

# Tilting the Scale

A Theoretical Framework to  
re-direct Public Policy away  
from Economic Growth  
towards Sustainable and  
Inclusive Wellbeing

Final Report



Funded by  
the European Union



## IMPRINT

Deliverable number:	D1.4
Due date:	29-02-2024
Nature:	R
Dissemination Level:	PU
Work Package:	1
Lead Beneficiary:	ULEI
Contributing Beneficiaries:	ZOE, PSE, SIN, SUR, YORK, TU, CAR

### Authors

Rutger Hoekstra, Institute of Environmental Sciences (CML), Leiden University

Raphael Kaufmann, ZOE Institute for Future-fit Economies

Annegeke Jansen, Institute of Environmental Sciences (CML), Leiden University

Jonathan Barth, ZOE Institute for Future-fit Economies

Jaap Arntzen, Centre for Applied Research (CAR)

Fabian Rocha Aponte, SINTEF

Paul Behrens, Institute of Environmental Sciences (CML), Leiden University

Philipp Bothe, Paris School of Economics (PSE)

Magalí Brosio, ZOE Institute for Future-fit Economies

Kedi Liu, Institute of Environmental Sciences (CML), Leiden University

Lucas Chancel, Paris School of Economics (PSE)

Lin Cui, Tsinghua University (TU)

Angela Druckman, Centre for the Understanding of Sustainable Prosperity,  
University of Surrey (CUSP)

Seán Fearon, Centre for the Understanding of Sustainable Prosperity, University of  
Surrey (CUSP)

Ben Gallant, Centre for the Understanding of Sustainable Prosperity, University of  
Surrey (CUSP)

Nicole Kormann da Silva, ZOE Institute for Future-fit Economies

Simon Mair, Centre for the Understanding of Sustainable Prosperity, University of  
Surrey (CUSP)

Patrick Scheffer, ZOE Institute for Future-fit Economies

Inge Schrijver, Institute of Environmental Sciences (CML), Leiden University

Ranran Wang, Institute of Environmental Sciences (CML), Leiden University

Kirsten S. Wiebe, SINTEF

Junming Zhu, Tsinghua University (TU)

## Editors

Rutger Hoekstra (chief editor), Raphael Kaufmann, Annegeke Jansen, and Jonathan Barth (co-editors)

## Please cite as:

Hoekstra, R., Kaufmann, R., Jansen, A., Barth, J., Arntzen, J., Aponte, F.R., Behrens, P., Bothe, P., Brosio, M., Chancel, L., Cui, L., Druckman, A., Fearon, S., Gallant, B., Kormann da Silva, N., Liu, K., Mair, S., Scheffer, P., Schrijver, I., Wang, R., Wiebe, K.S., and Zhu, J. (2024). Tilting the Scale: A Theoretical Framework to re-direct Public Policy away from Economic Growth towards Sustainable and Inclusive Wellbeing. WISE Horizons Deliverable D1.4 (Full Report).

## Acknowledgements

We would like to acknowledge valuable feedback from the participants of the Future Lab and the Just Transitions Lab. We would also like to thank the members of the “sister projects” (ToBe, SPES, WISER) that contributed to discussions that were related to the theoretical framework.

## Layout and design

Drees + Riggers

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## TABLE OF CONTENTS

Imprint.....	I
List of Figures .....	V
List of Tables .....	V
List of Boxes.....	V
List of Abbreviations .....	VI
Summary.....	VII
The Need for a New Narrative .....	VII
The Societal Goals of the Theoretical Framework: Wellbeing, Inclusion, and Sustainability (WISE).....	VIII
Theory of Institutional Change .....	IX
Left Side of the Scale: Economic Growth .....	XI
Right Side of the Scale: Sustainable and Inclusive Wellbeing.....	XII
Theoretical Framework: Creating WISE Technical Infrastructure.....	XIII
Recommendations.....	XIV
Recommendations – Theory of Institutional Change .....	XV
Recommendations – Theoretical Framework Technical Infrastructure .....	XVII
1. Introduction.....	1
1.1 Setting the Scene.....	1
1.2 Key Features of the Theoretical Framework .....	3
1.3 Outline of this report .....	4
2. Theoretical Concepts: Wellbeing, Inclusion and Sustainability .....	5
3. Theory of Institutional Change.....	7
3.1 Conceptual Building Blocks .....	7
Types of Ideas and Key Actors .....	8
Competing Narratives.....	9
Formal Political Institutions .....	10
Media Attention and Brokers.....	11
Sociotechnical Landscape .....	12
3.2 Dynamic Interactions.....	14
4. Left Scale: Economic Growth .....	18
4.1 The Economic Growth Narrative.....	18
4.2 Metrics: Gross Domestic Product (GDP) .....	20
4.3 Accounts: System of National Accounts (SNA) .....	21
4.4 Models: Macro-Economic Models .....	23
4.5 Governance and Policies for Economic Growth .....	25
4.6 Final Remarks .....	26

5. Right Scale: Sustainable and Inclusive Wellbeing.....	27
5.1 WISE Narrative .....	27
5.2 WISE Metrics .....	33
5.4 WISE Accounts.....	37
5.5 WISE Models.....	42
5.6 WISE Governance and Policy.....	47
5.6 Final remarks .....	55
6. Tilting the Scale: Eight Recommendations.....	57
Recommendations - Theory of Institutional Change.....	58
Recommendations – Theoretical Framework Technical Infrastructure .....	60
References .....	62
Annex A. WISE Horizons Deliverables .....	74
WISE Metrics.....	74
WISE Accounts .....	74
WISE Models.....	74
Website.....	78
Governance and Policy: Collaboration and Co-creation.....	78
WISE book.....	78
Annex B. Measurement of Sustainable and Inclusive Wellbeing .....	79
Welfare Economic Theories.....	79
Subjective Wellbeing Approaches .....	79
Needs Theories .....	80
Capability Approaches.....	80
Ecological Approaches .....	81
Brundtland/Stiglitz reports .....	81
Summary.....	81
Annex C. Examples of Macro-Economic Models which Include WISE elements.....	82

## LIST OF FIGURES

Figure 1. Sustainable and Inclusive Wellbeing in relation to the Environmental, Social and Economic Systems .....	6
Figure 2. WISE Theory of Institutional Change .....	8
Figure 3. Four Phases of Institutional Change.....	16
Figure 4. The Number of Countries with National Income Figures .....	21
Figure 5. The Rise of Beyond-GDP metrics and Key Developments.....	27
Figure 6. Overview of Beyond-GDP metrics in relation to Wellbeing, Inclusion, and Sustainability.....	34
Figure 7. Beyond-GDP metrics climbing the Institutional Mountain .....	36
Figure 8. Traditional Economic vs. WISE Models .....	46
Figure 9 Recommendations Derived from the Theoretical Framework.....	57

## LIST OF TABLES

Table 1. Definitions of Wellbeing, Inclusion and Sustainability .....	6
Table 2. Degrowth, Green Growth, and A-Growth .....	29
Table 3. SNA editions, governance priorities and SNA innovations.....	38
Table 4. Core WISE accounts .....	42
Table 5. Spotlight of policy strategies and examples of associated policies .....	50

## LIST OF BOXES

Box 1. Input into this Report.....	2
Box 2. Green Growth, De-growth, and A-growth .....	31
Box 3. SEEA, DINA, and MRIOs.....	39
Box 4. Non-anthropocentric views and their way into formal institutions.....	48
Box 5. Examples of bottom-up approaches .....	54

## LIST OF ABBREVIATIONS

DINA	Distribution of Income in National Accounts
CBAM	Carbon Border Adjustment Mechanism
CGE	Computational General Equilibrium
CSD	Commission on Sustainable Development
DINA	Distribution in National Accounts
DSGE	Dynamic Stochastic General Equilibrium
EGD	European Green Deal
GDP	Gross Domestic Product
GNI	Gross National Income
HDI	Human Development Index
IAM	Integrated Assessment Model
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IO	Input-Output
IRA	Inflation Reduction Act
MDGs	Millennium Development Goals
MRIO	Multiregional Input-Output
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
RECs	Regional Economic Communities
SD	System Dynamics
SDGs	Sustainable Development Goal
SEEA	System of Environmental and Economic Accounts
SFC	Stock-flow-consistent
SGP	Stability and Growth Pact
SNA	System of National Accounts
SSF	Joseph Stiglitz, Amartya Sen, and Jean-Paul Fitoussi (referring to their collaboration on the SSF-report)
TiVA	Trade in Value Added
UNDP	United Nations Development Programme
UNNES	United Nations Network of Economic Statisticians
WEALL	Wellbeing Economy Alliance
WEGo	Wellbeing Economy Governments
WISE	Wellbeing, Inclusion and Sustainability

## SUMMARY

### The Need for a New Narrative

Societies around the world are facing serious ecological and social crises. The repercussions of climate change and biodiversity loss are starting to be felt, inequalities in income and wealth are growing, while global disparities between high-income and low-income countries persist and are sometimes intensifying. Demographic pressures of aging societies are starting to materialise and for the first time, life expectancy is declining in some high-income nations. Additionally, polarisation is causing deep social fissures, urban-rural divides and geo-political tensions are mounting. Some characterise this period as an era of “polycrisis”.

These crises are fuelling the idea that society has arrived at an impasse when it comes to defining its goals and resolving its problems. The “old narrative”, which prioritises the pursuit of economic growth (as measured by the change in Gross Domestic Product (GDP)), does not provide meaningful solutions to the various crises societies are currently facing. On the contrary, it seems to be a fundamental source of several of its predicaments.

Criticisms of the old narrative have existed for decades, alongside the emergence of alternative visions of a good life for all within environmental limits. Nevertheless, the debates surrounding a “new” framework are far from settled. Different proponents stress different goals, problems, and solutions with proposals ranging from incremental change to systemic overhaul. These alternatives include the Sustainable Development Goals, Doughnut Economics, and Better Life Initiative, to name a few. These frameworks have had success in sense that they have received scientific acclaim, are popular in the media or have garnered political support.

However, relative to the economic growth narrative, these alternatives have only had a small impact on public policies of national governments or international governance, laws, and treaties. Why? This is one of the enduring questions in the “Beyond-Growth” debate. There seems to be a lack of understanding about how new narratives could influence public policy. This report therefore aims to answer two crucial questions:

1. *How do narratives influence formal political institutions?* To answer this question, a *theory of institutional change* is proposed which is based on a synthesis of the literature on institutional economics and transitions theory. The framework is applied to examine how the economic growth narrative became so influential after the Second World War as well as its enduring dominance today. It is furthermore used to analyse the reasons behind the limited success of new narratives thus far.
2. *What theoretical foundation is needed for the technical infrastructure underlying this new narrative?* This report provides an interdisciplinary theoretical synthesis to guide the development of metrics, accounting frameworks, and macro-economic models based on three dimensions: wellbeing, inclusion, and sustainability (WISE) which is increasingly used in academic and (international) governance.



Together, these two elements form *the theoretical framework*. Based on these insights, eight concrete recommendations are provided which provide guidance on how to shift public policy away from economic growth to sustainable and inclusive wellbeing. Ultimately, the reason for developing this theoretical framework is to facilitate the effective advancement of a new narrative capable of resolving the interconnected problems that societies around the world are facing. Some of the recommendations will be pursued in the WISE Horizons project, while others will, hopefully, be picked up by other actors engaged in bringing about this vital shift in narrative.

## **The Societal Goals of the Theoretical Framework: Wellbeing, Inclusion, and Sustainability (WISE)**

What should the theoretical foundation of the new narrative look like? What goal would replace Gross Domestic Product (GDP) (the economic indicator used to quantify the size and growth of the economy)? What new metrics, accounting systems, and models would be needed to inform novel governance structures and policies? These are crucial questions, with the past 50 years yielding a plethora of high-quality answers. Yet, despite the many valuable proposals, there is a distinct lack of coherence in terms of methodologies, concepts, and terminologies used.

A crucial element of this lack of consistency is the formulation of an alternative policy goal to replace economic growth.<sup>1</sup> For many decades this has been referred to as the quest to go “Beyond-GDP”. However, “Beyond-GDP” only stresses on what society should *not* strive for. A positive formulation is needed. As long as an alternative narrative is only expressed in opposition to the old one, it will lack salience and effectiveness in influencing public policies. What is needed is a coherent vision for the goals of societies.

This report will show that the scientific literature is converging towards a sound theoretical foundation for a new narrative. There are also encouraging signs that various initiatives of the United Nations, the OECD, and the European Commission are converging towards a common conceptual and terminological foundation, which is based on the seminal Brundtland report and the Stiglitz-Sen-Fitoussi report that was published in 2009. This theoretical convergence is based on the distinction between three dimensions:

- *Wellbeing* reflects the average wellbeing of the current generation, encompassing both experienced wellbeing and factors such as social relations, mental health, air pollution, and material living standards.
- *Inclusion* relates to the distribution of wellbeing, comprising the distribution of wellbeing determinants and opportunities across spatial scales (within countries, between countries, and globally) and social groups (gender, ethnicity, socioeconomic background, etc.).
- *Sustainability* refers to the wellbeing of future generations, encompassing social and socioeconomic conditions for future wellbeing, such as education and

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<sup>1</sup> In this report, the term economic growth is taken as synonymous to the real growth (i.e. adjusted for price changes) of Gross Domestic Product (GDP)

infrastructure, as well as environmental aspects, emphasising the necessity of operating within Earth’s planetary boundaries.

These dimensions define societal progress from the perspective of inter-generational and intra-generational wellbeing. The main socio-political goal is therefore defined as *sustainable and inclusive wellbeing*. Less formally, the target of policy could be described as *wellbeing for all, now and in the future*. This goal is at the heart of the new narrative which this report proposes.

## Theory of Institutional Change

How do narratives influence the policies, governance, and technical tools that shape our societies? And how can these insights be used to promote an alternative narrative centred around sustainable and inclusive wellbeing? These are the questions the theory of institutional change seeks to answer.

Figure A presents a visualisation of the theory of institutional change, depicting a tilted scale, which shows that contemporary formal political institutions remain primarily aligned with the economic growth narrative. Ideas play a crucial role in that regard. In essence, there are four types of ideas: paradigms, public sentiments, frames, and programmes. Together these four ideas form a narrative which impact on decision-making processes within the formal political institutions.

The programmes – understood here as actionable plans – play a crucial mediating role, linking narratives to the formal political institutions. Programmes can be formulated for the three types of formal political institutions:

- *Technical infrastructure* includes metrics such as Gross Domestic Product (GDP), accounts such as the System of National Accounts (SNA), and models to assess macroeconomic policies or provide forward-looking scenarios.
- *Governance* refers to the political and regulatory frameworks that coordinate political action by defining the strategies, goals, and support mechanisms that underlie policies.
- *Policies* are concrete political interventions such as restrictions, bans, taxes, subsidies etc. aimed at changing the behaviours of societal actors in a desired manner.

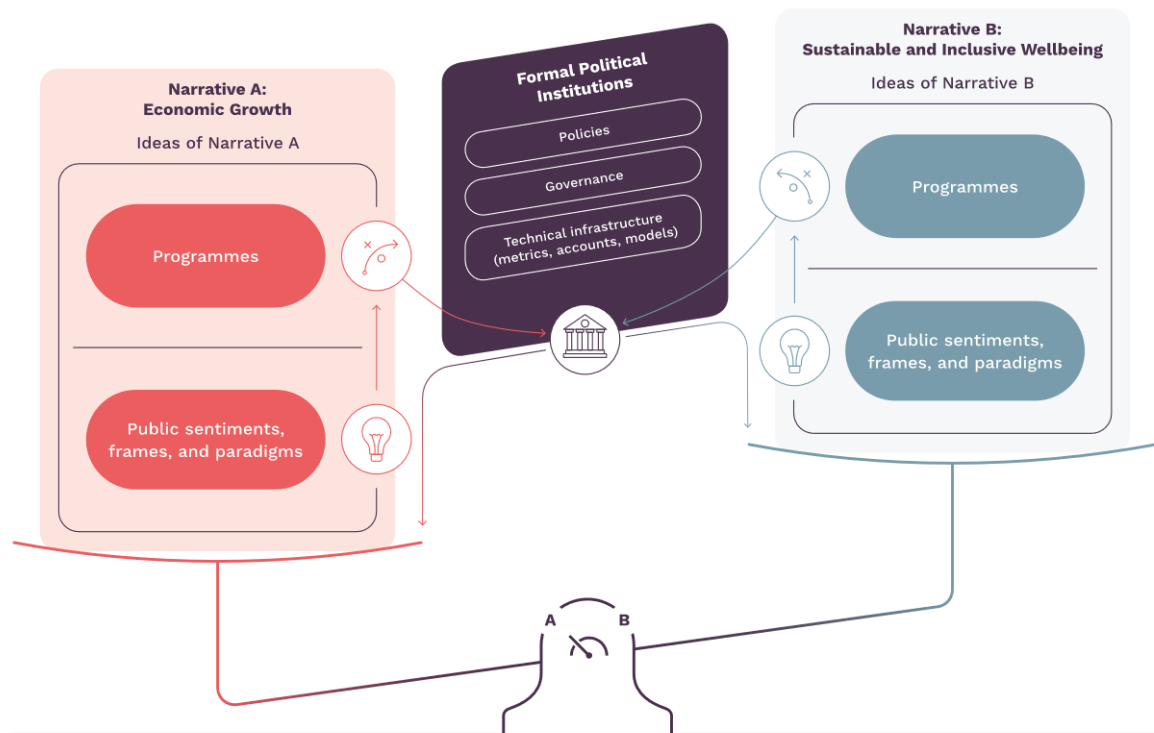


Figure A. Theory of Institutional Change – Simplified Representation

But how do can the scale be tilted from the economic growth narrative to the sustainable and inclusive wellbeing narrative? Answering this question requires reflecting on the dynamics of institutional change, which can in turn inform a strategic course of action to advance the institutionalisation of a new narrative within the formal political institutions.

The institutionalisation of a new narrative and its advancement through the formal political institutions is depicted in Figure B. The figure shows that initially a coherent paradigm forms, meaning that concepts, norms, and languages start to converge. Building on this alignment, the institutionalisation of a narrative usually commences with its translation into the technical infrastructure, that is the metrics, accounts, and models. Subsequently, governance builds on and employs the technical infrastructure by establishing political targets, allocating budgetary resources, or implementing enforcement mechanisms. Finally, governance informs and shapes the formulation and implementation of programmes for policies.

Crucially, reinforcing feedback loops between the formal political institutions facilitate the advancement of a new narrative through the phases. In that way, the establishment of technical infrastructure presents a crucial lever to shape governance and ultimately policies, which may give rise to a virtuous circle supporting the institutionalisation of a new narrative.

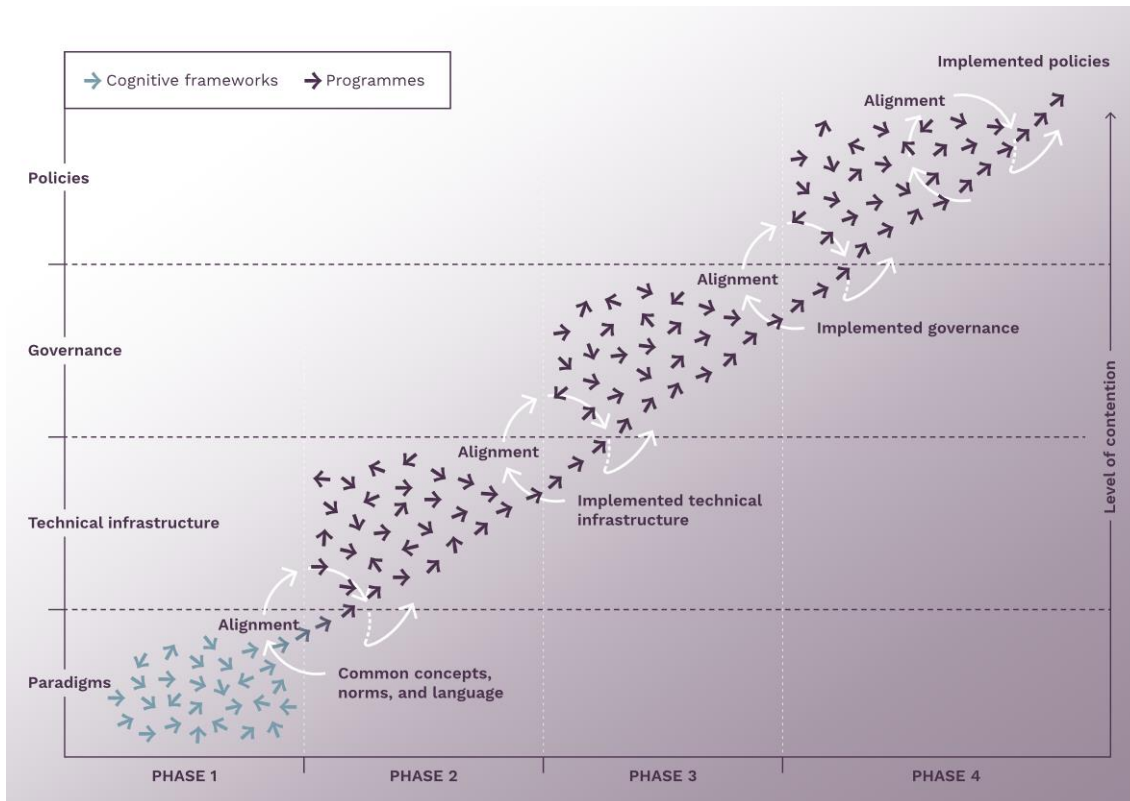


Figure B. The Four Phases of Institutional Change

## Left Side of the Scale: Economic Growth

The theory of institutional change is helpful to understand the ascent of the economic growth narrative in the past 70 years. The initial phase of this narrative was heavily dominated by the Great Depression and the Second World War. Within this context, political decisionmakers were looking for ways to manage these crises as well as develop policies to recover from them. Economists provided data, economic accounting systems, and models (technical infrastructure) which formed the basis for governance frameworks (e.g. the New Deal) and policy interventions (e.g. fighting unemployment by investing in roads, bridges, and dams).

In the post-war period, the technical infrastructure was aligned globally. In 1953, the UN decided to create the System of National Accounts (SNA) which formalised the language and concepts that were adopted by most macro-economists and which continue to be used to this day. Ultimately, the SNA also provided the data for empirical macro-economic models which helped decisionmakers navigate different policy options.

In the aftermath of the Second World War governments, and international organisations created governance structures to explicitly promote economic growth. Importantly, the Bretton Woods agreements which led to the creation of the World Bank and International Monetary Fund which are mandated to help manage the global economic and financial systems. The OECD was tasked to help Europe recover from the war and set a specific target for economic growth in 1961. In the European Union similar growth strategies, such as the Growth and Stability Pact, are used to enshrine

economic growth in governance. These governance frameworks have led to the implementation of countless policies on innovation, competitiveness, taxes, and international free trade with the primary aim of facilitating economic growth.

Given that the economic growth narrative is so extensively embedded in the current technical infrastructure as well as the governance and policy levels, it has the power of “the incumbent” to block the institutionalisation of a new narrative.

## Right Side of the Scale: Sustainable and Inclusive Wellbeing

To what extent have the ideas about a new narrative managed to provide a counterweight on the scale? For the last 50 years, many different elements of a sustainable and inclusive wellbeing narrative have been suggested. Numerous metrics (e.g. the Human Development Index, Sustainable Development Goals, Genuine Progress Indicator) have been proposed, alongside the development of accounting systems (e.g. the System of Environmental-Economic Accounts (SEEA)) and the creation of ecological macro-economic models. Some countries have experimented with governance to enhance wellbeing. A notable example is the wellbeing budget which was introduced by the New Zealand Treasury in 2019. In short, there have been numerous influential developments and notable successes worth celebrating.

The emergence of this narrative can be traced back to the early 1970s. A major catalyst was the *Limits to Growth* report by the Club of Rome, which employed the latest computer modelling methods of that time. This report was highly influential and also coincided with an important development in governance, namely the 1972 *Stockholm Conference on the Human Environment*. This conference led to the creation of the UN Environmental Program (UNEP) and led to many countries implementing environmental ministries. In terms of national governance, Bhutan’s Gross National Happiness program was also launched in the early 1970s.

Later, in 1987, the seminal *Brundtland report* was instrumental in advancing the concept of “sustainable development” and the Earth Summit of 1992 catalysed the political consideration of metrics in numerous countries. The OECD, World Bank, and the European Commission also developed their own Beyond-GDP approaches.

