes imply international comparisons should be made where possible

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