Many national governments followed suit. This also included a French initiative which led to the seminal *Stiglitz-Sen-Fitoussi report* which is foundational to the conceptual approach advocated in this report. Several countries, including New Zealand, combined force in the Wellbeing Economy Governments (WEGo) with support from the OECD. The formulation of the Sustainable Development Goals (SDGs) in 2015 provided a governance framework that has garnered significant support from governments, businesses, civil society actors, and other stakeholders.

While the above developments take a broad view of social progress, there are instances where a specific policy theme becomes particularly influential. In the case of climate change (a key component of sustainability), the Intergovernmental Panel on Climate Change (IPCC) played a pivotal role as it supported the establishment of political targets on the governance level such as the Kyoto Protocol and the Paris Agreement. Here, Integrated Assessment Models (IAMs) were developed to inform decision-making processes, serving as a scientific basis during negotiations. In a

similar way, the System of Environmental and Economic Accounts (SEEA) have been developed to guide climate and other environmental policies.

Given these developments, it would be mistaken to assume that there has been no advancement of the sustainable and inclusive wellbeing narrative within formal political institutions. But despite substantial progress, these developments remain insufficient when it comes fundamentally shifting the direction of public policies. A significant challenge lies in achieving greater alignment among existing approaches and initiatives, especially concerning the technical infrastructure.

## **Theoretical Framework: Creating WISE Technical Infrastructure**

The economic growth narrative has coherent technical infrastructure (metrics such as GDP, accounts such as the System of National Accounts (SNA), and macro-economic models). While there is heterogeneity in the modelling approaches, having a globally harmonised accounting framework with key indicators provides an important foundation to the success of the economic growth narrative.

What could a theoretical foundation for the sustainable and inclusive wellbeing narrative look like? Clearly, there is no need to start from scratch to create the WISE metrics, WISE accounts, or WISE models. It is more a matter of creating a coherent interdisciplinary synthesis of existing approaches, informed by the manifold seminal academic contributions of the past decades. Moreover, it is crucial to take a global, rather than a national perspective. Hence, the theoretical framework provides a coherent set of metrics, accounts, and models which can enable decisionmakers around the world to understand current societal challenges and formulate policies to resolve them.

## Recommendations

The insights of this report culminate in eight recommendations, five of which are based on the theory of institutional change and three of which are informed by the theoretical foundation of the technical infrastructure. This also raises the issue of which actors should implement each recommendation. These are specified in the sections below. The eight recommendations are summarised and depicted in their relation to our theoretical framework in figure C.

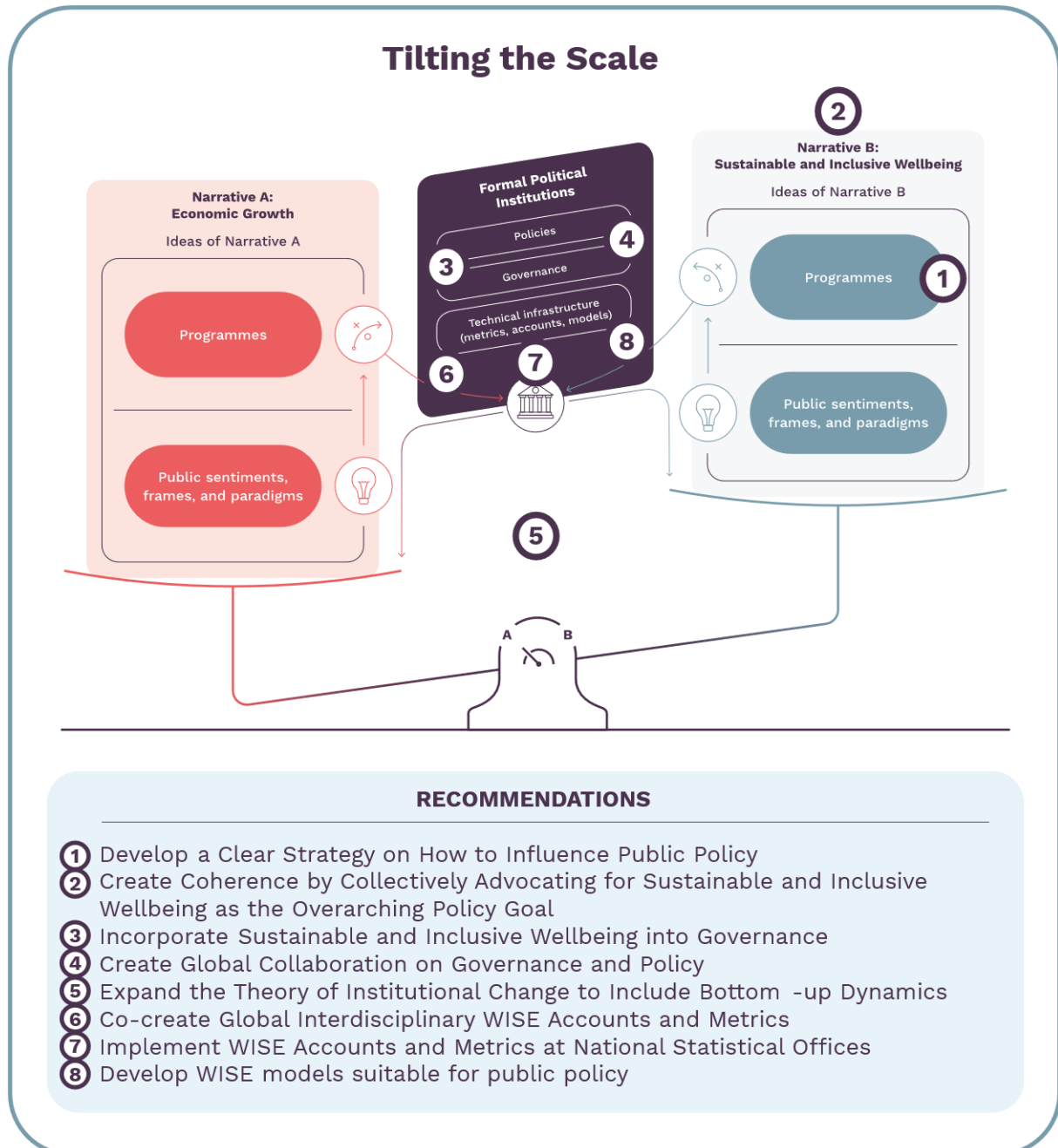


Figure C. Recommendations Derived from the Theoretical Framework



## Recommendations – Theory of Institutional Change

### 1. **Develop a Clear Strategy on How to Influence Public Policy**

Books and articles on the sustainable and inclusive wellbeing narrative often focus on the urgency of mainstreaming a new narrative and some come up with suggestions for a new metric or model. However, many initiatives in that space are not clear on how those ideas will be taken up in public policy. As a result, new approaches often remain in the academic sphere or confined to the realm of the technical infrastructure. For example, many Beyond-GDP indexes or dashboards have been developed but their real-world impact remains limited as these are too rarely integrated into governance and policy.

*This report recommends that **academics** wishing to contribute to the sustainable and inclusive narrative do so with the intention of creating a programme, a concrete actionable plan, that could be implemented in the technical infrastructure, governance, or policy sphere of the formal political institutions. This requires policy-literate academics capable of understanding how to link their work to the current political context and landscape as well as actors working at the science-policy interface. For example, it also requires **decisionmakers** capable of identifying scientific work that can shape public policy.*

### 2. **Create Coherence by Collectively Advocating for Sustainable and Inclusive Wellbeing as the Overarching Policy Goal**

There is a lot of heterogeneity when it comes to new narratives. This means that initiatives are often competing with each other in terms of influencing public policy and relevant decisionmakers. The Sustainable Development Goals, Doughnut Economics, Better Life Initiative, and the Human Development Index, among others have all had some success in gaining traction in public policy but provide divergent concepts and methodologies.

While all these initiatives agree that economic growth should not be societies' main goal, they are incoherent in terms of the suggested alternatives and the terminology employed. This report presents an interdisciplinary synthesis showing that all these initiatives are related to the three core concepts of the theoretical framework: wellbeing, inclusion, and sustainability. Furthermore, this categorisation – which is based on Brundtland report and the conceptual work of Stiglitz, Sen, and Fitoussi – has recently gained institutional traction in processes led by the United Nations, OECD, and the European Commission.

*This report invites **all actors** involved in formulating a new narrative to advocate sustainable and inclusive wellbeing as the main goal of society. This terminological consistency will add to the idea that the various initiatives are collaborating rather than competing and hence increase the chances of translating this new narrative into the formal political institutions.*



### **3. Incorporate Sustainable and Inclusive Wellbeing into Governance and Policy**

Currently the governance of national and local governments, central banks, and international bodies such as the International Monetary Fund, World Bank, and European Union, are geared primarily towards the old narrative of economic growth. The policies that are derived from these governance frameworks will logically prioritise GDP growth or other economic objectives such as inflation, competitiveness, and employment. Governance and policies are also needed that support the sustainable and inclusive wellbeing narrative in public policy.

*This report recommends that **political decisionmakers** incorporate the goal of sustainable and inclusive wellbeing into governance frameworks as a guiding principle, thus supporting the formulation of relevant policies. Political targets, enforcement mechanisms, and budgetary allocation should thus be aligned with the broad goal of sustainable and inclusive wellbeing.*

### **4. Create Global Collaboration on Governance and Policy**

Creating novel governance structures or policies is pioneering work. National, regional, and international authorities all over the world are experimenting with this issue, with varying degrees of success. In 2018, an informal network of countries known as the Wellbeing Economy Governments (WEGo) was established. Such knowledge sharing networks on governance and policy need to be scaled up and expanded.

A deliberative knowledge exchange process should build on existing groups such as WEGo or other initiatives that are managed by the UN, OECD, and other international organisations. These deliberations should convene a mix of policymakers, civil society actors, and academics with the aim of integrating sustainable and inclusive wellbeing into governance and policy.

*This report recommends that an international deliberation on governance and policies for sustainable and inclusive wellbeing is stimulated by **international organisations** and **governments** to promote the exchange of best practices. It is important that these exchanges are facilitated by adapting existing deliberative bodies which have already been initiated by international organisations.*

### **5. Expand the Theory of Institutional Change to Include Bottom-up Dynamics**

The theory of institutional change has been created to facilitate understanding of how the formal political institutions of national governments and international organisations can be steered away from a focus on economic growth towards embracing a new narrative centred on Sustainable and Inclusive Wellbeing.

The theory thus focuses on top-down dynamics in which changes of the formal political institutions in line with sustainable and inclusive wellbeing give rise to desirable societal transformations. Due to this focus, the theory does not take into account the role and impact of bottom-up initiatives by individuals, NGOs, or other civil society actors, but still acknowledges their vital importance when it comes to bringing about narrative change.

*This report recommends that the theory of institutional change is expanded by **academics** to include bottom-up dynamics.*

## **Recommendations – Theoretical Framework Technical Infrastructure**

To bring about narrative change in public policy, it is crucial to advance the theoretical foundation of metrics, accounts, and models and thus contribute to the establishment of the technical infrastructure. These technical tools are essential to embed the sustainable and inclusive wellbeing narrative in governance and policy.

This is the part of the theoretical framework which the WISE Horizons project will be focussing on in the coming years. In essence, the project will be formulating programmes which could be implemented by national governments and international organisations. It is, of course, beyond the mandate of the project to dictate to political decisionmakers which metrics, accounts, and models to implement. Nevertheless, the project will provide clear guidance on the steps that might be taken towards institutionalisation of these tools based on an interdisciplinary synthesis of the scientific literature.

### **6. Co-create Global Interdisciplinary WISE Accounts and Metrics**

In the case of economic statistics, the core metric (Gross Domestic Product) is part of an internationally agreed accounting standard (System of National Accounts). The formal accounting framework also makes it possible to look at trade-offs and synergies between economic variables which is vital to assess the overall impacts of economic policies. In the case of sustainable and inclusive wellbeing the link between metrics and accounts is much weaker. Quite often, WISE indexes and dashboards are suggested without a formal accounting structures to support them.

The endeavour to create WISE accounts and metrics can build on the experience of the System of National Accounts (SNA), and extended accounts such as the System of Environmental-Economic Accounts (SEEA) and the Distribution of Income in National Accounts (DINA). This should be an interdisciplinary undertaking involving mainstream economists, heterodox economists, other social sciences, and natural sciences.

*This report recommends that the statistical governance of the international institutes facilitate a co-creation process for **academics, statisticians, and modellers** to develop interdisciplinary WISE accounts and metrics. Involving stakeholders from policy would also ensure that the WISE accounts and metrics align with their needs, which would increase chances of political uptake.*

### **7. Implement WISE Accounts and Metrics at National Statistical Offices**

The mere existence of an accounting framework does not automatically result in its adoption by statistical institutes. In certain cases, adoption was facilitated by legally mandating the implementation of statistical frameworks. For example, some of the

modules of the SEEA are compulsory for EU Member States. However, many countries lack statistical resources needed for implementation and hence require assistance from international organisations. The World Bank, International Monetary Fund, and United Nations often have funds available (for SNA, SEEA or SDGs) for relevant capacity building. The WISE accounts implementation should be designed with these efforts in mind.

*Building on recommendation 6, this report recommends that **international organisations** support the implementation of WISE accounts at **national statistical offices**. These efforts should build on existing capacity building programs.*

### **8. Develop WISE Models Suitable for Public Policy**

Current macro-economic models used in public policy do not capture all dimensions or interactions relevant to sustainable and inclusive wellbeing. This is partially due to a lack of high-quality data which should be resolved by the introduction of WISE accounts. Nevertheless, there are also more foundational ways in which existing models ought to change, including the need for changes in the underlying methodologies and assumptions.

*This report recommends that the **academic and policy modellers** keep improving WISE models (based on WISE accounts) and that **decisionmakers** explore ways to increase the influence of these models on policymaking.*

### **Tilting the Scale: Wellbeing for All, Now and in the Future**

The eight recommendations offer high-level guidance on long-term objectives, outlining how various actors can collaborate to bring about societal change. Academics and actors working at the science-policy interface (such as those involved in the WISE Horizons project) can make sure that their work is cognisant of governance and policy processes. However, this narrative change is a collective endeavour, involving a multitude of actors, each playing their own role in advancing the sustainable and inclusive wellbeing narrative.

The narrative change that is needed is within reach. Through collective coordinated efforts, public policy can shift from economic growth towards a new narrative that prioritises sustainable and inclusive wellbeing. Let's tilt that scale, starting today.

# 1. INTRODUCTION

## 1.1 Setting the Scene

Societies around the world are facing serious ecological and social crises. The repercussions of climate change and biodiversity loss are starting to be felt, inequalities in income and wealth are growing, while global disparities between high-income and low-income countries persist and are sometimes intensifying. Demographic pressures of aging societies are starting to materialise and for the first time, life expectancy is declining in some high-income nations. Additionally, polarisation is causing deep social fissures, urban-rural divides and geo-political tensions are mounting. Some characterise this period as an era of “polycrisis” (Tooze, 2022).

These crises are fuelling the idea that society has arrived at an impasse when it comes to defining its goals and resolving its problems. The “old narrative”, which prioritises the pursuit of economic growth (as measured by the change in Gross Domestic Product (GDP)), does not provide meaningful solutions to the various crises societies are currently facing. On the contrary, it seems to be a fundamental source of several of its predicaments.

Criticisms of the old narrative have existed for decades, alongside the emergence of alternative visions of a good life for all within environmental limits. Nevertheless, the debates surrounding a “new” framework are far from settled. Different proponents stress different goals, problems, and solutions with proposals ranging from incremental change to systemic overhaul. These alternatives include the Sustainable Development Goals, Doughnut Economics, and Better Life Initiative, to name a few. These frameworks have had success in sense that they have received scientific acclaim, are popular in the media or have garnered political support.

However, relative to the economic growth narrative, these alternatives have only had a small impact on public policies of national governments or international governance, laws, and treaties. Why? This is one of the enduring questions in the “Beyond-Growth” debate. There seems to be a lack of understanding about how new narratives could influence public policy. This report therefore aims to answer two crucial questions:

1. *How do narratives influence formal political institutions?* To answer this question, a *theory of institutional change* is proposed which is based on a synthesis of the literature on institutional economics and transitions theory. The framework is applied to examine how the economic growth narrative became so influential after the Second World War as well as its enduring dominance today. It is furthermore used to analyse the reasons behind the limited success of new narratives thus far.
2. *What theoretical foundation is needed for the technical infrastructure underlying this new narrative?* This report provides an interdisciplinary theoretical synthesis to guide the development of metrics, accounting frameworks, and macro-economic models based on dimensions: wellbeing, inclusion, and sustainability (WISE) which are increasingly used in academic and (international) governance.

Together, these two elements form *the theoretical framework*. Based on these insights, eight concrete recommendations are provided which provide guidance on how to shift public policy away from economic growth to sustainable and inclusive wellbeing. Ultimately, the reason for developing this theoretical framework is to facilitate the effective advancement of a new narrative capable of resolving the interconnected problems that societies around the world are facing. Some of the recommendations will be pursued in the WISE Horizons project, while others will, hopefully, be picked up by other actors engaged in bringing about this vital shift in narrative.

### Box 1. Input into this Report

During the drafting of this theoretical model various inputs were used:

- *State of the art scientific and grey literature*. The framework is based on existing literature, both academic articles and books as well as policy documents which are very prevalent in this field.
- *Project Deliverables*. In the first year of the project a number of important deliverables were published which included the review of metrics, review of models and the review of policies, which are all linked to sustainable and inclusive wellbeing.
- *Co-creation labs*. In late 2023, two co-creation labs were held in Brussel to help inform the future direction of the project. The Future Lab (September 2023) and the Just Transition Lab (November 2023) help the project get feedback from dozens of stakeholders. These labs were especially useful in generating ideas for the WISE Horizons' models but also this theoretical framework.
- *WISE Horizons advisory board*. The AB of the project, which included many important theorists in this space were also asked to respond to this document.
- *Discussions with other initiatives*. There are other Beyond-Growth projects beyond WISE Horizons. The European Commission has commissioned various project (REAL, ToBe, SPES, WISER, MAPS, MERGE), the so-called "sister projects", each of which has their own focus. There has been intensive collaboration between these projects to look for areas for collaboration. WISE Horizons also has contacts with the OECD WISE centre, the World Bank, International Monetary Fund and European Central Bank. At the UN level, WISE Horizons has been involved in discussion of three processes: Valuing What Counts (initiated by the Secretary General), the 2025 revision of the System of National Accounts (SNA) and the UN Network of Economic Statisticians (UNNES). There have also been discussions and collaborations with NGOs like Greenpeace, Oxfam, and Wellbeing Economy Alliance (WEALL).

It is important to stress that this is work in progress and covers an enormous amount of scientific ground. For example, the debate about the goal of society goes back millennia (Sedlacek, 2011). The WISE Horizons project will finish at the end of 2026. At the time of writing, the project has been running for 1 year. This report is an interim version, which is based on the expertise of the project members, the first deliverables of the project and the input from various stakeholder consultations (see Box 1 for all inputs). At the end of the project, the project outcomes will be summarised in a book. This is also where the consortium will be updating the theoretical framework based on comments, suggestions and new insights that are received along the way.

## 1.2 Key Features of the Theoretical Framework

The theoretical framework starts from the premise that there is no shortage of ideas about what direction society should take. It has been known for decades that economic growth is a poor compass for society and that alternatives are needed. Countless publications have been written in the past 50 years suggesting alternative approaches to societal progress. Based on the above, some key features are:

- *Don't start from scratch.* The framework synthesises and builds on existing work. It uses the scientific and policy insights from the past decades as a foundation. The WISE Horizons project is therefore aimed at synthesising and improving existing work, rather than starting from scratch. It also provides a synthesis of the literature on institutional change as well as the sustainability and wellbeing science.
- *Prioritise alignment.* The problem which this report identifies is that while there are countless ideas/narratives about new models, there is a lack of coherence and collaboration which is worsened by a lack of terminological agreement. A common language is important for a strong narrative.
- *Focus on public policy.* This report is particularly focussed on influencing the application of metrics, accounts, and models (later to be introduced as 'technical infrastructure') in public policy. The collection and utilisation of data is most closely related to our project's sphere of influence. The importance of bottom-up initiatives, activism or NGOs are mentioned in various chapters, but are not the focus of attention. While recognising the key role that bottom-up initiatives play in societal change, the WISE Horizons project complements these perspectives by offering insights specifically on the application of data into public policy, as a means of fostering cross-societal transformation.
- *Wellbeing, Inclusion, and Sustainability (WISE).* The report will show that these terms are a good starting point for the high-level goals of society. The terms refer to the average quality of life (wellbeing), the distribution of wellbeing (inclusion) and future wellbeing (sustainability). For inclusion there is also a distinction between national inequalities and global inequalities. These terms seem to be a good foundation for terminological harmonisation as many publications use them and these terms are being advocated by international and national institutes.
- *Present a human-based approach.* While it is important for academics and policy makers to understand sustainable development from a systems perspective, this type of thinking is often too abstract to be relatable. The above framing of wellbeing, inclusion, and sustainability has the advantage of resonating at an individual human level. This framing will allow people to understand the impacts of transition on their lives now and in the future.
- *Global, multifunctional, and flexible.* The WISE alternative which is proposed in this report is intended to be applicable at the global scale. That means that it requires a certain flexibility because local social, cultural, and political differences exist. The future is uncertain and is likely to provoke new policy questions. The system should be capable of being adaptive to new insights and perspectives.
- *Trade-offs and synergies.* One of the core features of the framework is that it makes it possible to weigh the positive and negative impacts of governance and policies on sustainable and inclusive wellbeing. This will provide insight into the necessary trade-offs between different objects and also potential for win-win policies which advance multiple objectives at once.



### 1.3 Outline of this report

The two elements of the theoretical framework (theory of institutional changes and theoretical foundations of the technical infrastructure) show how society, with a focus on the formal political institutions, might shift away from the pursuit of economic growth towards sustainable and inclusive wellbeing. The report includes the following chapters.

- Chapter 2 presents the core concepts of the theoretical framework: wellbeing, inclusion, and sustainability.
- Chapter 3 puts forward the theory of institutional change on how to *tilt the scale* from the economic growth narrative towards the sustainable and inclusive wellbeing narrative. This explains how to influence public policy by understanding the links between narratives and formal political institutions. The chapter other factors such as the socio-technical landscape and media.
- Chapter 4 uses the theory of institutional change to explain the dominance of the economic growth narrative (left part of the scale) in public policy.
- Chapter 5 uses the theory of institutional change to assess the progress that has been made by the sustainable and inclusive wellbeing narrative (the right part of the scale) in formal political institutions. The theoretical framework of the technical infrastructure is also presented.
- Chapter 6 has various specific recommendations about how to accelerate these developments and ultimately tilt the scale.

In Annex A, readers that are interested in the next steps of the WISE Horizons project can obtain a brief description of some of the deliverables that are expected.

## 2. THEORETICAL CONCEPTS: WELLBEING, INCLUSION AND SUSTAINABILITY

The introduction discussed the need to shift away from the economic growth narrative. If economic growth should not be the goal of society, what should? What should be the way in which “progress” is defined? For the past decades, many different scientific disciplines and political processes have grappled with this issue, leading to many different publications. The WISE Horizons project proposes a synthesis of various scientific schools of thought and seminal Beyond-Growth reports.

The interdisciplinary synthesis, which was published earlier (Jansen et al., 2023), concludes that progress has three dimensions: wellbeing, inclusion, and sustainability. While the terminology might differ, in essence the initiatives focus on:

- *Wellbeing* reflects the average wellbeing of the current generation, encompassing both experienced wellbeing and factors such as social relations, mental health, air pollution, and material living standards.
- *Inclusion* relates to the distribution of wellbeing, comprising the distribution of wellbeing determinants and opportunities across spatial scales (within countries, between countries, and globally) and social groups (gender, ethnicity, socioeconomic background, etc.).
- *Sustainability* refers to the wellbeing of future generations, encompassing social and socioeconomic conditions for future wellbeing, such as education and infrastructure, as well as environmental aspects, emphasising the necessity of operating within Earth’s planetary boundaries.

Table 1 gives some more information on the three dimensions and also the breadth of terminology and determinants which can be linked to policy domains. In essence, these three dimensions help to approach societal progress from the perspective of inter-generational and intra-generational wellbeing.

All three dimensions interact with the economy, societal and environmental systems, as illustrated in Figure 1. The dynamics of these systems affect the wellbeing and its distribution amongst people and over space and time.

Annex B explains how the three key dimensions follow from five scientific schools of thought (welfare economics, subjective wellbeing, needs theories, capability approach, and the ecological approach) and influential reports such as the UN’s Brundtland Report (1987) and the Stiglitz-Sen-Fitoussi Report (2009).



Table 1. Definitions of Wellbeing, Inclusion and Sustainability

Term	Wellbeing	Inclusion	Sustainability
<b>Slogan</b>	Wellbeing today	Wellbeing for all	Wellbeing in the future
<b>Definition</b>	The average wellbeing of the current generation. Wellbeing is a multidimensional concept which encompasses both experienced wellbeing, including life satisfaction, and factors such as social relations, mental health, and living standards.	The distribution of wellbeing. Inclusion is a multidimensional concept which encompasses the distribution of wellbeing determinants and opportunities across spatial scales (within countries, between countries, and globally) and social groups (gender, race, background, etc.).	The wellbeing of future generations. Sustainability is a multidimensional concept which encompasses social and economic conditions for future wellbeing, such as education and infrastructure, as well as environmental conditions, emphasising the necessity of operating within Earth's planetary boundaries.
<b>Related concepts</b>	Happiness, quality of life, prosperity, welfare, life satisfaction, flourishing, fulfilment	Equality, fairness, equity, opportunities, minorities, poverty, social floors, subsistence, (global) disparities	Resilience, long term, wealth, planetary boundaries, natural limits, resources, natural capital, human capital, social capital
<b>Dimensions of wellbeing, Inclusion and Sustainability</b>	Health, social connections, housing, air pollution	Poverty, gender and racial disparities, global north-south divide, and other regional divides	Climate change, biodiversity, aging society, Research and Development, infrastructure, public debt

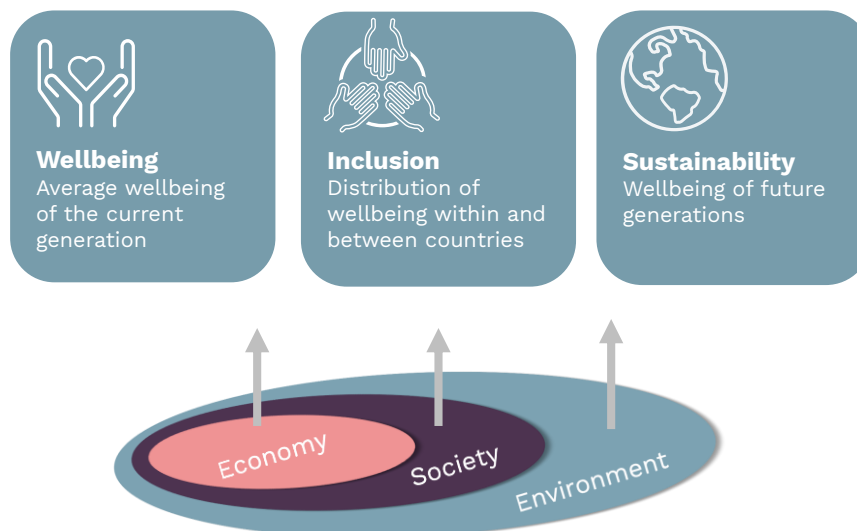


Figure 1. Sustainable and Inclusive Wellbeing in relation to the Environmental, Social and Economic Systems

### 3. THEORY OF INSTITUTIONAL CHANGE

The purpose of this chapter is to present a theory of institutional change outlining how narratives on sustainable and inclusive wellbeing can inform socio-political change. Building on existing literature on institutional change (Campbell, 2020; Geels, 2019; Mahoney & Thelen, 2009; Streeck & Thelen, 2005; Sydow et al., 2009), the theory of institutional change focusses on the question of how ideas of a narratives translate into and shape formal political institutions and hence public policy. In doing so, framework addressed a salient research gap in post-growth discourse, namely the lack of a theory of the state (D’Alisa & Kallis, 2020).

#### 3.1 Conceptual Building Blocks

Figure 2 provides a visual summary of the theory of institutional change, which seeks to explain how narratives affect public policy and can lead to changes in political decision-making. The theory of institutional change comprises the following core elements:

- Four types of ideas and the related key actors: paradigms, public sentiments, frames, and programmes
- Competing narratives, understood here as a particular configuration of ideas
- Formal political institutions as narratives translated into law, legislation, and political rules
- Media attention and brokers as the relevant actors in that space
- The sociotechnical landscape that affects the impact of competing narratives on formal political institutions

Before diving into a more detailed description of each of the above elements, let us now turn to a general description of the visual. The basic starting point of the theory of institutional change is that different narratives are competing against each other in public and political discourse for influence on the formal political institutions. These narratives are made up of different types of ideas with particular actors engaging with them. Programmes – understood here as actionable plans – can be formulated for each of the three formal political institutions.

Crucially, programmes are very much interrelated with the other three ideas, in the sense that programmes are based on certain paradigms, take into account public sentiments, are formulated using specific frames. Some narratives are, however, more influential than others and hence largely determine the policies, governance, and technical infrastructure put into place. This narrative bias present in the formal political institutions is further amplified by media attention and the brokers engaged in shaping public discourses.

The implementation of programmes i.e. their formalisation as political institutions in turn reinforces the strength of a given narrative in the form of a feedback loop that culminates in narrative path dependence and a self-sustaining lock-in of formal political institutions. Lastly, it should be noted that this process is embedded into and hence determined by a broader sociotechnical landscape that comprises physical/mental structures, power dynamics, as well as societal trends and shocks.

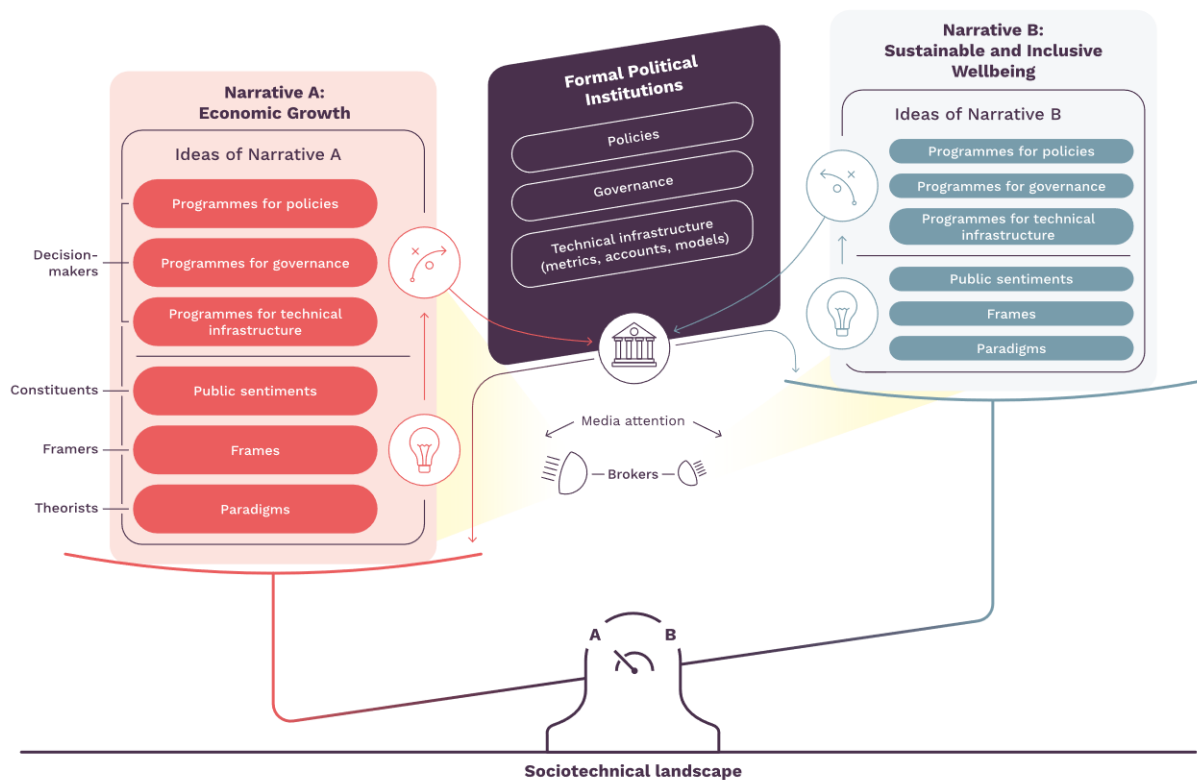


Figure 2. WISE Theory of Institutional Change

## Types of Ideas and Key Actors

Laws and political rules do not come out of nowhere. Rather, they are ideas formalised by legal and political institutions; ideas about what is right and wrong, what is good and bad, what is desirable and undesirable, how the world works, which norms should be reflected in law and which ones should not. Ideas are therefore the starting point for any institutional change, including changes in formal political institutions. In order to understand how ideas linked to wellbeing, inclusion and sustainability can be translated into political institutions, it is worth examining the interplay between ideas and institutional change, which Campbell (2020) has comprehensively scrutinised. Campbell (2020) distinguishes four types of ideas:

- **Programmes** refer to elite-prescribed plans that specify a clear course of action or solution approaches for public and private decisionmakers to implement. In the theory of institutional change, programmes occupy a special role in the idea realm, as they function as the immediate mediator between ideas and the formal political institutions.
- **Paradigms** are socially constructed cognitive frameworks or assumptions about the world that determine what programmes decisionmakers perceive as beneficial or worthy of consideration.
- **Frames** comprise normative symbols and concepts used by decisionmakers to legitimise programmes to their constituents.

- **Public sentiments** can be understood as the conglomerate of the constituents' values, norms, and opinions that limit the range of normatively acceptable programmes available to decisionmakers.

Logically, these ideas do not emerge nor develop in a vacuum. They are shaped by the interaction with and among actors. Furthermore, each type of idea is linked to a specific set of actors that operates in that specific realm.

- With respect to programmes, **decisionmakers** from both policymaking and the corporate realm constitute the main actors, as they seek to implement programmes into their area of operations. Hence, political decisionmakers represent the most proximate actors when it comes to changing formal political institutions, as they carry ideas (in the form of programmes) into the political arena of implementation.
- In the ideational realm of paradigms, **theorists** – that is primarily academics and intellectuals – play the primary role. Most importantly, theorists not only influence and shape paradigms but may also engage in constructing programmes in line with those paradigms.
- In the space of policymaking and the associated frames, this legitimisation is often aided by **framers**, which encompass actors such as campaign managers, spin doctors, and political handlers.
- Public sentiments are shaped by **constituents**. Depending on the particular context, this group may comprise the general public, voters, but also corporate and political elites as well as investors.

## Competing Narratives

Building on Campbell's (2020) typology of ideas, it is argued here that a narrative comprises a (more or less) coherent set of ideas, in which the different types of ideas align along the lines of a shared vision or a particular societal goal.<sup>2</sup> In that way, narratives act as a 'contagious story' with the power to shape people's behaviour (Shiller, 2019). When decisionmakers successfully translate elements of a narrative into the formal political institutions, the influence of a narrative is elevated and hence starts to affect society as a whole.

Narratives – and their underlying ideas – stand in competition with each other to influence formal political institutions, which is illustrated in Figure 2 the two sides of the scale. Think of the economic growth narrative that shares the societal goal of increasing material living standards to achieve high levels of wellbeing. This in turn can be subdivided into sub-narratives such as the Keynesian or neoclassical growth narrative. While these two may agree on the same goal, they differ in their underlying theoretical conceptualisation of the economy and vary in terms of the means to achieve wellbeing. Conversely, sustainable and inclusive wellbeing constitutes a competing narrative with a more holistic understanding of the fundamental conditions that matter for human flourishing and hence different policy prescriptions.

Narrative competition does not take place on a level-playing field. Quite the opposite is true in fact. As some narratives are deeply engrained in both the formal political

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<sup>2</sup> The definition of a narrative is specifically linked to Campbell's (2020) theory of ideas and hence deviates from the ordinary meaning of the term.

institutions and individual and collective behaviour, there is little room for opposing ideas to challenge the existing narrative predominance present in formal political institutions. Such an institutional lock-in – which is observed with respect to the economic growth narrative and the related prominence of the GDP indicator in economic policymaking (Kaufmann et al., 2023) – is hence characterised by a pronounced resistance to change maintained through reinforcing feedback loops. Essentially, the institutionalisation of a narrative in the formal political institutions reinforces its ideational legitimacy and predominance, which in turn encourages the implementation of further programmes aligned with that narrative. For instance, the implementation of growth-centred economic policies reinforces positive attitudes towards economic growth (public sentiments), as decision-makers stress the importance of growth as a means to foster prosperity (frames). Supported by economists (theorists), the belief that economic growth is essential to human flourishing and societal progress (paradigms) is strengthened. This favourable ideational setting hence encourages the formulation and implementation of further growth-enhancing economic policies, which further advances the societal predominance of the economic growth narrative.

## Formal Political Institutions

Our Theoretical framework builds on institutional literature from the social, economic, and political sciences. In contrast to an everyday understanding of institutions, institutions are understood as “the rules of the game in society” (North, 1990, p. 3) or “as systems of established and prevalent social rules that structure social interactions” (Hodgson, 2006, p. 2). Institutions can be either formal or informal.<sup>3</sup> Formal institutions are codified in written form and comprise laws, directives, and contracts. Conversely, informal institutions are not formally codified but rather grounded in social acceptance and hence include instances such as social norms, values, cultural practices, customs, and traditions (Lauth, 2015).

Here, the framework focuses *formal political institutions* defined as formalised and codified rules and procedures of government bodies that structure social interactions with the purpose of influencing individual and collective behaviour in society. Employing this notion of formal political institutions, it is possible to describe the interplay of key elements of the WISE project: indicators, their representation in macroeconomic models and accounting frameworks as well as their interrelation with governance and policies.

Building on governance literature (Lange et al., 2013; Treib et al., 2007), research on policy learning and knowledge utilisation in policy (Bauler, 2012; Hezri & Dovers, 2006), as well as work done by Kaufmann et al. (2023), three formal political institutions are identified, which are of central concern for the WISE Horizons project: technical infrastructure, governance, and policies.

**Technical infrastructure** comprises those formal political institutions that structure the institutionalised application of indicators, indexes, and dashboards. The technical infrastructure hence includes guidelines and standards for data compilation in accounting systems (e.g. System of National Accounts [SNA] or the System of

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<sup>3</sup> Note, however, that formal institutions are always dependent on informal institutions. Hence, a clear distinction between the two is in many practical cases elusive (Hodgson 2006).

Environmental-Economic Accounting [SEEA] as well as macroeconomic models used by government bodies or international organisations for policy evaluation and impact assessments (e.g. QUEST or GEM-E3 used by the European Commission).

**Governance**<sup>4</sup> refers to the political and regulatory frameworks that coordinate political action by defining the strategies, goals, and support mechanisms that underlie policies. Kaufmann et al. (2023) identify five distinct, however, often interrelated modes of governance:

- Reporting and monitoring are institutionalised practices of data collection and publication on specific societal and economic issues (e.g. EU's Resilience Dashboards or the Social Scoreboard).
- Ex-post policy evaluation refers to institutionalised assessments of past policies or political developments with the purpose of informing policymaking in the future (e.g. the European Semester and its country-specific recommendations).<sup>5</sup>
- Political targets are set to inform and guide political decision-making by outlining a specific objective (e.g. the debt and deficit rules of the Stability and Growth Pact).
- Budgetary allocation rules use particular metrics to determine the distribution of financial resources among countries and regions (e.g. the Recovery and Resilience Facility was distributed among Member States based on population, GDP, and employment indicators).
- Enforcement mechanisms can complement and increase the political power of targets, often through financial penalties (e.g. the Excessive Deficit Procedure of the Stability and Growth Pact can lead to countries being fined up to 0.5% of their GDP).

**Policies** are the concrete measures and instruments used by policymakers to achieve political objectives by changing the incentives, regulations, and information that societal and economic actors (business, citizens, organisations) face (e.g. EU Emissions-Trading-System, Minimum Wage Directive, Corporate Sustainability Reporting Directive).

## Media Attention and Brokers

In today's society, media stands as a crucial and pervasive source of information, extending beyond individual experiences to shape collective understanding of complex issues. Media serves as the primary "interpretative system" in modern societies (Peters & Heinrichs, 2005, p. 2), wielding significant influence in reinforcing prevailing dominant narratives and potentially facilitating the promotion of alternative ideas (Schmidt et al., 2013). Through the selective curation, arrangement, and presentation of information, media outlets frame public discourse, highlighting certain interpretations while marginalising or overlooking others, thus actively shaping perceptions of reality. Consequently, media platforms play a key role in shaping the collective understanding of phenomena as well as the acceptance of policy programmes (Grisold & Theine, 2017). In doing so, the media may magnify

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<sup>4</sup> Note that the use of the term governance differs from the established use of the term in the literature.

<sup>5</sup> Ex-ante policy evaluation often comprises the use of macroeconomic models to assess the potential impacts of policy options and is hence part of the technical infrastructure.



certain narratives over others, hence shaping public discourse and political agendas (Hall, 1993).

The role that media has traditionally played in the promotion of predominant narratives has become more complex and nuanced with the emergence and rapid adoption of social media worldwide. Social media platforms have consolidated as dynamic arenas where existing narratives are simultaneously bolstered and challenged. While the low entry barriers of these platforms may democratise communication channels, they also pose challenges in regulating the quality of information transmitted (e.g. Mäkelä et al., 2021). Through user-generated content and interactions, social media amplifies dominant narratives, serving as a platform for their dissemination and reinforcement. Yet, these platforms can also empower marginalised voices to challenge prevailing narratives, providing space for alternative perspectives to gain traction (Cooper, 2015). As a result, social media assumes a dual role, simultaneously supporting and challenging existing narratives, thereby shaping public discourse in increasingly intricate ways.

The relative attention that media pays to different narratives is largely determined and shaped by ideational brokers. Brokers in Campbell's (Campbell, 2020) sense operate at the intersection of the different ideational realms and hence affect the transmission of ideas. Crucially, brokers influence the extent to which different narratives shape the formal political institutions, hence oftentimes reinforcing existing narrative biases regarding the orientation of the formal political institutions. Brokers constitute a diverse actor group, inter alia including media actors, pollsters, expert advisors, consultants, think tanks, business, and trade associations.

## **Sociotechnical Landscape**

The changes of formal political institutions do not take place in a vacuum but are influenced by a multitude of factors. Here, the term sociotechnical landscape is used to capture the various factors affecting the competition of narratives and their impact on formal political institutions. This draws on the Multi-Level Perspective on transitions (Geels, 2019; Geels & Schot, 2007) but deviates from this conception by considering not only gradual changes (like demographic shifts or deep cultural patterns) and shocks (like wars, pandemics or financial crises), but also other key elements of the socio-technical regime as defined by Geels, such as infrastructure, actor constellations, power dynamics, and technologies. Through the complex interaction of these components, the sociotechnical landscape establishes the high-level constraints that determine narratives and the formation of formal political institutions. Here, three interlinked elements are identified for the sociotechnical landscape: physical and mental societal structures, power structures, and landscape trends and shocks.

### **Physical and mental structures**

The concept of physical infrastructure encompasses a broad array of tangible assets and systems that facilitate the myriad of activities within a society. It inter alia comprises elements such as energy infrastructure, transportation networks, telecommunication systems, urban infrastructure, and manufacturing facilities. The prevailing physical infrastructure is often the result of path dependencies, resulting in lock-in situations that constrain the options available to decision-makers (Goldstein et al., 2023). A classic example is the carbon lock-in, where the dominant

fossil fuel-based infrastructure and energy systems (in conjunction with institutional and political forces) create barriers to ambitious climate policy and the diffusion of environmentally friendlier technologies (Unruh, 2000).

A related but less commonly used concept is that of mental societal structures. These refer to the intangible cognitive frameworks of beliefs and thought patterns that influence individual and collective beliefs, behaviours, and perceptions. They encompass people's habits, expectations, biographical experiences (Welzer, 2011). As Harald Welzer (2011, p. 11) points out that "the lifeworld is not only shaped by material and institutional infrastructures, but also by mental ones". More specifically, Welzer argues that progress, prosperity, and growth are deeply enshrined in our mental infrastructure, shaping our desires, hopes, and values. As a result, and in the same fashion as the physical infrastructure, mental infrastructures tend to play a key role in limiting what is perceived as available policy option.

### **Power structures**

Generally speaking, power can be defined as the "(in)capacity of actors to mobilize resources and institutions to achieve a goal" (Avelino, 2017, p. 512) and is hence an inherent aspect to social relations and human interaction that shapes institutional change. According to Fuchs et al. (2016), power can be exercised in three different ways. First, instrumental power refers to actions such as lobbying, where actors directly influence political decisions by drawings on their material and monetary resources. Second, structural power is the ability to influence decision-making by shaping the options available to other actors, e.g. a company threatening the relocation of its business to another country in anticipation of disadvantageous taxes or regulations. Structural power is often exercised in reinforcing ways, hence reproducing existing institutional arrangements (Avelino, 2017). Third, discursive power encompasses the shaping of policy issues and solutions prior to decision-making; it is exercised through narratives and language and draws on norms and values to influence societal discourses and political agendas. Societal power structures and the distribution of power in society hence considerably determine which narratives are translated into the formal political institutions and which actors have the capacities to reinforce or challenge existing policies, legislation, and governance.

### **Landscape trends and shocks**

The narratives and formal political institutions are influenced by sociotechnical landscape trends and shocks. Megatrends refer to fundamental social, economic, political, and environmental trajectories of change with substantial transformative impact on societies. These megatrends include phenomena such as globalisation, climate change, demographic shifts typified by aging populations, technological changes (e.g. artificial intelligence, synthetic biology, renewable energy technologies), urbanisation, geopolitical shifts, and digitalisation (Naughtin et al., 2022, 2024). These megatrends shape the sociotechnical landscape, influencing the competition of narratives and ultimately shaping the character of formal political institutions. The megatrend of climate change presents an apparent example, where environmental trends of global warming have led to the implementation of policy initiatives such as the European Green Deal.

Institutional changes are also driven by sudden shocks or crises, which result in so-called critical junctures that disrupt established arrangements and result in new



trajectories of institutional change (Goldstein et al., 2023; Sorensen, 2023). For instance, the emergence of economic growth as a predominant narrative was crucially facilitated by two historical events, namely the Great Depression and World War II. Essentially, both of these events increased the political need for statistical accounts of the macroeconomy in order to effectively plan and implement public policies. In the post-war period, these national accounting statistics were promoted by international organisation such as the OECD and the UN and in turn became instrumental tools for expansionary economic policymaking (Coyle, 2014; Fogel et al., 2013; Hoekstra, 2019; Philipsen, 2015). The policy focus on economic growth was then further reinforced through the political growth targets set by the OECD between 1952 and 1970 (Schmelzer, 2015).

### 3.2 Dynamic Interactions

Building on the above elucidations, let us turn to the interconnected dynamics that determine institutional change within the formal political institutions over time. Figure 3 depicts our conceptualisation of how a narrative advances through and manifests in the formal political institutions. This builds on theories of institutional change (Mahoney & Thelen, 2009; Streeck & Thelen, 2005), theories of organisational path dependence (Sydow et al., 2009), literature on institutional lock-ins (Goldstein et al., 2023; Kaufmann et al., 2023) as well as Geels' multi-level perspective (Geels, 2002, 2019). Building on the above elucidations, the next sections zoom in to the interconnected dynamics that determine institutional change within the formal political institutions over time.

Four distinct phases of institutional change are distinguished, as methodically illustrated in Figure 3. Prior to delving into these phases, it is imperative to acknowledge four critical aspects.

1. **Reinforcing feedbacks between phases:** The institutionalisation of a narrative is facilitated and supported by reinforcing feedback loops between the four phases (Kaufmann et al., 2023). This advancement is facilitated by the formation and consolidation of actor coalitions, alignment of interests among these actors, and the consequent augmentation of their political programmes (Hall, 2009; Lee & Rhyu, 2019; Rennkamp, 2019). Additionally, the implementation of specific programmes bolsters the political legitimacy of ensuing programmes in the subsequent phase (Stefes, 2020). For example, the ease of implementing a policy programme is notably increased if it aligns with and contributes to a political target established at the governance level. Such feedback mechanisms are instrumental in reinforcing and fostering the institutionalisation of a narrative and advancing its ambitions to the policy level.
2. **Increasing contention:** It is crucial to understand that the advancements of a narrative through these phases is characterised by an increasing level of contention. This is due to the fact that formal political institutions necessarily create vested interests in the persistence of the institution and hence a tendency of actors to resist change in conflict with their interests (Moe 2015). The increasing level of contention is thus attributable to the differential impact of change in the formal political institutions on actors' vested interests. For instance, the implementation of a technical infrastructure (such as the implementation of a new accounting system) typically has little direct

real-world impact on the interests and behaviours of actors compared to the implementation of a policy (such as a regulation banning single-use plastic). As the institutionalisation of a narrative advances through the phases, the complexity and difficulty of achieving institutional change increases continuously, with the policy phase representing the zenith of vested interested and hence political contestation.

3. **Institutional change through layering:** Institutional change can occur in various ways depending on the specific contextual factors in which it occurs. Drawing on Streeck & Thelen's (2005) as well as Mahoney & Thelen's (2009) conception of endogenous institutional change, it is argued that the change of the formal political towards a new narrative is likely to occur in the form of layering. Layering refers to a process where new rules are added to existing ones within an institution, in our case through the implementation of programmes aligned with a new narrative. These changes, though individually small, accumulate over time and may ultimately disrupt institutional equilibria and fundamentally alter the institutional dynamics and characteristics. Crucially, layering is likely to occur when the political landscape is characterised by strong veto possibilities and a low level of discretion when it comes to the interpretation and enforcement of institutions, both of which are present in the formal political institutions.
4. **Different options emerging from the niche:** Transposing insights from Geels' (2002; 2019) multi-level perspective on socio-technical transitions and organisational path dependence literature (Sydow et al., 2009), it is argued that the terminologies and programmes associated with a new narrative usually emerge from a societal and discursive niche. Initially, the space of options is quite open, allowing for a diverse array of terminologies and programmes to emerge and co-exist, with efforts pointing in multiple often conflicting directions. Over time, these terminologies and programmes do, however, undergo a process of alignment, hence narrowing down the range of available options. This process of alignment is a crucial precondition to reaching a common language in phase 1 and to facilitating the implementation of programmes in the subsequent phases of the formal political institutions.

Turning to the four phases of institutional change, the figure shows that the first phase is centred around paradigm formation, while the three subsequent phases comprise the translation of a programme<sup>6</sup> into the formal political institutions.

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<sup>6</sup> We focus on the role of programmes in this context given their pivotal mediating role between the ideational space of narratives and the formal political institutions. Recall, however, that both frames and public sentiments are crucial when it comes to the formulation as well as the success of programmes. The question what programmes are ultimately implemented critically depends on the alignment of programmes with public sentiments and the use suitable frames to engender political legitimacy.

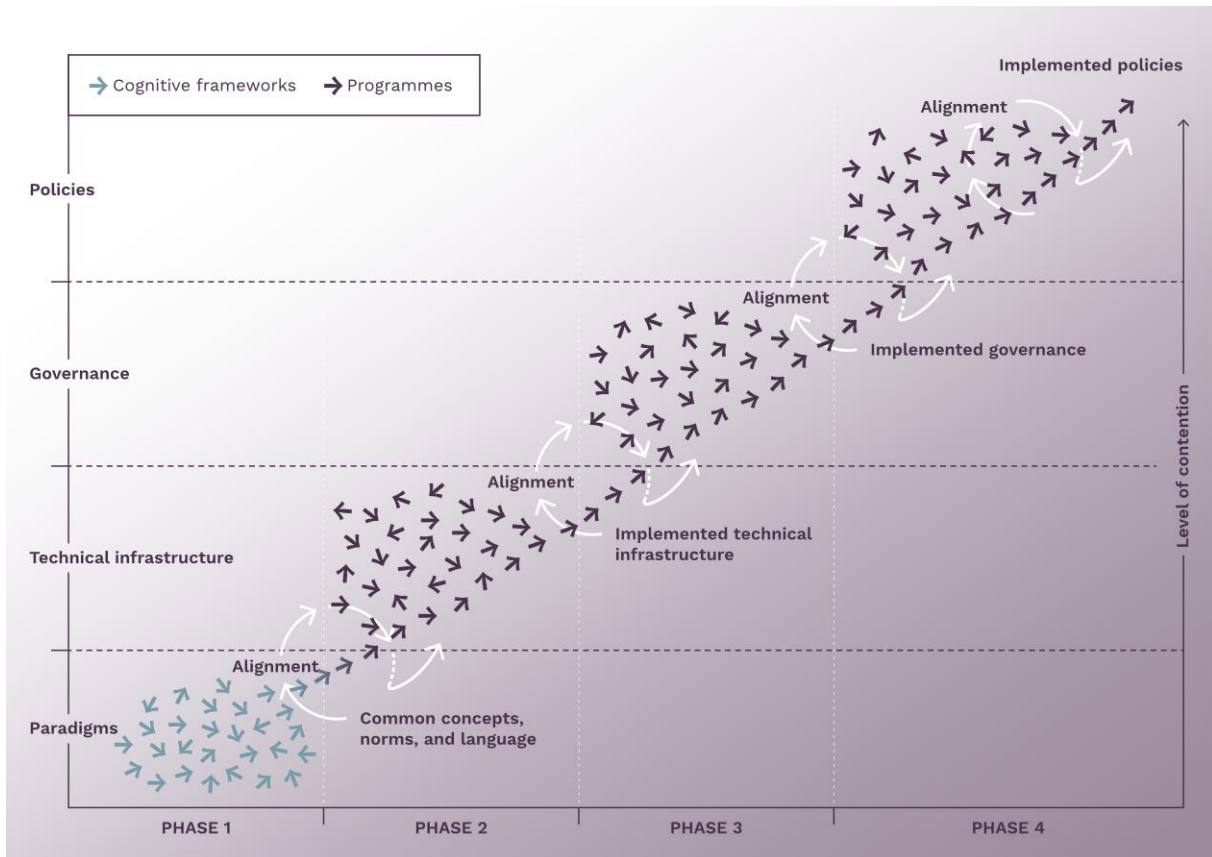


Figure 3. Four Phases of Institutional Change

### Phase 1: Paradigms

The initial phase of institutional change takes place in the ideational realm of paradigms, which Campbell (2020) describes as cognitive frameworks that determine what programmes are deemed meaningful by decisionmakers. In its early stages, the formation of a paradigm is characterised by the coexistence of a diverse array of cognitive frameworks, which include different often incompatible concepts, norms, and languages. As this paradigm evolves and matures, there is a convergence of concepts, norms, and language, effectively streamlining the paradigm into a unified and coherent whole. This convergence plays a pivotal role for the formation of a paradigm, serving as an essential precursor for the subsequent development and articulation of specific programmes targeting the three formal political institutions (Hoekstra, 2019).

**Example:** Agreement on key terms like “the economy”, “production”, “consumption”, “sustainable development”, “CO2 equivalents”, or “wellbeing”.

### Phase 2: Technical infrastructure

Following the establishment of a common language, the narrative’s terminology is then positioned to be translated into actionable programmes for formal political institutions. Typically, this starts with the formalisation of a paradigm’s language in the space of technical infrastructure. Here, various programmes on metrics, accounts, and models coexist in a competitive landscape, vying for dominance and alignment. Eventually, a select few of these programmes gain predominance and are

ultimately implemented, thus laying the groundwork for subsequent governance and policy developments (Hoekstra, 2019). In that way, the technical infrastructure is used to create evidence and data, which in turn help a narrative leap from the technical level to the governance level.

**Example:** the System of National Accounts (SNA), Integrated Assessment Models (IAMs) for analysing climate change dynamics, or the System of Environmental-Economic Accounting (SEEA).

### Phase 3: Governance

The third phase is characterised by leveraging the established technical infrastructure to craft and propose programmes for governance, effectively utilising its data and evidence. For instance, metrics might be utilised in this context to delineate political objectives, to suggest enforcement mechanisms, or guide the allocation of budgetary resources. Notably, governance programmes that are underpinned by a robust technical infrastructure are likely to enjoy heightened political legitimacy (Hezri & Dovers, 2006; Kaufmann et al., 2023), thereby enhancing the likelihood of their successful implementation.

**Example:** Climate Law that defines binding targets for reducing CO<sub>2</sub> emissions drawing on the evidence of climate science and using the statistically agreed methodologies for calculating CO<sub>2</sub> emissions.

### Phase 4: Policies

The final and most contentious phase revolves around the formulation and implementation of policy programmes. These programmes, grounded in the established governance framework and building upon the technical infrastructure, present various policy proposals. These proposals often encompass a range of instruments designed to achieve specific outcomes, such as objectives previously agreed upon during the governance phase. Ultimately, only a limited selection of these policy programmes is realised, reflecting the competitive and selective nature of this final stage of institutional change.

**Example:** A law in a European Member State that bans certain appliances with high carbon emissions to deliver on binding CO<sub>2</sub> reduction targets from the governance level.

This sequential perspective on institutional change has important practical implications for achieving change towards the embedding of a WISE narrative in formal political institutions and society. First, sequencing of action matters. In most cases, it will be almost politically impossible to implement a policy if the underlying governance, technical infrastructure is not yet in place. In other words, moving through the phases sequentially as depicted in Figure 3 represents a strategically meaningful approach to structure actions to influence formal political institutions. Most importantly, institutional change literature indicates that reinforcing feedback loops between the formal political institutions can facilitate the advancement of a narrative, thus potentially giving rise to a virtuous circle of institutionalisation. These feedback loops are crucial, as they help to achieve layering in existing institutions which may ultimately help to break free from lock-ins and path dependencies that have been put in place in the context of the prevailing narrative.

## 4. LEFT SCALE: ECONOMIC GROWTH

### 4.1 The Economic Growth Narrative

How did the economic growth narrative, the left side of the metaphorical scale, come to dominate? Does the theory of institutional change help to answer that crucial question? This chapter will show that the theory of institutional change does indeed clarify the ascent of the economic growth narrative and provides valuable lessons for how a new narrative could gain influence in public policy.

Economic growth hasn't always been a dominant narrative in society. Economic growth wasn't even a policy goal for most of history. While the most influential economic theorists have had sway on the governing powers throughout history, the current enhanced influence of economists' influence originated in the 1930-1940s. Before describing what happened to cause this break in the trend, it is interesting to look at what happened in the period leading up to this change. It is beyond the scope of this report to cover all economic thinking, so this section will discuss some of the empirical-based economic ideas that have influenced decisionmakers (see Sedlacek (2011) for a broadbrush overview of economic philosophy throughout history).

For a long time, many of the most influential ideas in economics were dictated by the socio-technical landscape. Wars and other crisis were particularly important in bringing economic ideas to the centre of power. For example, in 17<sup>th</sup> century Great Britain, there was a clear governance objective to win the second Anglo-Dutch war. To pay for the war, the government wanted to raise taxes. And for the development of taxation policy, an estimate of the national income was needed (Coyle, 2014).

In later centuries, this dynamic was repeated many times. National income data was collected to assess taxation policy, usually for kings or emperors that wanted to go to war (Studenski, 1958). Crucially, when the crises were over, the national income estimates were invariably discontinued. They were usually one-off exercises which served specific governance goals. This changed in the 1930-40 period, a shift that has been dubbed Studenski's Paradox (Hoekstra, 2019).

The shift started with the Great Depression. At the time there was a prevalent narrative in the US that the economy was a self-correcting system. An economy was prone to have business-cycles and sporadic bouts of unemployment, but no role was seen for government to implement economic policies. This was the prevailing attitude when the Great Depression hit at the end of 1929. It took until 1932 for this narrative to shift to such an extent that Roosevelt won the 1932 elections with a message of government intervention through the "New Deal". However, at the time, there was no reliable data on the size and structure on the US economy to base policy on. The government realised that intervening in the economy required systematic data on the state of the economic. This dynamic led to Simon Kuznets being commissioned to measure the economy in 1932, finalising it only in 1934 (Philipsen, 2015).

The calculation of national income was not discontinued after the economy started to recovery from the Great Depression. This was partially due to the emergence of a new crisis: the second world war. Many senior economists that had studied the Great Depression, including Simon Kuznets, were employed by the US and UK government



to manage the war economy. There were governance targets for military output of planes, tanks, and warships but also the problem of labour market disruptions due to millions of soldiers going abroad. Economists were employed by the government to make decision about factories shifting from civilian use to military use, but also on how to manage the inflationary pressures cause by the demand for raw materials and labour. The ideas on macro-economic measurement which had developed during the Great Depression, were a crucial foundation for some of the models that emerged.

After the war the governance objectives were geared towards economic recovery. Economic data and models were used to manage and monitor the progress of economies that were receiving assistance from the Marshall plan. Later, national income data was also needed to track the development of former colonies of European countries. The Cold War reintroduced the need to finance escalating military costs, leaving several nations with only two options: "grow or die" (Schmelzer, 2016).

An important post-war development which helped the economic growth narrative was the emergence of global governance. Countries had seen what the lack of international stability had done and a whole host of institutions were established (UN, OECD, NATO, World Bank, IMF). One of their primary objectives was to enhance peace, while economic growth and stability were seen as crucial to reducing the chances of future wars. For this international governance, a global standard for economic measurement was needed as a foundation for calculating the dues of countries. National income figures were also the used to ascertain contributions to the Official Development Assistance (ODA) to former colonies and other developing countries. In essence, the national income estimates again served as a basis for taxation, but it shifted from the national to international scope.

The international organisations were also instrumental in creating macro-economic models that used the data from the SNA. The OECD, World Bank and IMF started programmes in which they estimated future GDP so that governments could start planning ahead. National governments started to develop modelling capabilities which were important for making informed decision about fiscal and monetary policies or budget allocation decision.

After the war, growth was still primarily seen as a means to an end. For example, growth was often seen a means to achieve full employment. However, by the 1950s and 1960s, growth became so central for the achievement of societal goals, that it progressively transformed into an end in itself. In 1961, an international growth target was set by the Organization for Economic Co-operation and Development (OECD). The economies of the OECD countries had to grow by 50% in less than 10 years (Schmelzer, 2016). Economic growth became a key policy objective and economic thinking started to dominate many aspects of society. Growth was no longer one of the many ideas floating around. The economic growth narrative engrained in public perceptions that the economy is important, and that economic growth is unquestionably good. Growth was embedded in mental structures, power structures, technical infrastructure, governance, and policies.

Note that the narrative on *how* to achieve economic growth has changed over time. In the decades after the war, Keynesian policies dominated. In this narrative, a mixed-economy, which combined a strong government and business sector, was seen as

the best way to achieve economic growth. During the economically turbulent 1970s this narrative was replaced by a more free-market narrative, driven by economists such as Friedman and Lucas and politicians such as Thatcher and Reagan.

The post-war ascendancy of the economic growth narrative cannot be understood without look at the technical infrastructure (metrics, accounts, and models) and the governance and policies which made use of these. The next four sections will cover these.

## 4.2 Metrics: Gross Domestic Product (GDP)

### What is GDP?

Section 4.1 already briefly described an element of technical infrastructure that was crucial for the economic growth narrative to advance into governance and policies: national income estimates. The earliest attempts to measure the economy, courtesy of William Petty, date back to the seventeenth century. In the 1920s and 1930s, more precise national income statistics were presented, being developed by Colin Clark in the UK and Simon Kuznets in the US. As mentioned above, the Great Depression, World War II, post-war reconstruction efforts, and the cold war increased the need for measurement of the economy worldwide, creating a demand for a standardised national accounting system (Coyle, 2014; Hoekstra, 2019).

Gross Domestic Product (GDP) was introduced as a measure of economic output within a country's border with the publication of the United Nations' System of National Accounts (SNA) in 1953. After that, more and more countries started to measure GDP. Figure 4 shows this global proliferation of national income estimates which grew from around 40 after the war to the present day where all countries in the world produce these data.

During this period, the key indicator for national income was not always referred to as Gross Domestic Product (GDP), but for the sake of clarity this term is used to describe what this national income estimate. GDP measures economic activity within a country's border for a specific time period, usually a year or a quarter. GDP can be measured in three ways, which in principle leads to the same outcome (Lequiller & Blades, 2014):

- The output or production of the economy. More specifically, this is measured as the sum of the gross value added of all within-border institutional units engaged in production, plus any taxes on products and minus any subsidies on products. Gross value added is the difference between output and intermediate consumption.
- The expenditures or final demand in the economy. This is measured as the sum of the final uses of goods and services (all uses except intermediate consumption) measured in purchasers' prices, minus the value of imports of goods and services.
- All incomes in the economy. This is measured by the sum of primary incomes distributed by domestic producer units.

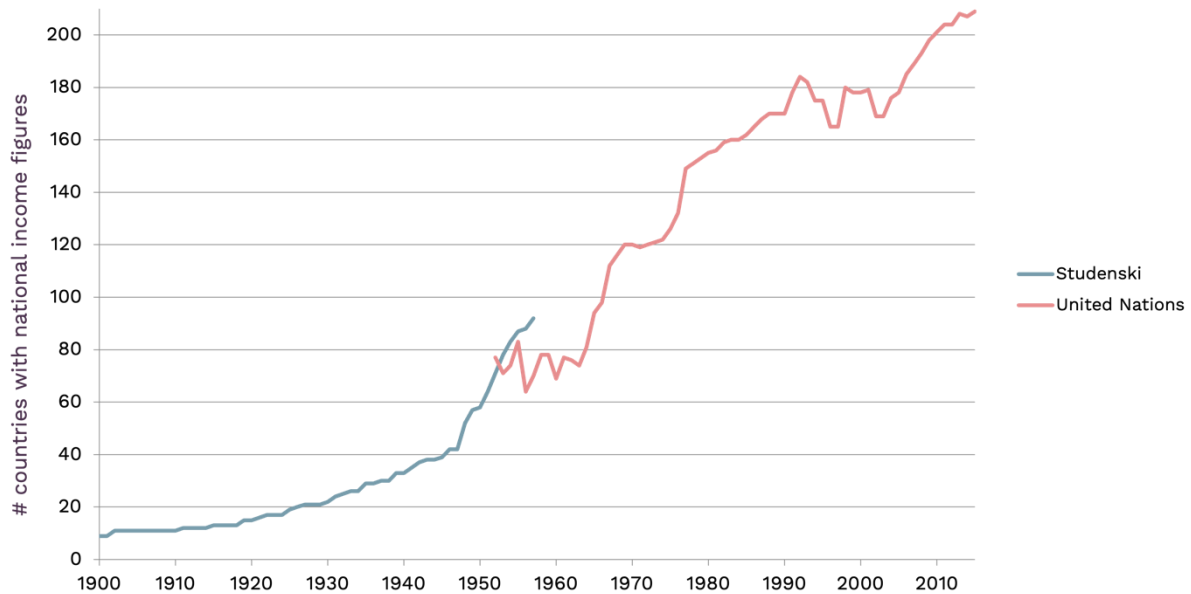


Figure 4. The Number of Countries with National Income Figures

Source: Hoekstra (2019)

### What Role does GDP play in formal political institutions?

The use of GDP in governance and policy is ubiquitous. It is an implicit and explicit goal of public policy. This started in 1950 and 1960s with countries, or organisation such as the OECD, setting specific targets for economic growth.

As was noted earlier international harmonised figures are also needed to calculate dues of countries to international organisation like the United Nations. Sometimes, these are not based on GDP but adjacent indicators from the SNA such as Gross National Income (GNI). The GNI is so important that the European Commission sends out auditors each year to check the statistical methods used by each members states.

International agreements are also quite often expressed in terms of GDP. For example, NATO countries are expected to spend 2% of GDP on defence and developed counties are expected by the UN to spend 0.7% of their GDP on Official Development Assistance. Even it is not an economic goal it is sometimes expressed in terms of GDP. For example, the European Union aims to spend 3% of GDP on Research and Development and the Chinese government at some stage was aiming to reduce its CO<sub>2</sub> intensity (i.e. the CO<sub>2</sub> emission per unit of GDP).

## 4.3 Accounts: System of National Accounts (SNA)

### What is the SNA?

The concept of national income estimates is an important part of the technical infrastructure of the economic growth narrative. But this alone was not enough to create the large uptake of national income estimates. As we've seen in Figure 4, the number of countries measuring national income started to increase tremendously after the introduction of a standardised measurement approach.



Accounting concepts had been known throughout the history of national income measurement (Bos, 2009; Mazzucato, 2018; Studenski, 1958). However, core questions such as the production boundary, (i.e. what is included and excluded as production) changed over time. Also, the accounting structures were also not fully consistent in terms of the flows and stocks of money.

In the aftermath of the war national income data started to be harmonised in a consistent accounting structure. In fact, the newly formed Statistical Commission of the United Nations (which was the follow up of the League of Nations) took it upon itself to create an accounting system. A first working paper was drafted in 1947 and two reports by the institute that would be later known as the OECD were published (UN, 1947). This eventually led to the creating of the first System of National Accounts in 1953. All of these developments were done under the leadership of Richard Stone, who worked extensively with John Maynard Keynes.

Since 1953, there have been 3 revision of the SNA which have dealt with certain conceptual issues or which have responded to economic conditions (1968, 1993, 2008). A new revision is expected in 2025. Since this latest edition will probably be important for the sustainable and inclusive wellbeing narrative, it will be discussed in great detail in the next chapter.

Gross Domestic Product (GDP) and other macro-economic metrics are therefore part of an elaborate accounting framework, currently the SNA2008. The SNA provides consistent information about economic flows, including the re-distribution flows in an economy. Because of the focus on flow variables such as GDP, it is often forgotten that the SNA also has data on asset levels (“wealth”). The stock measures indicate the level of financial assets (shares, cash, debts, and dues etc), produced capital (machines, buildings, and R&D) and even some natural capital (minerals, metals, fossil fuels and land). The latter might be surprising for environmentalists that do not realise that nature is part of the SNA. However, the valuation of the environmental assets is contested, these accounts are not produced in many countries and the list of natural capital stocks are only limited to natural resources and land.

### **What Role does the SNA play in formal political Institutions?**

It is often forgotten that GDP is not the only metric in the SNA. There are many other indicators such household disposable income, household consumption, trade surplus, government deficit and debt, total assets etc that can play important roles in governance.

Some parts of the SNA are also very important for certain governance. The “sector accounts” of the SNA, which split the economy into four parts: financial sector, non-financial sectors, governments, and households are very important for central banks. These accounts provide a comprehensive overview of the financial position, assets, and liabilities, and are therefore important when implementing monetary policy.

The final role that the SNA plays in the public policy is that the accounts provide the empirical foundation of the macroeconomic models used in policy making.

## 4.4 Models: Macro-Economic Models

### What are macro-economic models?

Another important technical aspect that is part of the economic growth narrative, is the development and use of macro-economic models. These models are used in the scientific domain and policy analysis.

The Great Depression led to leaps in macro-economic data which were then used in the first macroeconomic models that were used for policymaking. This started with the groundbreaking work of Jan Tinbergen in the 1930s (Heijdra & Ter Weel, 2019). His contributions included the development of structural economic models and the creation of the first national macro-econometric model. This empirical approach became widespread after the Second World War, contributing to the formation of economic policymaking as a science (Morgan, 2019).

Tinbergen's approach to macroeconomic modelling began to lose popularity during the late 1970s when macroeconomic models based on the general equilibrium theory gained momentum because of global economic and political changes like the oil price shocks and the breakdown of the Bretton Woods system during that era (J. E. Stiglitz, 2000). On the academic side, traditional macro-econometric models were contested by the economist Robert Lucas in what is known as the Lucas critique; this critique highlighted the limitations of relying on statistical relationships and historical data for policy decisions, emphasising the forward-looking nature of economic agents and the need for adaptive models (De Vroey, 2010).

Following the second world war, two strands of economic theory were being developed in parallel. Macroeconomists were working to formalise the contributions of Keynes into mathematical models and to integrate them with classical economic theory. This synthesis centred on two perspectives on economic growth, short term growth, which could be understood in Keynesian demand management terms; and long term growth which was understood in general equilibrium terms, with their associated models: the IS-LM model (Hicks, 1937) and Solow growth model (Solow, 1956) respectively.

At the same time, another group of economists led by Wassily Leontief was developing a new technique which sought to understand the meso-level interactions in the economy: the input-output model. It has been argued that the basic structure of the input-output model is not dependent on economic theory and therefore can provide a bridge between different theoretical understandings of economy (Miernyk, 2010). Both the development of input-output models and the Keynesian synthesis models relied heavily upon the expansion and systematisation of economic statistics described in the previous section.

The macroeconomic landscape further evolved in the 1980s with the integration of New Classical and Real Business Cycle (RBC) economic theory elements into the "New Keynesian"<sup>7</sup> macroeconomic models, a type of model that kept the Keynesian ideas of market imperfections (sticky prices and rigid wages) while maintaining the foundations of general equilibrium theory like representative-agent and rational-expectations (Christiano et al., 2018). A significant advancement was the emergence

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<sup>7</sup> These models are better referred to as Friedmanite models, as they reflect Friedman's worldview rather than Keynes's original ideas (Christiano et al., 2018)

of Dynamic Stochastic General Equilibrium (DSGE) models, forming the basis of the New Neoclassical Synthesis which would become the dominant type of macroeconomic modelling until the late 2000's.

The global financial crisis of 2008 challenged the dominance of DSGE models as central banks, institutions, and academics using such models were unable to foresee the crisis. Also, DSGE models faced criticism for their assumptions and ad hoc adjustments, especially regarding the rationality of representative agents (Dosi & Roventini, 2019). In response to these limitations, alternative macroeconomic approaches gained prominence after the 2008 financial crisis.

Two challenging frameworks emerged: complexity economics, which views the economy as a dynamic, adaptive system; and post-Keynesian economics, which emphasises uncertainty and financial instability whilst also drawing on the Kaleckian tradition of focusing on income distribution, power relations and imperfect capacity utilisation. These approaches challenge the assumptions of general equilibrium models, offering comprehensive frameworks that may be better at capturing real-world economic dynamics and policy responses to the 21st-century challenges, like climate change, increasing inequality, and global political instability.

### **What role do macro-economic models play in formal political institutions?**

Looking specifically at the use of global macroeconomic modelling in international institutions, this goes back to about 1970, with UN project LINK starting in the late 1960s (Altshuler et al., 2016) and Leontief's World Model (Leontief et al., 1977) that was used for the United Nation's General Assembly's work on the International Development Strategy.

In a previous report for this project (Wiebe et al., 2023), three different types of macro-economic modelling approaches have been identified. They have been used for policy analysis and that can be combined with some aspects of WISE:

- general equilibrium models (neo-classical economic theory),
- macro-econometric input-output models (post-Keynesian economic theory)
- stock-flow-consistent models (post-Keynesian economic theory).

These model the economy at sector level, differentiating various final demand categories, production at detailed industry level, and considering international trade. These modelling approaches can be roughly classified into following neo-classical or post-Keynesian economic theory. The former is used in general equilibrium models, including both computable general equilibrium (CGE) models and dynamic-stochastic general equilibrium (DSGE) models, while macro-econometric input-output models as well as stock-flow consistent models are based on post-Keynesian theory.

Nowadays, general equilibrium models, such as the CGE models GEM-E3 (Capros et al., 2013), RHOMOLO (Lecca et al., 2018), ENV-LINKAGES (Château et al., 2014), (OECD, 2013b) and METRO-Trade (OECD, 2023) or the DSGE models IO-DSGEM (European Commission. Directorate General for Communications Networks, Content and Technology. et al., 2021) and QUEST (Ratto et al., 2009) are frequently used by the European Commission and OECD for policy analysis. While a stock-flow-consistent modelling approach has not been applied for policy scenario analysis at the global

scale yet (to the knowledge of the authors), the European Commission increasingly uses macro-econometric input-output models such as E3ME (Barker, 1999; Mercure et al., 2018), FIDELIO (Kratena et al., 2013; Rocchi et al., 2019), or GINFORS (Lutz et al., 2010).

## 4.5 Governance and Policies for Economic Growth

The previous sections have already hinted at parts of the technical infrastructure that have been used to create governance and policies frameworks, either at the national or international level. This section will zoom in on the relation between the economic growth narrative and governance and policies themselves.

Economic growth has emerged as a fundamental goal for assessing the success or failure of political programmes. As the previous sections have shown, this focus spans from post-war Global North nations to newly sovereign but economically disadvantaged Global South countries emerging from decolonisation processes.

Historically speaking, the issue of economic growth has been central in the Global South for a series of reasons: Limited economic power was seen as a barrier that newly sovereign countries could not overcome without a major restructuring of the international economic order. However, as time passed, the push for issues such as the integration through industrialisation gave way to market-oriented policies promoted by Bretton Woods institutions. This led eventually to a convergence of views in the end of the 1980s that finally culminated on the establishment of the Washington Consensus, which was a narrative focused on free-markets, global trade, and economic growth. This consensus has been heavily criticised because of its disastrous effects on African and other economies (Rodrik, 2011).

At the EU-level, this tendency to convergence became even more explicit, with the adoption of the Stability and Growth Pact (SGP) in 1997, that set specific criteria for gaining and maintaining membership to the newly created Union and laid out the basis for the establishment of an independent monetary institution – the European Central Bank – to guarantee price stability. GDP was a central component of the SGP, as it was used to establish the limit of both government deficit and debt levels. In 2012, the alignment across the EU became more stringent with the adoption of the European Fiscal Compact. Once again, GDP played a key role, providing key limits to EU members' economic policies. Lastly, the more recent EU's Recovery and Resilience Facility uses GDP as an indicator to determine the allocation of EU funds to Member States.

As economic growth and GDP have shaped governance frameworks and strategies, it is only reasonable that they have transformed into the concrete design and implementation of policies. Interestingly, while research has concluded that growth promoting policies tend to be context-specific (Rodrik, 2004), policy packages promoting trade liberalisation, labour market flexibilisation, and fiscal discipline were promoted as universal solutions.

It is beyond the scope of this report to go into all the different governance and policy frameworks in which economic growth plays a central role. It is sufficient to say that in a plethora of national and international governance and policy settings, the core target is GDP growth.

## 4.6 Final Remarks

This chapter has discussed the proliferation of the economic growth narrative in the technical, governance and policy levels, nationally and internationally. The theory of institutional change has helped to show how this process emerged and remains so dominant to this very day. The influence lies in the proliferation of the narratives in all levels of formal political decision making.

It is now time to shift our attention to a “new” narrative and assess, using the theory of institutional change, to understand the success of the alternative narrative, but also to assess where it should be strengthened.

## 5. RIGHT SCALE: SUSTAINABLE AND INCLUSIVE WELLBEING

### 5.1 WISE Narrative

This chapter turns to the right-hand side of the metaphorical scale: a new narrative which would provide a better compass for formal political institutions. The structure of the chapter is similar to the previous chapter which looked at the success of the economic growth narrative. In this way it becomes easier to contrast the difference in the left and right side of the scale and the challenges to tilt it towards sustainable and inclusive wellbeing. Specifically, the sections in this chapter answer these questions:

- 1) Why is it necessary to replace the old with something new?
- 2) What alternatives have already been suggested?
- 3) What success have alternatives had in influencing formal political institutions?
- 4) What theoretical & institutional progress is needed for WISE narratives?

In the past 50 years, many different “new narratives” have been suggested based on criticisms of the economic growth narrative (Coyle, 2014; Fioramonti, 2013, 2016; Galbraith, 1958; Hoekstra, 2019; Jackson, 2017; Masood, 2016; Mazzucato, 2018; Philipsen, 2015; Raworth, 2017; van den Bergh, 2009). The increasing prominence of these narratives have been influenced by changes in the socio-technical landscape. Especially, the ecological, economic, and social crises of the past decades have made citizens and decision-makers aware that a change is needed. This new direction of the narratives become clear when viewing the seminal conferences and publications over the last decades.

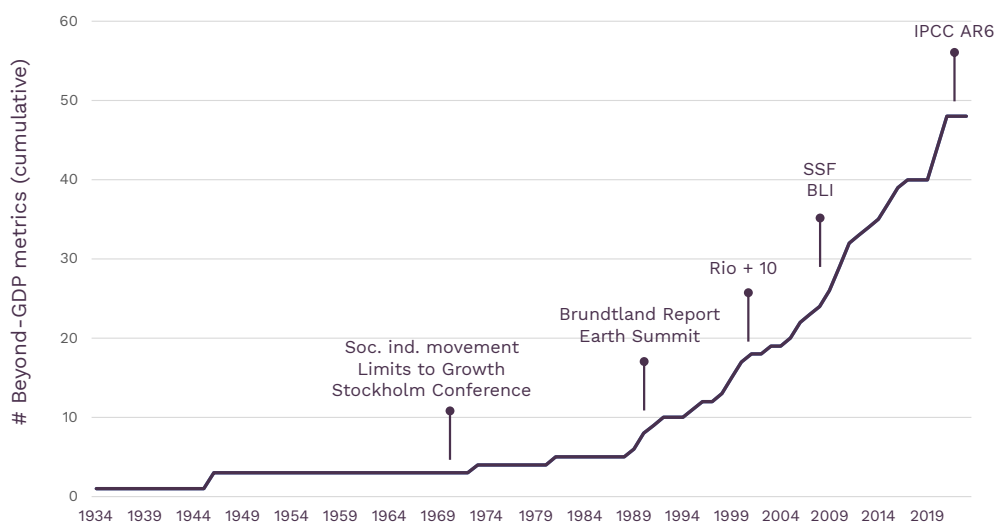


Figure 5. The Rise of Beyond-GDP metrics and Key Developments

Figure provides an overview of the number of Beyond-GDP metrics and several of these key international initiatives that provided momentum (Jansen et al., 2023). While this figure focusses on Beyond-GDP metrics, it also provides an indication of overall momentum of the “new narratives”.



Momentum for alternative Beyond-GDP metrics accelerated in the early 1970s, following a time of significant social unrest marked by protests and social movements. Environmental concerns were also on the rise, especially because of the seminal publication *Limits to Growth report* (1972) by the Club of Rome. This report was also central to the discussions in the *1972 Stockholm United Nations Conference on the Human Environment*. This conference was important from a governance perspective as it led to the UN Environmental Program (UNEP) and national governments setting up ministries for the environment all over the world (Masood, 2016). The OECD also set up a programme for the *Problems of Modern Society* at the end of the 1960s to redirect its focus away from economic growth (Schmelzer, 2016).

These developments slowed (and even discontinued in some places) due to the economic turmoil of the 1970s and early 1980s. However, the debate was reinvigorated by the institutionalisation of the term “sustainable development” in the Brundtland Report in 1987 (WCED, 1987). This report coined this term and has been promoted by the UN and other institutions ever since.

This report and the Earth Summits in 1992 (and later in 2002 and 2012), helped to make sustainable development a core governance objective for the UN and many affiliated institutions. In terms of indicators, the Commission on Sustainable Development (CSD) was proposed in the 1990s which prompted some national governments to create their own set of Sustainable Development Indicators. The next iteration was the adoption of the Sustainable Development Goals by UN member states in 2015. These 17 goals and 231 underlying indicators were adopted globally. Governments, companies, and other organisations throughout the world monitor progress with respect to the SDGs.

Sustainable development was not the only track which started in the early 1990s. The United Nations Development Programme (UNDP) launched the Human Development Index around that time. The UN's Millennium Development Goals (MDGs) in 2001, Eurostat began work on Sustainable Development Indicators in early 2000s. The World Bank published their first *Where is the Wealth of Nations?* report in 2005. The OECD launched its Better Life Initiative (BLI) in 2011.

A pivotal moment was reached in 2009 with the publication of a report commissioned by the French government. The report is often referred to by the initials of its main authors Joseph Stiglitz, Amartya Sen, and Jean-Paul Fitoussi (SSF). The SSF report has influenced and shaped a range Beyond-GDP frameworks and initiatives including: the OECD Better Life Initiative, launched in 2011, and the Eurostat's publication *Quality of Life*. The UN, OECD, and Eurostat also developed the ideas of the SSF-report in the Commission of European Statisticians' (CES) report *Recommendations on Measuring Sustainable Development*. The SSF Report and the Brundtland Report inspired the CES to approach wellbeing from three dimensions: here and now, later, and elsewhere, and to include both subjective and objective indicators (UNECE et al., 2014). These reports have influenced the development of national measurement frameworks in some countries (e.g. New Zealand, Wales, Canada, The Netherlands, South-Korea).

More recently, in 2021, the UN launched a Beyond-GDP initiative which included the publication *Valuing What Counts*. This report defines three outcome: “wellbeing and agency” (current wellbeing), “respect for life and the planet” (to ensure possibilities for life and wellbeing in the future), and “reduced inequalities and greater solidarity”



(to emphasise a more equal distribution of wellbeing) (UN System Chief Executives Board for Coordination, 2022).

Chapter 2 has already discussed the Brundtland/SSF framing of three dimensions: wellbeing, inclusion, and sustainability. But how to achieve these goals? Different narratives have different perspectives, especially on the role of economic growth. Three distinct camps are usually distinguished: green growth, degrowth, and a-growth. It must be said that even within these camps there are great internal differences of opinion. The various narratives may differ on the role of technology and the geographical spread of economic growth. Table 2 shows some the core elements of the three narratives.

*Table 2. Degrowth, Green Growth, and A-Growth*

<b>Edition</b>	<b>Wellbeing</b>	<b>Inclusion</b>	<b>Sustainability</b>	<b>Economy</b>
<b>Degrowth</b>	Wellbeing is a priority and growth does not support wellbeing past a threshold	Reduction of economic throughput in high income countries to allow space for low-income countries to expand (where necessary), coupled with deconstruction of 'colonialist growth paradigm'- approach to development	Emphasis on demand side sufficiency measures and direct regulation	Economic growth is limited by planetary boundaries.
<b>Green growth</b>	Wellbeing is pursued (partially through economic growth)	Economic growth across all countries to allow all to share in prosperity	Emphasis on supply side efficiency measures and market mechanisms	Economic growth can be 'decoupled' from the environmental pressures. Emphasis on investment driven growth to deliver energy transition and higher incomes
<b>A-growth</b>	Wellbeing is pursued regardless of its impact on growth	Equity is prioritised over the scale of the economy	Environmental transition is pursued regardless of its outcomes for economic output without a particular emphasis on supply or demand side	Priorities non-economic outcomes above economic growth (the economy is a means to an end)

Green growth advocates for (the continuation of) economic growth while assuming this can be done while bringing growth in line with planetary boundaries. Degrowth argues for a planned reduction of economic growth in wealthy countries while poorer countries should be free to escape the colonial growth paradigm, bringing the economy in a safe and just way back within planetary boundaries. A-growth proposes to focus on environmental, social, and economic policies independently of their effects on economic growth.

Box 2 provides some more details and references for these narratives. A core point of contention is the existence of “decoupling” of economic growth from environmental pressures. Currently the evidence does not suggest decoupling is sufficient to stay within planetary boundaries. Furthermore, such decoupling also appears unlikely to happen in the future. In order for decoupling to be sufficient it must happen continuously on a global level, across impact dimensions (lowering GHG emissions at the cost of biodiversity is not a solution) and significantly. Existing empirical evidence on decoupling is plentiful, but it fails to satisfy these requirements (Parrique et al., 2019).

In their systematic review, Haberl et al. (2020) conclude that studies are more likely to report absolute decoupling when they have a national rather than global focus. They also find that ‘impacts’ (such as CO<sub>2</sub>) are more likely to show absolute decoupling than resources (such as material extraction). Indeed, some studies report recoupling of material use. Timeframe is also important, with some studies finding brief periods of decoupling, but few pointing to long term trends. The most studied form of decoupling is national level CO<sub>2</sub> emissions.

Several authors argue that, where decoupling is found, observed rates are still substantially short of those needed to meet targets for 1.5 degrees of warming (Keyßer & Lenzen, 2021; Vogel & Hickel, 2023). Finally, Semieniuk (2024) demonstrates that changes in the construction of GDP itself strongly impact on the finding of decoupling. Moving between different estimates of GDP (from varieties of the Penn World Table). Semieniuk reports multiple instances of shifting from absolute decoupling to recoupling and vice versa.

This section has described the most important conferences and publications which have supported the narratives that suggested that society should shift away from economic growth. How successful these initiatives have been in formal political institutions becomes more apparent if one looks specifically at the technical level (metrics, accounts, and models) as well as some governance and policy initiatives in the following sections.

*Box 2. Green Growth, De-growth, and A-growth***Green growth**

Green growth advocates for the importance of economic growth, and often argues that this can be achieved within planetary boundaries, for example by creating pricing incentives to reduce CO<sub>2</sub> emissions. There are two foundational principles underlying this statement. The first is that growth in GDP – in particular GDP per capita – is a key driver of increased wellbeing. needed for example for health expenditures (Corlet Walker et al., 2021) . This derives from mainstream economics, where authors have argued that increases in growth rates drive increased leisure time (Sharpe, 2004), higher wages (Clark, 1908; Franklin, 2018; Kuegler et al., 2018), and health improvements (Spiteri & Von Brockdorff, 2019).

This is not to say that green growth authors limit wellbeing to GDP alone, but they do place a substantive emphasis on GDP as an enabling factor for driving key wellbeing variables. The second foundational principle is the assumption that it is possible to sustain a yearly 2-3% growth rate without surpassing planetary boundaries. Green growth is optimistic about the possibility to sufficiently ‘decouple’ economic growth from resource use and environmental impact to achieve this.

Green growth is itself an umbrella term capturing a wide range of different economic schools of thought each with their own ontological pre-suppositions. For example, for Keynesian green growth authors, a central argument is that meeting environmental targets requires substantive investments, which will inherently cause economic growth (Pollin 2015; 2019). Others have argued that innovation will drive both reductions in environmental impact and act as an engine of growth. Green growth literature gives a great deal of focus to how new innovations and investments in existing low-impact technologies can be supported and financed (Acemoglu et al., 2012; Aghion et al., 2019; Mazzucato & Semieniuk, 2018). It’s often argued that it’s easier to redistribute parts of a growing pie, than one that is already shrinking for everyone. In a growing economy, it is possible to reduce the gap between high and low incomes without reducing the incomes of those at the top, which is less politically contentious. Policy efforts such as the Green New Deal are seen as ways to address both injustice and the climate crisis, generating employment and redistributing income (Mathur, 2019). Other work in the green growth literature is focussed on understanding the distributional impacts of green growth policies (Bowen, 2019).

**Degrowth**

Degrowth is closely associated with ecological economics, and the work of Herman Daly (1968, 2013). The starting point of this literature is the conceptualisation of the economy as an open system embedded within the broader environmental and societal systems (Mair, 2020). Consequently, degrowth analyses understand the economy as a product of both physical laws and social structures.

In the degrowth perspective, the economy is viewed as inherently material: all economic activity must rely on the use of energy and resources, and result in the emission of wastes to the environment (Jackson, 1996). The emphasis on the materiality of economic processes helps to illuminate that any economic activity will have environmental impacts and so any increase in economic activity necessarily places additional requirements on technological advance to deliver even faster rates of resource efficiency if sufficient decoupling is to be achieved. Therefore, degrowth proponents are sceptical about the possibility of achieving sufficient absolute decoupling at the speed and scale required to avoid crossing earth-system tipping-points (and consequent ecological collapse) while growing economic output (Haberl et al., 2020; Jackson & Victor, 2019; Parrique et al., 2019). Instead, scholars argue that total economic activity needs to be capped or reduced in order to create sufficient absolute decoupling, or to increase the rate at which this happens

(Jackson, 2017; Vogel & Hickel, 2023). Degrowth places heavy emphasis on the economy being socially constructed. A consequence here is that there are natural links between degrowth and other heterodox schools of economic thought that see economic systems as socially constructed, notably feminist and anthropological economics (Dengler & Lang, 2022; Markantonatou, 2021; Saunders & Dalziel, 2017). The combination of simultaneously viewing the economy as socially constructed and fundamentally material also influences the view on technology. It leads to the perspective that social drivers are just as if not more crucial to delivering wellbeing, inclusion, and sustainability than technological changes (Pirgmaier, 2021).

In the degrowth perspective, technological advance is shaped by the dominant interests and needs of society, which currently revolves around economic growth (Foster, 2016)). Under capitalism, the energy efficiency gains free up energy that is channelled into production elsewhere in the system (Garrett, 2014; Mair, 2019; Sakai et al., 2019). Likewise, the introduction of new forms of energy have historically added to total energy use, rather than reducing older forms of energy (York & Bell, 2019). As a result, de-growthers have tended to view past rates of observed decoupling as good guides to future rates of decoupling, unless there are fundamental changes to the structure of the economy. The other key element of the degrowth ontology is a commitment to incommensurability of different value forms (Martinez-Alier et al., 1998). The argument here is that conflict between values is inescapable and should only be managed through political processes. Consequently, ecological economists typically work with a pluralistic theory of value, distinguishing between monetary and non-monetary values (Pirgmaier, 2021). This manifests both in discussions of sustainability and wellbeing. From the sustainability perspective, it is argued that there are limits between the substitutability of 'natural' and 'man-made' capitals. This implies that as natural resources are transformed into goods and services, something is inherently lost. From a wellbeing perspective, a plurality of values leads to a degrowth critique of GDP that is shared with feminist economists: that GDP struggles to deliver 'wellbeing' because it fetishises a particular form of value while wellbeing is a multifaceted concept.

Degrowth and feminist economists have argued that the constant growth of the one value form measured by GDP actively undermines both wellbeing and inclusion. By focussing only on monetary value, it is argued that the GDP focus renders other activities (such as care work) value-less (Dengler and Strunk 2017; Waring 1988).

This focus is also seen as driving resources towards profit making activity at the expense of healthcare or ecological restoration (Jackson, 2017; Mair, 2020). The mechanisms required to drive growth are understood as inherently exploitative. Such as increasing the intensity and precarity of work, which leads to reduced mental and physical health (Isham et al., 2021).

In degrowth, wellbeing and inclusion are most often considered the function of the capacity of the economy to meet a variety of needs, many of which are not being met through the activities measured as part of economic growth (Brand-Correa & Steinberger, 2017; Max-Neef et al., 1989). As a result, degrowth authors have argued that it is not enough to quantitatively downscale the economy. Rather, what is needed is a reimagining of the form and purpose of the economy, downscaling market and state, while expanding the commons and developing new economic imaginaries that support multiple forms of value (Bliss & Egler, 2020; Dengler & Lang, 2022; Jackson, 2021; Mair, 2020).

### **A-growth**

Green growth and degrowth are the most dominant paradigms in this field. The literature on a-growth is far less prevalent. Kate Raworth espoused this perspective in *Doughnut*

*Economic* by pointing out that society should be “agnostic” about growth (Raworth, 2017). The main line of argument is that society should restructure the economy in order to move from a situation where “the economy should grow regardless of whether we thrive” to a situation in which “we should thrive regardless of whether the economy grows”.

A-growth is also proposed as a strategy to depolarise the green growth versus degrowth debate, as it focuses on the achievement of certain desirable policy outcomes without falling into a binary choice (van den Bergh, 2017). Green growth strategies might exclude certain desirable environmental and social policies because of a negative effect on growth, while degrowth goals might end up being hindered by negative growth.

## 5.2 WISE Metrics

### Why are alternative metrics to GDP needed?

From the start of the development of formal national income in 1934, Simon Kuznets himself warned that “The welfare of a nation can scarcely be inferred from a measure of national income” (Kuznets, 1934). While GDP had never been meant as an indicator of social progress, it grew to be seen as a proxy for it. Robert Kennedy neatly summarised this problem in 1968, stating GDP “measures everything in short, except that which makes life worthwhile” (Kennedy, 1968).

These comments show that the criticism is not actually focussed on what GDP measures but rather its interpretation. GDP is simply a measure of economic activity but is interpreted as a measure of success or a yardstick for welfare or societal progress. GDP was never designed to measure these things, but is often, erroneously interpreted as such. Even the SNA warns that “GDP is often taken as a measure of welfare, but the SNA makes no claim that this is so and indeed there are several conventions in the SNA that argue against the welfare interpretation of the accounts.”

There are three main lines of criticisms of GDP:

- GDP is not doing its job at measuring economic activity. In a digital and globalised economy, it is becoming increasingly difficult to measure economic output. For example, free internet services and multinationals manipulating their tax burden in various countries, make it difficult to measure GDP.
- GDP is not a proxy for success. Many economists still accept GDP as a measure of success. While it is conceded that GDP is not a direct measure of wellbeing (usually referred to by economist as welfare) it is argued that GDP is correlated to wellbeing. While this is true, literature on the relationship between subjective wellbeing and GDP has shown that there are diminishing returns to GDP.
- GDP is not a measure of wellbeing, inclusion, and sustainability. The bottom line is that GDP is not a measure of the true goals of society, but simply a measure of the economic activity.

### What alternative metrics are there?

So which alternatives are there to measure wellbeing, inclusion, or sustainability? Since the early 1970s there has been a huge proliferation of metrics that go “Beyond-GDP”. These are indexes and dashboards that are aimed to replace the dominant economic indicator, GDP. In chapter 2, many of these were already mentioned and

their links to scientific schools of thought and some of the seminal publications (Brundtland and Stiglitz report) were discussed. A comprehensive overview of the many Beyond-GDP alternatives can be found in a WISE Horizons deliverable (Jansen et al., 2023). Figure 6 is a core result of this review. It plots 66 Beyond-GDP metrics according to their relation to wellbeing, inclusion, and sustainability. The triangle is frequently updated, and more information is provided in an interactive visualisation on <https://www.beyond-gdp.world/wise-database/wise-metrics>.

The figure categorises Beyond-GDP metrics into indexes and dashboards. Indexes are single numbers, calculated based on underlying indicators that relate to multiple themes, such as education and health. The income Gini index, or the mean years of schooling, are not considered to be indexes, as they relate to a single theme (income and education respectively). These are considered to be individual indicators for a specific theme. Dashboards, which show an array of indicators over multiple themes, are common and are also recorded in the figure.

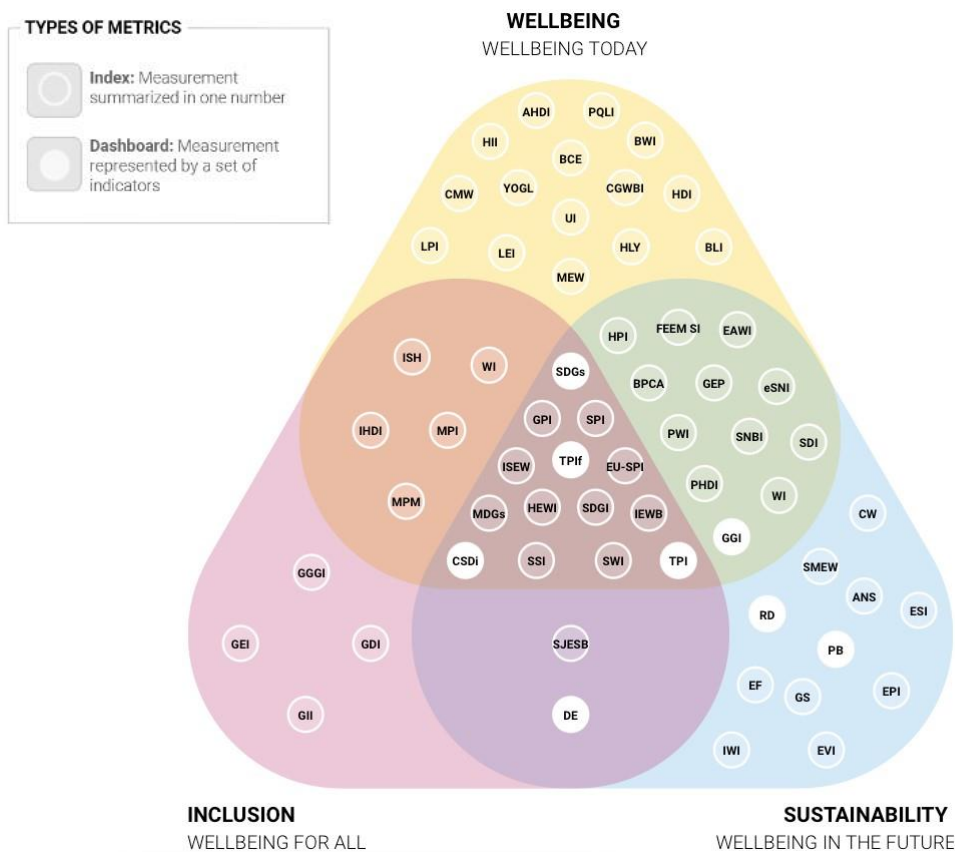


Figure 6. Overview of Beyond-GDP metrics in relation to Wellbeing, Inclusion, and Sustainability.

Source: Jansen et al., 2023

Figure 6 illustrates a dominance in proposals using an index approach. Additionally, the figure displays a strong underrepresentation of metrics that capture both inclusion and sustainability, while these aspects illuminate the greatest challenges of our time. There are few metrics that assess inequalities in wellbeing beyond the income and gender dimension. Metrics that relate to wellbeing, inclusion, and



sustainability (middle of triangle) group the three dimensions into one single index or present them in a dashboard of indicators. These metrics are the most comprehensive. However, indexes in this category often obscure valuable information about the status of current and future wellbeing, or distributional aspects, since different aspects are all grouped together in one number. Other initiatives overcome this problem by presenting both an index and underlying indicators (e.g. Social Progress Index and Transitions Performance Index).

### **What role do alternative metrics play in formal political institutions?**

A couple of conclusions can be drawn about the uptake of Beyond-GDP metrics in formal political institutions. First, most of the metrics in Figure 6 have not progressed to the level of formal implementation, remaining relatively obscure ideas amongst academics and small institutions who lack formal power. Second, metrics can be successful (e.g. the SDGs) despite a lack of a solid scientific foundation. Third, the most successful initiatives, in terms of longevity and impact, have been the metrics support by international institutes (UN: SDGs, HDI, IWI, MDPI; OECD: BLI; World Bank: CW). Fourth, national dashboards have also been successful. For example, the Living Standards Framework (a dashboard of indicators) is used in the wellbeing budget of New Zealand, but it is unclear whether these will survive after a change in government.

Figure provides an illustration of how successful certain Beyond-GDP metrics are being implemented in political institutions. It shows three examples and their influence governance and policy:

1. The *U-Index* is an index that is proposed by the psychologist Daniel Kahneman. He proposes to measure the time that people spent in an unpleasant state, giving an indication of wellbeing (Kahneman & Krueger, 2006). The U-Index didn't manage to enter the formal political sphere. Data-availability of time-use is currently a bottleneck limiting the practical application of the U-Index.
2. The *Human Development Index (HDI)* did enter the first formal phase. The HDI is developed by the UN and presented in the annual Human Development Report (UNDP, 2022). The HDI doesn't enter the political governance sphere however, since – to our knowledge – there's no specific political governance in place with the main goal of achieving a higher score on the HDI.
3. The *Sustainable Development Goals (SDGs)* are one step higher on the ladder. The 191 UN Member States have agreed to try to achieve the 17 Development Goals by 2030, entering the political governance sphere. The objectives of the SDGs were integrated into the European Semester in 2019. Most countries also have policies in place that help to make progress towards the SDGs. However, literature illustrates there is little evidence of new policies being developed for the sake of achieving the SDGs. Rather, existing policies are being linked to the language of the SDGs. The SDGs thus seem to affect little real change in national policies (Biermann et al., 2022).



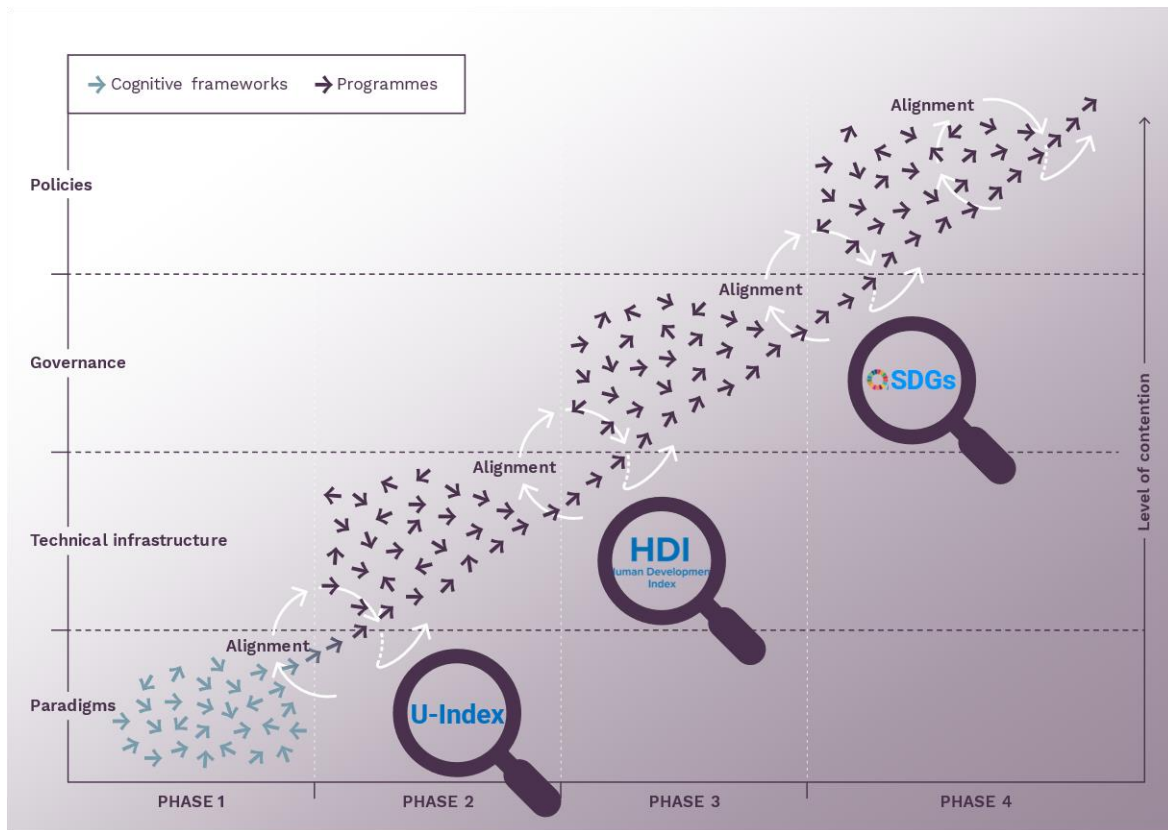


Figure 7. Beyond-GDP metrics climbing the Institutional Mountain

**What theoretical and institutional progress is needed for WISE Metrics?**

What still needs to be done to arrive at WISE metrics? What theoretical and institutional steps are needed? A number of issues need to be resolved.

A core issue is that there needs to be an internationally agreed common language and harmonised methodology which is adopted for Beyond-GDP indicators. Figure 6 shows that a consolidation is possible: all the 66 metrics covered can be categorised according to their measurement of one or more of the dimensions wellbeing, inclusion, and sustainability. On the institutional side, there is also significant momentum for the development of a standardised measurement converging around “Sustainable and Inclusive Wellbeing”. This includes the *Valuing What Counts* (2021) process which was started by the Secretary General of the United Nations. Another UN-led process (in collaboration with the other international institutes) is the revision of the SNA in 2025 (see next section). Finally, the UN Network of Economic Statisticians (UNNES) has also suggested creating a *Framework for Measuring Sustainable and Inclusive Wellbeing*. The OECD has launched a “WISE Centre” on Wellbeing, Inclusion, Sustainability, and Equal Opportunity. The European Commission has established an international Working Group on Sustainable and Inclusive Wellbeing and provides funding to a variety of research projects on topics related to wellbeing and sustainable development. This includes the WISE Horizons project and six other initiatives (MERGE, MAPS, REAL, SPES, ToBE, WISER).

A United Nations-led statistical process is needed to consolidate the Beyond-GDP discussion of the past 50 years into a smaller set of WISE metrics. This will ultimately

also lead to fewer indexes and dashboards. This should be a process in which many scientific disciplines work towards an interdisciplinary synthesis. It should also be linked to a WISE accounting framework (see next section). The international harmonisation of measurement in a UN led statistical process, is a core lesson from the history of GDP. The next section will argue also argue that this harmonised system needs to be embedded in an accounting framework, just like GDP is part of the SNA.

Figure 7 also highlights the issue that many metrics never make it into governance or policy. In essence developing new initiatives without directly linking it to governance or policy is wasted effort. Theorists and institutes should use (and consolidate) metrics that are already out there but focus attention on how those metrics can play a role in formal political institutions.

## 5.4 WISE Accounts

### **Why are alternative accounts to the SNA needed?**

In the case of GDP and SNA, there is full consistency between the accounting framework and the metrics which are derived from it. This has the advantage that the indicator is linked to a lot of underlying data. For example, the SNA includes data on savings, investment, consumption, trade, financial assets. It is therefore possible to look at the trade-offs and synergies of various economic phenomena in a consistent accounting framework. This is also why macroeconomic models use the SNA as a foundation, while adding assumptions about the dynamic properties of the economic system.

The close link between metrics and accounts is missing in the field of sustainable and inclusive wellbeing. Beyond-GDP metrics generally lack a formal accounting structure. Rare exceptions were “Green-GDP” proposals, where GDP was corrected for environmental and social impacts, where broader accounting structures considered (Eisner, 1988). The national Time Use Accounts by Kahneman and Krueger (2006) are also examples of an accounting framework for a metric (the U-index).

The disadvantage of not having a formal accounting framework is that the trade-offs and synergies between certain phenomena cannot be analysed in a consistent manner.

### **What alternative accounts are there?**

The history of alternative accounts really starts with the 1993 revision of the System of National Accounts. The SNA accounting system is revised once every 15–25 years to include new academic insights or governance/policy priorities. Table 3 shows some of the core debates and the SNA innovations which were adopted.

The SNA1993 contained an important innovation which was the creation of “satellite accounts”. These accounts created a distinction between the “core accounts” and “satellite accounts”. The former looked at the standard economic accounts and the latter were meant to measure other phenomena (tourism, the environment, labour) which are relevant to policy makers or society in general. The main advantage is that the accounting structure of the new phenomena are consistent to the core accounts. This means that the relationship between the environment and the economy or

answering a question like “How important is tourism for the economy?” can be answered using a consistent accounting framework.

*Table 3. SNA editions, governance priorities and SNA innovations*

<b>Edition</b>	<b>Governance Priorities</b>	<b>SNA Innovation</b>
SNA1953	Marshall Plan/Keynesian policy	Simple accounting structure focusing on macro-economic aggregates
SNA1968	Empirical macro models	Supply and use tables
SNA1993	Sustainability/Environment	Environmental Accounts (+other Satellite accounts)
SNA2008	Globalisation	Globalisation
SNA2025	Beyond-GDP Inequality	Wellbeing and Sustainability Inequality of income and wealth

Nowadays these “satellite accounts” are usually referred to as “extended accounts”. Examples include labour accounts, tourism accounts, and productivity accounts. The establishment of these accounts marks an important break with previous SNA release as it introduced a range of variables with non-monetary units, such as mass, energy, people and jobs.

This shift, to move accounting beyond money balances, was also argued for by the main creator of the SNA, Richard Stone. In his Nobel lecture he said: “*By organising our data in the form of accounts we can obtain a coherent picture of the stocks and flows, incomings and outgoings of whatever variables we are interested in, whether these be goods and services, human beings or natural resources, and thence proceed to analyse the system of which they form part.*” (Stone, 1984). This broader definition of accounting was inspired by his social and demographic accounting in the 1970s.

The most successful extended accounting system is the System of Environmental-Economic Accounting (SEEA). Environmental issues and the introduction of the term sustainable development by the Brundtland report meant that environmental issues came to the fore in the discussion of the SNA1993. A UN process was started which developed the SEEA Central Framework (SEEA-CF) and the SEEA ecosystem accounting standards (SEEA-EA). The SEEA non-monetary data can be linked to the SNA monetary data thereby greatly enhancing the ability to create environmental-economic models. Box 3, which focuses on SEEA, also mentions two other very important alternative accounts, the Distribution of Income in National Accounts (DINA) and Multiregional Input-output (MRIO) tables.

The current SNA revision process is heavily influenced by the Beyond-GDP discussion. The SNA2025 is led by the international institutes, the UN, EC, OECD, IMF, and World Bank – the ‘Inter-Secretariat Working Group on National Accounts’ (ISWGNA). This process is crucial in defining the future of GDP. One of the specific subgroups assembled by the working group is examining a broader accounting framework for wellbeing and sustainability. This chapter of the revision offers an opportunity to include concepts explored within the WISE framework into the discussion. In doing so, it can pave the way for a future integration of topics like planetary boundaries and time use into future revisions of the SNA.

## Box 3. SEEA, DINA, and MRIOs

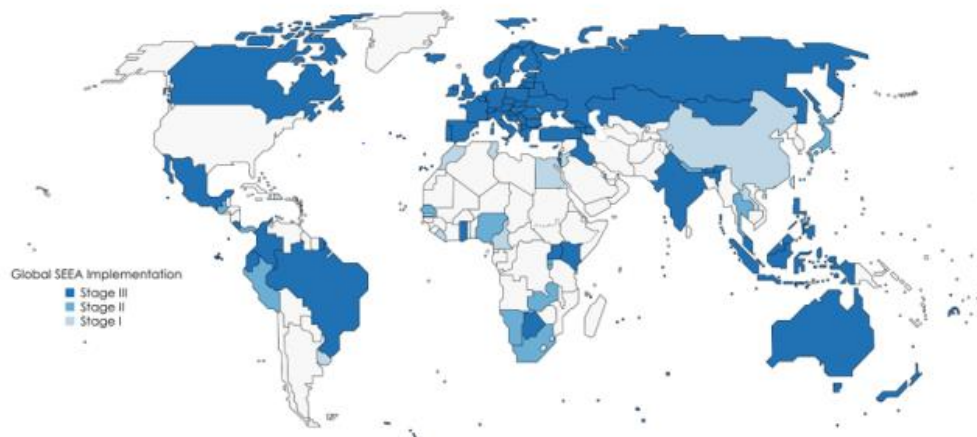
**The System of Environmental and Economic Accounts (SEEA)**

Probably the most important extended account is the System of Environmental and Economic Accounts (SEEA). It is a comprehensive framework that integrates environmental and economic data to provide a more holistic understanding of the interdependence between the economy and the environment. Developed by the United Nations and international institutes, the SEEA serves as a key tool for policymakers, analysts, and researchers to assess sustainability, identify environmental pressures, and formulate informed policies.

The SEEA includes physical flow accounts, which trace the movement of materials through the economy. This includes the extraction, production, consumption, and disposal of materials, helping to identify areas where resource efficiency and waste reduction can be improved. The physical and monetary asset accounts help to assess the stock of “natural capital”.

There are also specialised SEEA handbooks on specific topics such as energy, water, air emissions, and natural resources. Probably the most impactful is the SEEA-Ecosystem Accounts which was published in 2020.

Over recent decades a growing number of national statistical institutes have implemented the SEEA framework (see figure below).


*Proliferation of SEEA across the world*

Source: <https://seea.un.org/content/global-assessment-environmental-economic-accounting>

**Distributional National Accounts (DINA)**

Over the past decades, the increase in economic inequalities was largely driven by a rise in income and wealth accruing to the top of the distribution. However, household surveys, the data sources traditionally used to observe inequality dynamics, do not properly capture these evolutions. Surveys provide useful information and cover many countries, but they do not inform adequately on income and wealth levels of the richest individuals.

A lot of inequality work is based on surveys and other sources, which is not necessarily aligned with the macro-economic totals in the National accounts. That is why the Distributional National Accounts (DINA) have been developed. The central objective is to describe the evolution of the distribution of national income and wealth, i.e. how the different percentiles of the distribution – from the bottom to the top – evolve over time and across countries, using concepts of income and wealth that are socially and economically meaningful and comparable across countries.

The methodology combines different data sources: national accounts, survey data, fiscal data, and wealth rankings. This combination makes it possible to track more precisely the

evolution of all income or wealth levels, from the bottom to the top. The key novelty of the DINA methodology, which can be found at [WID.world](http://WID.world), is to use such data in a systematic manner, allowing comparisons between countries and over long time periods.

Comparing concepts of income and wealth in different countries and over time is not straightforward. Rather than GDP, the DINA uses the concept of national income (NI), i.e. GDP minus consumption of fixed capital (capital depreciation) plus net foreign income. National income is more meaningful because it takes into account the depreciation of the capital stock (including in principle natural capital), which is not an income to anyone, as well as the fraction of domestic output that is transferred to foreign capital owners (including in principle offshore wealth). For instance, if two countries have equal GDP, but one has much higher rates of capital depreciation and foreign outflows, that country would have significantly less income to distribute to its residents and citizens. National income reflects this.

### **Multiregional input-output (MRIO)**

The modern era of globalisation, which started in the early 1990s has led to a shift from individual countries producing national accounts to international databases track the global economy. An account from the SNA framework, the input-output table, which has data from individual economies, is now being used to build Multiregional input-output databases (MRIO).

Some of the important academic database in this field are GTAP, EXIOBASE, WIOD, EORA, GLORIA, (for an overview of some of these see e.g. Tukker and Dietzenbacher (2013)). While the first generation of these databases were compiled by academic institutions, more recently international institutions have adopted the practice, including FIGARO (Eurostat), ICIO (OECD), and MARIO (IMF). These MRIOs are often extended with socio-economic accounts (labour) or environmental extensions (based on SEEA principles).

### **What role do these accounts play in formal political institutions?**

The alternative accounts which are discussed are not as powerful as the SNA in terms of its provision of indicators in government or its use in models. Nevertheless, the SEEA is probably the most advanced in terms of the inroads it is making. For example, in the EU, members states are legally bound to create some of the SEEA accounts such as the air emissions and material flows accounts. Also, in national policy making, SEEA data is increasingly being used.

Distributional National Accounts (DINA) are currently still primarily driven by the World Inequality Lab, a network of inequality academics. The US now produces distributional financial accounts, which are largely inspired by DINA. The UNDP publishes DINA statistics and France Statistics (INSEE) has developed, in partnership with DINA, distributed national account. The fact that the DINA is being discussed in the context of the SNA2025 bodes well for its uptake in the coming years.

The use of MRIOs in governance and policy is also increasing. This is because it has already proven itself in economic analyses that are focussed on globalisation trends. For example, the OECD-WTO Trade in Value Added (TiVA) database, first launched in January 2013, has shifted the way in which trade is viewed. It provides unique insights into global value chains and their developments which are needed for governments to understand their roles in global value chains.



Also, the combination of MRIO data and SEEA data has proven to be useful in understanding the international dimension in environmental pressures. For example, environmental footprints reveal how dependent national consumption is on global emissions. The aim is to provide policy makers with new insights into the environmental impacts of global production systems. These kinds of statistics can also be used to analyse the effects concrete policies such as the economic and environmental impacts of Carbon Border Adjustment Mechanism (CBAM).

### **What theoretical and institutional progress is needed for WISE Accounts?**

The development of the SNA2025 towards wellbeing and sustainability will provide an enormous impulse to integrated WISE-metrics into accounting structures. Also, the advances in SEEA, DINA, and MRIO enable governance and policy that take on board environmental impacts, inequality, and globalisation respectively. Yet, to provide full accounting link to all dimensions of sustainable and inclusive wellbeing, and the metrics, a much broader set of WISE accounts is needed. These accounts should be built on three principles (Hoekstra, 2019; Jorgenson, 2009; Vanoli, 2005):

- *Multiple units.* An accounting system based on stock and flows as Richard Stone envisaged it. Recording of stocks and flows in various units (money, mass or otherwise) is then used to understand the static and dynamic elements of the economic, social, and environmental systems.
- *Interdisciplinary.* The stock/flow accounts will require knowledge from various social and natural sciences. In addition, the accounts should be able to create indexes that evaluate the progress towards wellbeing, inclusion, and sustainability. These should be based on the various schools of thought that were discussed in chapter 2.
- *Global.* The SNA focusses on national economies, but WISE accounts should have a global perspective because many problems and solutions have an international dimension.

The WISE accounts should also yield the WISE metrics and the data should also provide the empirical foundation for the WISE models discussed in the next section. WISE accounts will be further worked out in the WISE Horizons project (see annex A). However, Table 4 shows some of the core accounts which are likely to be part of a WISE accounting framework. It shows the units and the current extended accounts that could serve as a foundation. The distributional accounts are cross-cutting accounts where data on the demographic distribution is also added to the respective accounting structures.

Table 4. Core WISE accounts

Economic	Social	Environmental	Distributional accounts						
			Subaccount	Unit	Flow	Stock	Income / Wealth	Age	Gender
X			Monetary accounts	Money					
X		X	Physical Accounts	Mass					
X		X	Energy Accounts	Energy					
X		X	Land account	Area					
X	X		Time use account	Time					
X	X		Employment Account	Jobs					
	X		Demographic accounts	People					
		X	Ecosystem Accounts	Species					

## 5.5 WISE Models

### Why are alternative models to macro-economic models needed?

Macro-economic models have two fundamental problems. First, they focus on modelling economic growth, usually measured as GDP, so they do not include the many dimensions that are relevant for sustainable and inclusive wellbeing. Second, there are many assumptions underlying in the current macro-economic models. The assumptions will be discussed in this section before returning to expanding the models to go Beyond-GDP.

The problematic assumptions differ per type of macro-economic model: neoclassical, post-Keynesian, input-output and non-Keynesian heterodox. The approaches taken to constructing these models differ not only at the practical level structures and assumptions but at the deeper level of their ontological and epistemological foundations (Dow, 1996).

The term neoclassical is contentious, so the term neoclassical is used broadly to refer to models that take their intellectual roots from the neoclassical revolution in the 1980s. Therefore, by this definition economic theory and models that might more precisely be referred to as new Keynesian fall under the umbrella of neoclassical. This class of models is founded upon the unrealistic assumptions of general equilibrium, perfect information and rational agents (De Vroey, 2016). While current ‘state of the art’ models (mainly in the DSGE literature) in this class can accommodate more realistic dynamics and departures from perfect information or full rationality, they do so by introducing additional assumptions (market frictions, sticky prices, etc.) (J. E. Stiglitz, 2018) to an idealised system, such that their intellectual base line is an unrealistic abstraction from the real economy. This approach speaks to a particular ‘mode of thought’ that prioritises the internal coherence of the model over accurate representation of the real world (Chick, 2003).



Being derived from the economics that valorises market solutions, economic growth and minimalist government, neoclassical models are highly integrated with the ‘old narrative’. Any ‘new narrative’ that is derived from or explored through these models is likely to offer only incremental changes that are not commensurate to the scale of the current ecological crisis. This shortcoming becomes strikingly evident when looking at the policy recommendations that are typically derived from neoclassical models. As these models are grounded in the assumption that – absent any market failures – the market outcome is the welfare-maximising equilibrium, policy interventions typically revolve around the internalisation of environmental or social externalities. In other words, environmental problems are considered as market failures (and as such worthy of a policy treatment) when they impose a social cost on members of society that is not reflected by the price system. Once this failure of the market is corrected by internalising the true social cost of the externalities in prices, the market will again deliver the optimal outcome. Hence, neoclassical models typically suggest some form of taxes or cap-and-trade systems as optimal policy solutions for environmental challenges. The dynamics of DSGE models are governed by the maximisation of an objective function (utility or welfare) which is typically strictly increasing in income or consumption (despite decreasing marginal utility of consumption). While in theory, the strength of this relationship depends on the elasticity of marginal utility of consumption (or income), neoclassical models are deeply grounded in the premise of income growth delivering welfare improvements. DSGE models are thus, by construction, ill-suited to analyse policy questions related to large-scale structural transformations such as a transition to post-growth scenarios. Moreover, they lack the necessary flexibility to explore the deep uncertainties and disequilibria that are likely to occur during a transition to a more sustainable economy (McCarthy et al., 2018). From the perspective of the WISE project, these models are insufficient to understanding both the dynamics of the economy as it currently exists, and dynamics of a potential future economy based on sustainable and inclusive wellbeing.

Post-Keynesian macroeconomic models build upon a different set of intellectual than neoclassical models. These models are derived from an integration of Keynesian and Kaleckian theory (Lavoie, 1995), which centre ‘human’ dynamics, such as uncertainty, bounded rationality and satiability of needs (Lavoie, 2014). Furthermore, models and theory in this tradition have been explicitly designed to explore dynamics relating to financial instability, unemployment, inequality, and structural change. Additionally, the primary post-Keynesian modelling approach (stock-flow consistent (SFC)), is built upon the structure of the national accounts, allowing easy integration with the objectives state in section (cross-reference). The post-Keynesian perspective is therefore well suited to the aims and objectives of the WISE project.

Input-output models offer a relatively neutral framework which can be interpreted in post-Keynesian or neoclassical terms (Miernyk, 2020). These models derive from an intellectual tradition that was less concerned with theory and more grounded in systematisation of empirical data than the neoclassical and post-Keynesian approaches. Furthermore, input-output models have been developed in concert with national accounting systems, not only the core accounts but also the satellite accounts (Miller & Blair, 2009). Therefore, input-output models offer a strong basis for WISE, as integration of models and accounts is a key objective of the WISE project. Furthermore, input-output modelling offers a highly standardised approach, with a core model structure that is common across a broad academic literature.

However, where it is necessary to introduce theory to this underlying framework, it will also be necessary to draw from the post-Keynesian literature, which offers a more appropriate basis than the neoclassical approach.

The fourth group of models includes any non-neoclassical but not strictly Keynesian models, including complexity economic models, agent-based models, classical models (e.g. Marxian and Ricardian). None of these models is necessarily inappropriate for the purposes of exploring at least some element of the WISE dimensions, however, none offer the coherent framework necessary to fully integrate with the WISE accounts. This is of particular importance given the key conclusion of the WISE theory of institutional change that a clear and united approach is required for translating new narratives into institutions. Therefore, these ‘heterodox’ traditions may be a useful source of inspiration for the project but cannot offer the core modelling approach.

In summary, neoclassical macroeconomic models do not offer an appropriate basis to analyse sustainable and inclusive wellbeing. Post-Keynesian and input-output models provide the best basis as a result of their potential for integration with the WISE accounts, focus on key WISE issues and their potential to deliver a coherent unifying narrative.

### **What alternative models are there?**

Efforts to include more of the WISE dimensions than just economics in global policy making go back to the 1970s with both the Club of Rome’s system dynamics model WORLD3 (Meadows et al., 1972) and Leontief’s World Model (Leontief et al., 1977) that was used for the United Nation’s General Assembly’s work on the International Development Strategy.

The relatively simple WORLD3 model linking seven major systems (demographics, food production, industrial and services production, land-use, non-renewable resources, pollution, and overall welfare) was recently updated to the more complex Earth4All model (Dixson-Declève et al., 2022). While Leontief’s World Model touches upon the same topics, the interlinkages between those were modelled in a more static way. However, as it was based on input-output and trade data, it had a significantly more detailed representation of the economic system, which in turn allows for a more differentiated modelling of the interaction of the total economic system with environment and society. Economic dynamics based on trade theory and technological development were introduced into this model by one of Leontief’s collaborators (Duchin, 2005; Duchin & Lange, 1995; Leontief, 1986). Nordhaus developed the Dynamic Integrated Climate and Economy (DICE) (Nordhaus, 1994) to address the need of policy makers for analysing energy, emissions, and the economy in an integrated framework. This model is generally reported to be the first Integrated Assessment Model (IAM). These models combine an economic core (most commonly a CGE) model with models from climate or environmental science. IAMs are today the backbone of the scenario analyses in the IPCC reports (van Beek et al., 2020).

Integrated Assessment Models (IAMs), while predominant, face inherent limitations in addressing household-level inequalities due to their aggregated nature. On the other hand, Computable General Equilibrium (CGE) and Macroeconomic Input-Output (IO) models, not originally designed for such aspects, show potential in

accommodating features related to structural inequalities. The inclusion of System Dynamic (SD) models into macroeconomic IO and some CGE models emerges as a distinctive feature, offering a tailored approach to dynamic equations. Despite methodological complexities, their integration can address challenges in modelling WISE dimensions while preserving the macroeconomic model's nature (Wiebe et al., 2023). Additionally, emulating the high level of consistency and transparency present in IO models can enhance the WISE model's tracking of transactions and balance between simplicity and complexity.

In a previous report of the WISE Horizons consortium (Wiebe et al., 2023) it was concluded that models based on a post-Keynesian or similar heterodox economic theory are more suited for modelling WISE policies and impacts than models based on neoclassical economic theory. Annex C therefore summarises existing macro-econometric input-output, system dynamics, and integrated assessment models, but not models based on neoclassical economic theory (as e.g. CGE models). The reviewed models provide insights into the challenges and opportunities for modelling Wellbeing, Inclusion, and Sustainability dimensions.

There are, to our knowledge, no stock-flow-consistent (SFC) models used for global policy analysis (yet). Note that the stock-flow refers narrowly to the financial stocks and flows rather than the multidimensional stock/flows as recorded in the WISE accounts. These post-Keynesian SFC models have interesting features that should be considered, as they not only capture the real side, but also the financial side of the economy (Caverzasi & Godin, 2013; Godley & Lavoie, 2007). With this, this type of model was the only one who could foresee the financial crises of 2008. These models are characterised by “quadruple entries”, not only will money flow from one actor to another, entering the balance sheet as a positive number on the receiver side and as a negative number on the payer side, while at the same time financial stocks of the supplier and the payer also record change.

### **What role do alternative models play in formal political institutions?**

The alternative models are not as well institutionalised as the standard macro-economic models which are used by many international institutes such as the OECD, IMF and World Bank as well as national governments and their policy institutes. There have recently been started proactive efforts led by a group of ecological macroeconomists to change this (Souffron & Jacques, 2024). Generally though, the most notable exception are the IAMs which play an important role in the governance of climate change negotiations. They are also used for climate policy, such as calculating the social cost of carbon.

### **What theoretical and institutional progress is needed for WISE Models?**

To illustrate the improvements needed Figure shows some core differences in the traditional macro-economic modelling approach and WISE models.

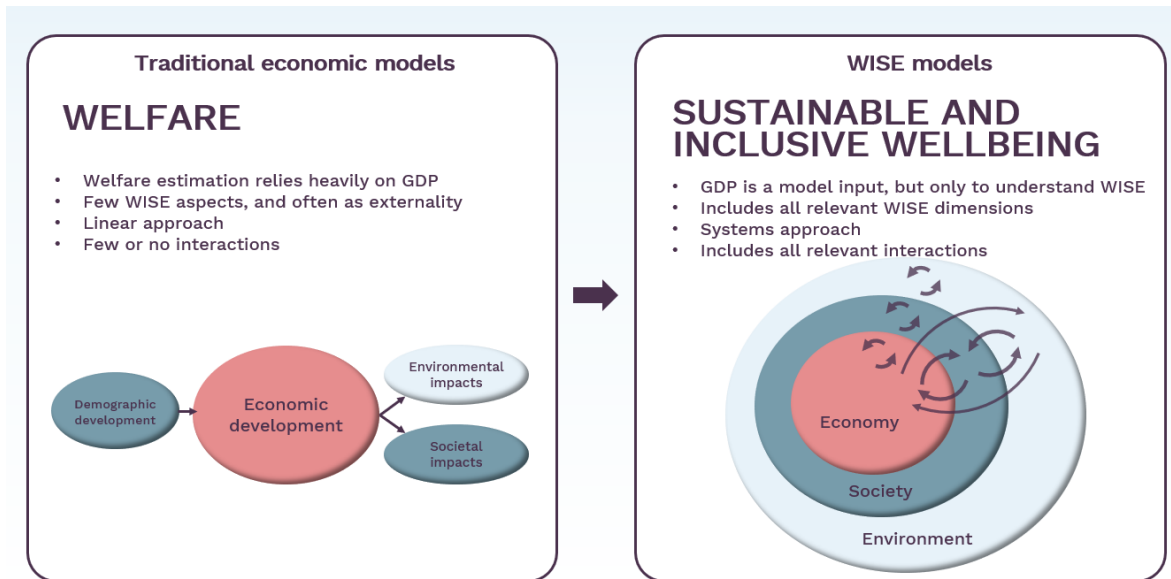


Figure 8. Traditional Economic vs. WISE Models

There are various features that are conceptually different:

- Traditional macro-economic model focus heavily on GDP and interpret its development as a welfare improvement. In WISE models economic development is included but only to model the relevant dynamics affecting sustainable and inclusive wellbeing.
- Traditional models do sometimes include social (labour) or environmental dimensions (climate) but WISE models would provide information about a far broader range of phenomena.
- Traditional models are modelled in a rather linear fashion in the sense that population and economy are modelled and subsequently social and environmental impacts are modelled. In WISE models a systems approach is taken where the feedback loops and planetary tipping points are also included (these could be independent of the underlying economic theories).

In addition to the concepts in the figure, WISE models also need to avoid some of the assumptions of the traditional economic models. For example, these models need to recognise that many of the assumptions in neoclassical economic theory should be improved upon. This could be the recognition that some aggregate system “states” and interactions between systems can behave differently than the individuals on the system, or that these interactions loop over the systems and alter the dynamics of the systems themselves and, that instead of maximising the welfare of the system, WISE models will evaluate the trade-offs and improvements over a range of factors (indicators).

In annex A, some of the modelling which will be done in the WISE Horizons project is discussed. The aim is not to create a perfect model that ends all modelling. Instead, experimental partial models will help to explore many of the methodological observations discussed above. There will also be two integrated models that will attempt to synergise Input-Output (IO), stock-flow accounts, and System Dynamics (SD) elements. The WISE models aim to represent a wide array of economic, social,

and environmental factors, providing a broader understanding of the interactions within different dynamic systems.

From an institutional perspective it is important that these are not only academic exercises to improve scientific foundations of modelling. It is also vital that international institutes and national governments start to use them in governance and policy.

## 5.6 WISE Governance and Policy

### **What alternative governance and policy frameworks are there?**

The previous three sections have described how some of the technical infrastructure has been or is being taken up in formal political institutions, either national or international. This section will analyse whether Sustainable and Inclusive Wellbeing has managed to become institutionalised at the governance and policy levels. Most of the discussions will however focus on the governance level because the breath of policies which affect wellbeing, inclusion and sustainability is just very large.

Section 5.2 has shown the importance of certain UN processes, of which the introduction of the term sustainable development by the Brundtland report has been an important foundation for international governance. Most recently this has led to Agenda 2030 for Sustainable Development Adopted in 2015. It lays out 17 Sustainable Development Goals (SDGs), encompassing issues from gender equality to health to peace and security. Their acceptance by all UN member states marks a crucial step toward establishing a more comprehensive and universal framework with a broader, sustainable development perspective.

However, critics have pointed out the SDGs' lack of theoretical foundation and insufficient exploration of the interplay between different goals, which leads to trade-offs (Kroll et al., 2019). On top of that, while the impact of the SDGs can be observed in some locations, such as Wales where they have been enshrined into law resulting in the integration of these goals into the Welsh institutional functioning, the translation of SDGs into real change through policies and actions has been limited in many places (Biermann et al., 2022).

One notable change at the governance level is the use of the SDGs as a monitoring tool to track performance, e.g. through annual assessment reports on progress towards these goals, which is a common practice across many countries. Yet, Biermann et al. (2022) find that the SDGs so far primarily led to discursive effects, which they define as alterations in global and national debates to make them more aligned with the SDGs, for example by making explicit references to objectives of the Agenda 2030. An example of this can be seen in the European Green Deal (EGD), where the SDGs are mentioned as a target to achieve but do not play a role in informing policy as a core framework. This way, their real impact and implementation still remains to be seen.

Regionally and nationally, significant progress has been and is being made with advancing new strategies that encompass aspects of wellbeing, inclusion, and sustainability. Typically, policy strategies, visions and/or frameworks are structured around specific priority themes such as responding to the COVID-19 pandemic,



climate change, poverty, disaster risk management and aging or youthful populations, or broader concepts such as wellbeing and sustainable development.

Strategies of either type play a pivotal role in establishing government's long-term targets and providing a roadmap for actions that are needed to achieve them. Once defined, these strategies are translated into a set of policies designed to execute the overarching plan. Policies are often thematic in nature, addressing specific areas with concrete measures and instruments. For example, consider social policies aimed at enhancing wellbeing. These policies may span a range of specific policy areas, such as health and education, and specific instruments, like financial aid programmes, healthcare subsidies, or public support services.

*There are many current governance and policy level initiatives that can serve as an entry point for a WISE framework, and consequently a shift in thinking beyond-GDP. An overview of initiatives can be seen in the Review of Policy Strategies (Kormann da Silva et al., 2023). Drawing on this, Table 5 outlines a list of key examples of policy strategies and their associated policy instruments that contribute to advancing more comprehensive and detailed governance and policymaking.*

Box 4 supplements the table by presenting an example of how a non-anthropocentric narrative can also influence governance and policy.

*Box 4. Non-anthropocentric views and their way into formal institutions.*

There are some non-anthropocentric views that found their way into formal institutions. These ideas originate from diverse worldviews (cosmovision), cultural heritage, and indigenous knowledge. A common thread running through these worldviews is the acknowledgement that humans are an integral and interconnected part of the whole of Nature.

A standout illustration within governance is the concept of *Buen Vivir*. This concept emphasises the social, cultural, and spiritual dimensions of life over material wealth, advocating for a harmonious relationship between humans and nature. A tangible outcome of this approach is the recognitions of rights to nature. Ecuador notably became the first nation to grant constitutional rights of nature: The 2008 Ecuadorian Constitution reflects a social vision grounded in the values and worldview of the native Quechua peoples of the Andes and Amazon called Sumak Kawsay, translated in Spanish as Buen Vivir, or Good Living/Living Well in English<sup>8</sup>. Subsequently, this concept was further elaborated on and put into policy in the National Plan for Buen Vivir 2013-2017 and 2017-2021.

Similarly, in Bolivia, an alternative vision of development was put forward rooted in the worldviews of the Aymara peoples of the Andes, Suma Kamaña, translated as Vivir Bien, and Madre Tierra (Mother Earth). These ideas were incorporated into the 2009 Bolivian Constitution and the Framework Law on Madre Tierra and Integral Development for Vivir Bien of 2012. This laid the foundation for the National Bioculture and Climate Change Programme 2008-2019, the Patriotic Agenda 2025 and the Economic and Social Development Plan 2021-2025.

<sup>8</sup> See for instance Durand (2018) and Exton and Shinwell (2018) for a case study

Building on the framework laid out in chapter 3, the broader structure and dynamics as well as other factors like cultures, reflect in a diversity of government strategies and policies. Countries and regions, depending on their context, may prioritise different topics and have varying degrees of agency to address issues.

However, a common thread across the policy strategies highlighted in table 4 is the increased recognition of growth as an enabler for achieving other societal goals, rather than an end in itself. In this context, the Agenda 2063 of the African Union is a key example. The African Continental Long-Term Vision, which is the basis for long-term plans of regional economic communities (RECs) and countries, does not have an economic focus in terms of its aspirations. Instead, it predominantly emphasises objectives related to wellbeing, inclusiveness, sustainability, and governance. Still, it is important to acknowledge that priorities and action areas outlined under the Agenda 2063 aspirations do include many economic components.



Table 5. Spotlight of policy strategies and examples of associated policies

Country of region	Governance		Policies	Technical Infrastructure
	Conceptual	Thematic	Thematic	
<b>African Union</b>	Agenda 2063	Vision & long term development plan for Africa	<ul style="list-style-type: none"> <li>- Flagship programmes, including the African Continental Free Trade Area,</li> <li>- High quality continental infrastructure network</li> <li>- Conflict prevention &amp; reduction</li> <li>- Agricultural modernisation &amp; value addition,</li> <li>- African E-University,</li> <li>- Free movement of people,</li> <li>- Disaster risk management &amp; climate change adaptation/ mitigation</li> </ul>	M&E framework comprised of 140 indicators (based on 7 aspirations & 20 goals) offer multiple aspects related to WISE
<b>China</b>		The Mid- and Long-term Plan for Responding Proactively to Population Aging	<ul style="list-style-type: none"> <li>- Consolidate social wealth reserves</li> <li>- Improve effective supply of labour in the context of aging population</li> <li>- A high-quality health service system</li> <li>- New technologies benefit seniors</li> <li>- Aging-friendly social environment</li> </ul>	14th FYP period (2021-2025): Elderly care service system: 9 indicators, e.g. no. of nursing beds Health aging: 7 indicators, e.g. aging-friendly medical institutions
<b>Wales</b>	Wellbeing for Future Generations Act		<ul style="list-style-type: none"> <li>- Suspend all new road building projects</li> <li>- Investment in local co-working hubs</li> <li>- Provision of electric bikes in rural areas</li> </ul>	50 wellbeing indicators to assess its performance, e.g.: % of adults with two or more healthy lifestyles
<b>New Zealand</b>	Wellbeing Budget 2022		<ul style="list-style-type: none"> <li>- Cost of living package: targeted cost of living support for low- and middle-income citizens</li> <li>- Climate Emergency Response Fund</li> <li>- Supporting Māori and Pacific aspirations</li> </ul>	Adheres to the Living Standards framework, encompassing indicators for 3 domains: 1 – individual and collective wellbeing 2 – institutions and governance 3 – the wealth of Aotearoa Zealand

<b>United States</b>		Inflation Reduction Act	<ul style="list-style-type: none"> <li>- Combination of grants, loans, rebates, and incentives to stimulate energy efficiency measures and electrification in commercial buildings and homes, and electric vehicles (EV)</li> <li>- Incentivising domestic sourcing and American jobs</li> <li>- Environmental justice grant programmes</li> <li>- Expansion of health insurance coverage, lowering of health care and prescription drug costs</li> <li>- Adjustment of tax laws and enforcement such that high-income and corporations pay (more) taxes, while taxes of families making less than \$400,000 per year do not rise</li> </ul>	- none
<b>European Union</b>		European Green Deal	<ul style="list-style-type: none"> <li>- Emission Trading System (ETS)</li> <li>- Renovation Wave to drive energy efficiency</li> <li>- Renewable Energy Directive (RED)</li> <li>- Just Transition Fund</li> </ul>	Monitoring indicators divided into 3 categories: 1 – Climate impact, 2 - Protection of planet and health, 3 – enabling green and just transition

Long-term strategy could yield the guiding plans to solve major issues such as green development, climate change, and some topics related to wellbeing. Facing the challenge of population aging in China, the Mid- and Long-term Plan for Responding Proactively to Population Aging plan provides a basic institutional framework to responding population aging and details the tasks across five aspects. Moreover, the supporting documents have set both obligatory and anticipated indicators, such as elderly care facilities and age-friendly health system, aiming to improve health-related quality of life and wellbeing for all individuals.

Table 5 highlights two other key examples related to WISE: The Wellbeing for Future Generations Act in Wales, and the Wellbeing Budget in Aotearoa New Zealand, both enacted by governments that are part of the Wellbeing Economy Governments (WEGo) initiative. Established in 2018, the WEGo is a collaboration of national and regional governments with the main goal of fostering Wellbeing Economies. Today, it comprises six members: Scotland, New Zealand, Iceland, Wales, Finland, and Canada. Each of these governments have embedded in one way or another the concept of wellbeing into its formal institutions and policies. The wellbeing economy framework advocates for an economy that prioritises wellbeing of people and planet anchored on social justice. It provides a holistic understanding of wellbeing and defines some core dimensions of an economy working towards that, such as dignity ('everyone has enough to live in comfort, safety, and happiness') and connection ('a sense of belonging and institutions that serve the common good') (Wellbeing Economy Alliance, 2021).

The inclusion of the Wellbeing for Future Generations Act in the Welsh Constitution underscores its long-term sustainability within governance structures. The Act's evolution has been shaped significantly by the local context, as it is the result of a long process working to integrate a sustainable development approach in Welsh policymaking (Siebert et al 2022). The Act is mainly operationalised through a Commissioner position and office. Although they do not hold the power of policy creation, since established, they have influenced policy in multiple ways. First, each public body is tasked with setting and publishing wellbeing objectives designed to maximise their contribution to achieving overarching wellbeing goals. Other mechanisms involve monitoring, publication of annual reports and processes, advice, and support public bodies in the execution of the Act.

Budgets are key governance mechanisms used every fiscal year for a government to announce its revenues and expenditure plans. The Aotearoa New Zealand Wellbeing Budget sets the Government's priorities, rationales, and key initiatives. It also provides a clear vision of what wellbeing is, facilitating the articulation of the concept by formal institutions. Following its first implementation in 2019, the national government has embedded this wellbeing approach into legislation through the Public Finance (Wellbeing) Amendment Act 2020.

The Wellbeing Budget of New Zealand follows a comprehensive process that starts with an evidence-based approach, building on statistical evidence on wellbeing and its distribution, where the national Cabinet agrees on wellbeing priority areas. Based on this, ministers and agencies develop target initiatives, that are then assessed on their impacts on wellbeing aspects and sent back for Cabinet approval of the Budget package. This way, the Wellbeing Budget puts people's and planetary wellbeing at the heart of policymaking. In addition, it provides a framework for considering both current and future needs, ensuring a balanced approach. The Budget 2023, named

‘Support for today, Building for tomorrow’, for example, focuses on the cost of living, driving down inflation and responding to the recent environmental events faced by the nation.

Advances towards concepts such as wellbeing in governance can lead to ‘network effects’. The Wellbeing Budget served to inspire its neighbour Australia into capitalising on the learnings and the mainstreaming of the policy strategy in Aotearoa NZ and has moved towards creating a similar budget under the new Labour government (Aldane, 2022). Another example can be observed looking at the US Inflation Reduction Act (IRA).

The IRA presents a framework for a significant amount of investment in, among others, climate change mitigation and health care, giving priority to investments in specific communities and areas that have been disadvantaged, and clean energy production. The main policy under the IRA will be in form of taxation instruments (credits and deductions). Given the magnitude of the plan, the IRA impacted governance worldwide. The EU, for example, has reacted by adopting the Green Deal Industrial Plan under the broader umbrella of the European Green Deal (EGD), which was in place before the introduction of the IRA.

Looking at the EU-level, the EGD is presented by the European Commission as a ‘new growth strategy’. While economic efficiency is at its core, the plan also incorporates concepts and instruments aimed at fostering more sustainable ways to produce and consume. The EGD sets the ambitious targets for the next decades, such as becoming climate-neutral by 2050. This way, it puts EU’s environmental commitments at a high level, supported by a solid sustainability approach (Barbieri et al., 2021).

Since its publication, the EGD has been helping to shape EU priorities and policies. The EU Commission communication of March 2022, for example, highlights an economic growth model supported by the green and digital transitions, and the improvement of economic and social resilience (European Commission, 2022). Funds and funding regulations have been created under this overarching framework. Notably, 30% of the EU budget is designated to support climate action (Widuto et al., 2023). Another example is the Just Transition Fund, established to support regions in the EU most affected by the green transition.

Finally, this section ends by reflecting on different ways to approach governance and policy. This section followed a rather top-down discussion but, while political decision-makers are key in carrying ideas into formal institutions, the role of civil society and grassroot movements in this process should not be neglected. Striking a balance between more top-down and bottom-up approaches is important to advance change. Implementation, for instance, involves diverse groups of people and contexts, and allowing for different, on-the-ground perspectives could strengthen policy decisions (Cairns Jr., 2003).

In this regard, participatory initiatives can help to create more inclusive and representative processes, as well as shaping policy and plans that better reflect people’s viewpoints (see box 5 for some examples). Organised civil society, trade union movements, and others, are therefore fundamental to build the public support, pressure, and desire for more transformative policymaking that is needed to advance change. However, there are key factors important to enhance the impact of bottom-

up approaches. Effective participation requires that those engaged are provided of time, information, resources, and diligent follow up. The organisation of participation processes should adhere to well-designed methods. The OECD Guidelines for Citizen Participation Processes serve as a valuable tool, offering guiding principles that help ensure the quality of these initiatives (OECD, 2022).

*Box 5. Examples of bottom-up approaches*

**Participatory budgeting**

Participatory budgetary is a democratic process that involves citizens or community members in deciding how to allocate a portion of the public budget. Governments are increasingly adopting these processes as a way to make these decisions more inclusive. For instance, South Korea launched a National Participatory Budgeting initiative called ‘My Budget’ in 2018. Citizens were involved in the process of gathering project ideas; following this, a citizen committee helped in refining project proposals to be submitted for consideration at the National Assembly.

**Citizens’ Assembly and Councils**

These initiatives involve a body of citizens who come together to deliberate on a specific topic and provide recommendations to a public body – which can be binding or non-binding. Citizens’ assembly or councils can also take place at different political levels. In Europe, a number of national-level climate assemblies have been organised.

- In Austria, a referendum gave rise to the Climate Council in 2021. This project randomly selected citizens who were brought together to explore measures to guide the country towards climate neutrality. More than 90 recommendations were handed over to the government.
- In Spain, the Citizens’ Assembly for the Climate was convened as a follow-up to the Declaration on the Climate Emergency approved in 2020. One of the goals of the assembly is to reinforce citizen participation and establish social dialogue within the community. The first mandate focused on gaining insights into how to create a safer and fairer Spain in the face of climate change.

**Community Wealth Building**

This is an alternative approach to economic development based on democratic ownership and community self-determination. Contrarily to the for-profit mode of production, community wealth building promotes fulfilling basic needs of people by strengthening local capital and improving the community’s own capacity to provide for them. There is no one-size-fits-all mode when it comes to these initiatives. Context is key, and community wealth building strategies vary depending on the local’s resources, ecosystem, political and cultural systems, and other relevant factors.

***Towards WISE Governance and Policies***

As seen above, there are various initiatives at governance and policy level that support building a sustainable and inclusive system that delivers wellbeing. However, these do not come without limitations. Many of the policies put forward still follow a market-oriented approach, often emphasising the creation of new markets or increasing their efficiency as the only possible solution. Furthermore, the underlying assumption that decoupling alone can lead to environmentally friendly economic growth is frequently apparent. While technological innovation, modernisation, and digitalisation are important, especially in the Global South, many policy strategies

lack ambition in advancing other ways to rethink production and consumption patterns.

In short, the new is still in the making. There are many ideas out there that have been incorporated into governance and policy that already contribute to moving beyond-growth, but with varying degrees of transformation. The different initiatives emphasise different aspects of sustainable and inclusive wellbeing, and there is no unified approach yet.

A key step in continuing to advance these efforts is to work towards building a global vision around this agenda. A governance structure aimed at fostering convergence around terminologies and concepts and exploring their commonalities is still missing. Having such a common vision contributes could enhance its reception among policy- and decision-makers. At the same time the system does need flexibility to cater to local conditions in terms of problems, solutions, and governance structures.

Moreover, it supports the development of frameworks that promote moving beyond-GDP. Adopting governance frameworks designed around the concepts of wellbeing, inclusion, and sustainability can help set main overarching targets aligned with these goals. .

To have real-life impact, these objectives need to be translated into governance strategies across various policy domains. At the policy level, this approach can lead to policies that look at various domains through a WISE lens, helping to perceive linkages between different themes, e.g. health, education, poverty, trade. This process would require experimentation and adaptation to find strategies and policies that can support each country, region, or community.

1. The process of designing (WISE) priorities, strategies, and policies should involve deliberative policy processes and collaboration between academia, policymaking, and civil society. The Wellbeing Economy Policy Design Guide (Wellbeing Economy Alliance, 2021) provides a set of tools to explore participatory approaches, while the Sustainable Prosperity (n.d.) database provides a repository of transformative policies ideas.<sup>9</sup>

The WISE Horizons project has also engaged in co-creative practices by bringing together a wide range of stakeholders through policy labs. During one such event, participations co-created together a list of policies and actions aimed at fostering the ‘new’: a future where wellbeing, inclusion, and sustainable are realised. The role of pre-distribution policies (aimed at limiting pretax inequality levels (Blanchet et al., 2022)), was particularly emphasized.

## 5.6 Final remarks

This chapter has used the theory of institutional change to try and analyse how far the sustainable and inclusive wellbeing narrative has spread in formal political institutions. In essence, this narrative stresses the important of achieving a good life for all, but within the limits which the natural systems impose.

This chapter found that there was fair amount of technical infrastructure to enable a narrative focused on sustainable and inclusive wellbeing. There is a large amount

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<sup>9</sup> <https://sustainable-prosperity.eu/policy-database/>



of alternative metrics, including the SDGs and the HDI. However, uptake of these metrics into governance and policy is limited. In terms of accounts, there is a lot of traction for the SEEA framework. In addition, models are also being used for decision making of partial areas of wellbeing, inclusion, and sustainability.

At the governance and policy level, there are various wellbeing governance frameworks and partial thematic policies (climate change, poverty etc). However, these governance frameworks are still far away from the global institutionalisation that the economic narrative has achieved.

What is missing is more coherence at the various levels. National and international coordination is necessary to create WISE metrics, accounts, and models and to further develop governance and policies. To achieve greater coordination, it is important that a certain degree of terminological agreement is achieved. From that perspective it is good to see that there is convergence towards wellbeing and sustainability and inclusion.

The next section will discuss some of the recommendations that follow from our theoretical framework. Annex A provides more information on the specific goals which the WISE Horizons project would like to help the scale be tilted.

## 6. TITLING THE SCALE: EIGHT RECOMMENDATIONS

The insights of this report culminate in eight recommendations, five of which are based on the theory of institutional change and three of which are informed by the theoretical foundation of the technical infrastructure. This also raises the issue of which actors should implement each recommendation. These are specified in the sections below. The eight recommendations are summarised and depicted in their relation to our theoretical framework in Figure 9.

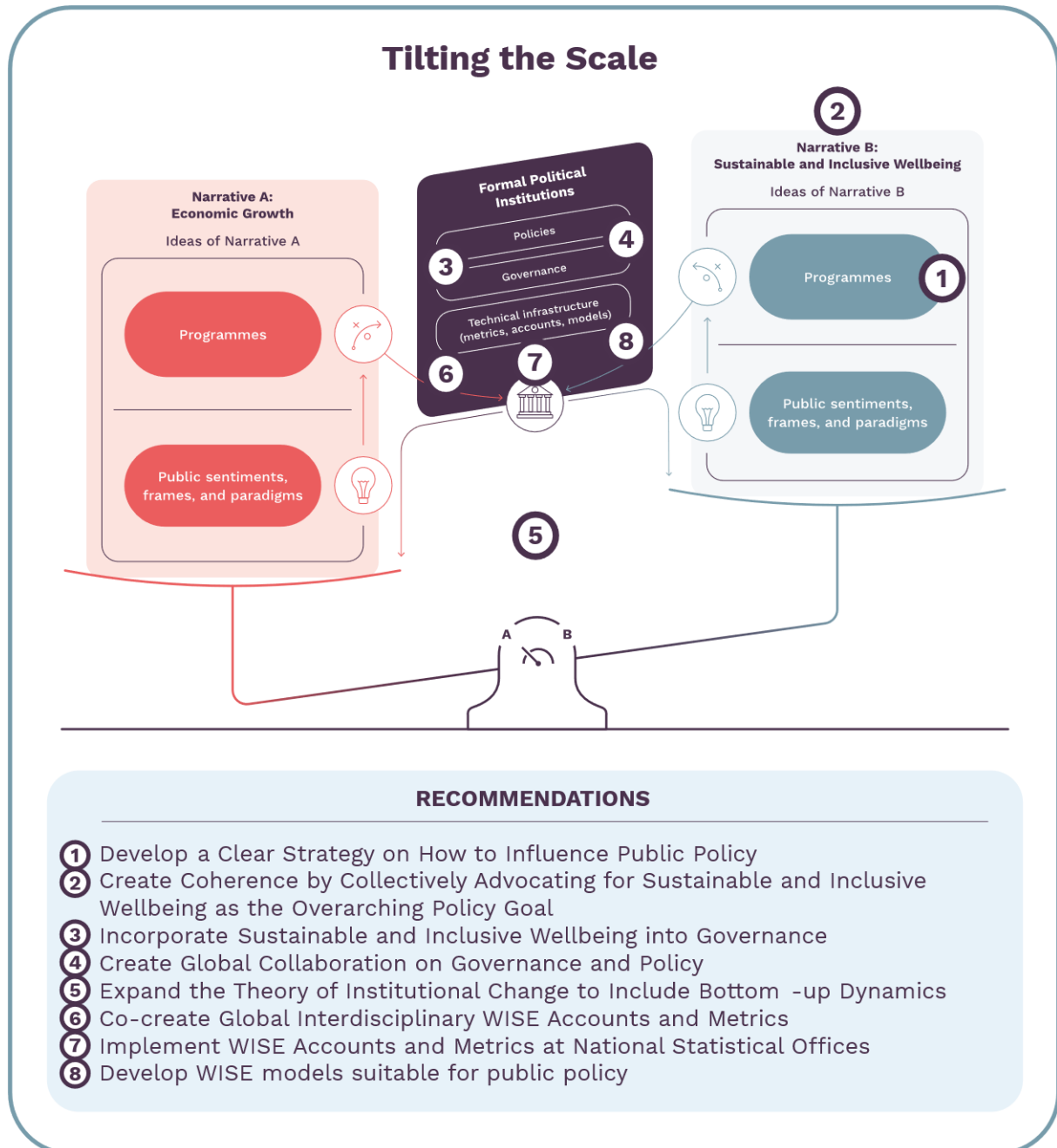


Figure 9 Recommendations Derived from the Theoretical Framework

## Recommendations - Theory of Institutional Change

### 1. **Develop a Clear Strategy on How to Influence Public Policy**

Books and articles on the sustainable and inclusive wellbeing narrative often focus on the urgency of mainstreaming a new narrative and some come up with suggestions for a new metric or model. However, many initiatives in that space are not clear on how those ideas will be taken up in public policy. As a result, new approaches often remain in the academic sphere or confined to the realm of the technical infrastructure. For example, many Beyond-GDP indexes or dashboards have been developed but their real-world impact remains limited as these are too rarely integrated into governance and policy.

*This report recommends that **academics** wishing to contribute to the sustainable and inclusive narrative do so with the intention of creating a programme, a concrete actionable plan, that could be implemented in the technical infrastructure, governance, or policy sphere of the formal political institutions. This requires policy-literate academics capable of understanding how to link their work to the current political context and landscape as well as actors working at the science-policy interface. For example, it also requires **decisionmakers** capable of identifying scientific work that can shape public policy.*

### 2. **Create Coherence by Collectively Advocating for Sustainable and Inclusive Wellbeing as the Overarching Policy Goal**

There is a lot of heterogeneity when it comes to new narratives. This means that initiatives are often competing with each other in terms of influencing public policy and relevant decisionmakers. The Sustainable Development Goals, Doughnut Economics, Better Life Initiative, and the Human Development Index, among others have all had some success in gaining traction in public policy but provide divergent concepts and methodologies.

While all these initiatives agree that economic growth should not be societies' main goal, they are incoherent in terms of the suggested alternatives and the terminology employed. This report presents an interdisciplinary synthesis showing that all these initiatives are related to the three core concepts of the theoretical framework: wellbeing, inclusion, and sustainability. Furthermore, this categorisation – which is based on Brundtland report and the conceptual work of Stiglitz, Sen, and Fitoussi – has recently gained institutional traction in processes led by the United Nations, OECD, and the European Commission.

*This report invites **all actors** involved in formulating a new narrative to advocate sustainable and inclusive wellbeing as the main goal of society. This terminological consistency will add to the idea that the various initiatives are collaborating rather than competing and hence increase the chances of translating this new narrative into the formal political institutions.*

### **3. Incorporate Sustainable and Inclusive Wellbeing into Governance and Policy**

Currently the governance of national and local governments, central banks, and international bodies such as the International Monetary Fund, World Bank, and European Union, are geared primarily towards the old narrative of economic growth. The policies that are derived from these governance frameworks will logically prioritise GDP growth or other economic objectives such as inflation, competitiveness, and employment. Governance and policies are also needed that support the sustainable and inclusive wellbeing narrative in public policy.

*This report recommends that **political decisionmakers** incorporate the goal of sustainable and inclusive wellbeing into governance frameworks as a guiding principle, thus supporting the formulation of relevant policies. Political targets, enforcement mechanisms, and budgetary allocation should thus be aligned with the broad goal of sustainable and inclusive wellbeing.*

### **4. Create Global Collaboration on Governance and Policy**

Creating novel governance structures or policies is pioneering work. National, regional, and international authorities all over the world are experimenting with this issue, with varying degrees of success. In 2018, an informal network of countries known as the Wellbeing Economy Governments (WEGo) was established. Such knowledge sharing networks on governance and policy need to be scaled up and expanded.

A deliberative knowledge exchange process should build on existing groups such as WEGo or other initiatives that are managed by the UN, OECD, and other international organisations. These deliberations should convene a mix of policymakers, civil society actors, and academics with the aim of integrating sustainable and inclusive wellbeing into governance and policy.

*This report recommends that an international deliberation on governance and policies for sustainable and inclusive wellbeing is stimulated by **international organisations** and **governments** to promote the exchange of best practices. It is important that these exchanges are facilitated by adapting existing deliberative bodies which have already been initiated by international organisations.*

### **5. Expand the Theory of Institutional Change to Include Bottom-up Dynamics**

The theory of institutional change has been created to facilitate understanding of how the formal political institutions of national governments and international organisations can be steered away from a focus on economic growth towards embracing a new narrative centred on Sustainable and Inclusive Wellbeing.

The theory thus focuses on top-down dynamics in which changes of the formal political institutions in line with sustainable and inclusive wellbeing give rise to desirable societal transformations. Due to this focus, the theory does not take into account the role and impact of bottom-up initiatives by individuals, NGOs, or other civil society actors, but still acknowledges their vital importance when it comes to bringing about narrative change.

*This report recommends that the theory of institutional change is expanded by **academics** to include bottom-up dynamics.*

## **Recommendations – Theoretical Framework Technical Infrastructure**

To bring about narrative change in public policy, it is crucial to advance the theoretical foundation of metrics, accounts, and models and thus contribute to the establishment of the technical infrastructure. These technical tools are essential to embed the sustainable and inclusive wellbeing narrative in governance and policy.

This is the part of the theoretical framework which the WISE Horizons project will be focussing on in the coming years. In essence, the project will be formulating programmes which could be implemented by national governments and international organisations. It is, of course, beyond the mandate of the project to dictate to political decisionmakers which metrics, accounts, and models to implement. Nevertheless, the project will provide clear guidance on the steps that might be taken towards institutionalisation of these tools based on an interdisciplinary synthesis of the scientific literature.

### **6. Co-create Global Interdisciplinary WISE Accounts and Metrics**

In the case of economic statistics, the core metric (Gross Domestic Product) is part of an internationally agreed accounting standard (System of National Accounts). The formal accounting framework also makes it possible to look at trade-offs and synergies between economic variables which is vital to assess the overall impacts of economic policies. In the case of sustainable and inclusive wellbeing the link between metrics and accounts is much weaker. Quite often, WISE indexes and dashboards are suggested without a formal accounting structures to support them.

The endeavour to create WISE accounts and metrics can build on the experience of the System of National Accounts (SNA), and extended accounts such as the System of Environmental-Economic Accounts (SEEA) and the Distribution of Income in National Accounts (DINA). This should be an interdisciplinary undertaking involving mainstream economists, heterodox economists, other social sciences, and natural sciences.

*This report recommends that the statistical governance of the international institutes facilitate a co-creation process for **academics, statisticians, and modellers** to develop interdisciplinary WISE accounts and metrics. Involving stakeholders from policy would also ensure that the WISE accounts and metrics align with their needs, which would increase chances of political uptake.*

### **7. Implement WISE Accounts and Metrics at National Statistical Offices**

The mere existence of an accounting framework does not automatically result in its adoption by statistical institutes. In certain cases, adoption was facilitated by legally mandating the implementation of statistical frameworks. For example, some of the

modules of the SEEA are compulsory for EU Member States. However, many countries lack statistical resources needed for implementation and hence require assistance from international organisations. The World Bank, International Monetary Fund, and United Nations often have funds available (for SNA, SEEA or SDGs) for relevant capacity building. The WISE accounts implementation should be designed with these efforts in mind.

*Building on recommendation 6, this report recommends that **international organisations** support the implementation of WISE accounts at **national statistical offices**. These efforts should build on existing capacity building programs.*

### **8. Develop WISE Models Suitable for Public Policy**

Current macro-economic models used in public policy do not capture all dimensions or interactions relevant to sustainable and inclusive wellbeing. This is partially due to a lack of high-quality data which should be resolved by the introduction of WISE accounts. Nevertheless, there are also more foundational ways in which existing models ought to change, including the need for changes in the underlying methodologies and assumptions.

*This report recommends that the **academic and policy modellers** keep improving WISE models (based on WISE accounts) and that **decisionmakers** explore ways to increase the influence of these models on policymaking.*

### **Tilting the Scale: Wellbeing for All, Now and in the Future**

The eight recommendations offer high-level guidance on long-term objectives, outlining how various actors can collaborate to bring about societal change. Academics and actors working at the science-policy interface (such as those involved in the WISE Horizons project) can make sure that their work is cognisant of governance and policy processes. However, this narrative change is a collective endeavour, involving a multitude of actors, each playing their own role in advancing the sustainable and inclusive wellbeing narrative.

The narrative change that is needed is within reach. Through collective coordinated efforts, public policy can shift from economic growth towards a new narrative that prioritises sustainable and inclusive wellbeing. Let's tilt that scale, starting today.



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## ANNEX A. WISE HORIZONS DELIVERABLES

This report was written after 1 year of the WISE Horizons project. It therefore collates the knowledge of the various researchers, institutes, and the insights from this inaugural year of the project. In this section, some of the future deliverables of the project are discussed. These will help to finetune the theoretical framework set out in this document.

### WISE Metrics

Beyond-GDP data plays a crucial role in comprehending social progress beyond mere economic growth. However, data is stored across various databases and often related to one single discipline, posing challenges in terms of accessibility and interdisciplinary analyses.

WISE Horizons has introduced the 'WISE database' to overcome these challenges. We collected, cleaned, and organised over one million data points from various sources, including the UN, World Bank, and OECD, resulting in a database covering 210 metrics across 220 countries or sub-regions from 1500 to 2023. The database allows to easily analyse the developments of various metrics and indicators. For example, one could plot the Life Evaluation Index against the Ecological Footprint or illustrate how happiness, GDP, and planetary boundaries have developed historically. To enhance interpretation and interdisciplinary analyses, we link all data to our WISE theoretical framework (Wellbeing, Inclusion, and Sustainability) and thematic domains (e.g., education, health).

In addition to the database, an online visualisation tool to improve accessibility and comprehension of these Beyond-GDP metrics. The tool allows for easy cross-country comparison and historical overviews. Within the WISE Horizons project, the database will be used for both historical and contemporary analyses, feeding into several WISE deliverables as presented below.

### WISE Accounts

A WISE accounting framework will be proposed which includes stock-flow representations of the environmental, societal, and economic systems in multiple units (mass, energy, time, people, money etc). The accounting system will also include evaluation approaches derived from various school of thought that go beyond current mainstream economic approaches. The WISE accounts will take a global perspective because many problems and solutions are global in nature.

### WISE Models

#### *Planetary Boundaries and Wellbeing*

This model will assess what the impacts are of transgressing planetary boundaries on wellbeing. Many of the large Integrated Assessment Models (IAMs) do not include feedback loops from climate to population or economy. Even the IAMs that do, such as DICE/RICE/FUND/PAGE, have very simplistic feedback mechanisms. In this part of the project, we will look at the feedback loops from the perspective of wellbeing. Based on a literature and model review, we will study what, in a world where

planetary boundaries like climate change are exceeded, the impacts are on for instance mortality, morbidity or other health impacts, basic needs, work, conflict and migration.

### *Planetary Budgets*

In order to develop socio-economic models that stay or return within planetary boundaries and that can provide policy insights, we need to know these boundaries. If transgressing the natural limits, countries need a path to return to sustainable consumption and production levels. The responsibility to stay or return within limits is a shared one. A core ethical principle in allocation and effort is 'common but differentiated responsibility', but there are many ways to allocate responsibility in a fair way depending on various ethical considerations. For example, there are rights-based approaches that establish a right to emit or pollute, such as those based on equality (equal per capita shares) or sovereignty (grandfathering, keeping current shares), and duty-based approaches, such as responsibility (historical emissions) or capacity (ability to pay), that establish a duty to contribute to mitigation. In this model, we will consider various ethical principles to shape regions' planetary budgets. We will model various pathways towards 2050 using environmental input-output analysis.

### *Circular Economy & Sustainable Competitiveness*

The lifestyles and economic system which are necessary to live within planetary boundaries will require changes in natural resources, especially considering electrification. The European Commission has a policy for sustainable competitiveness in which certain sectors - electric vehicles, renewables, battery storage - are crucial. These changes imply a shift away from fossil fuels towards metals and minerals. This will have a profound effect on geopolitical relationships, trade, and the economy. These resources are also natural limits in the sense that they are scarce non-renewable resources that generate environmental and social impact. The circular economy is a key approach to improve or limit the use of natural resources. This model will consider developments in resource use with circular strategies.

### *Sustainable Wellbeing*

The sustainable wellbeing work strand seeks to model sustainable, high-wellbeing lifestyles for the future. By analysing time use data including enjoyment and life satisfaction ratings for a set of daily activities, it is possible to understand, to an extent, time use profiles (in a 24-hour diary, for example) which represent high wellbeing lifestyles. By further modelling energy consumption (travel and non-travel) and household expenditure linked to these activities, it is possible to determine the emissions intensity of time use profiles. Methods used in these efforts include connecting energy consumption data to official emissions factors, and household consumption data to carbon emission I/O extensions. These emissions intensity and wellbeing variables for a range of time use activities can then be used to design specific time use scenarios based on post-growth assumptions related to socialised consumption or working time reduction, for example.

### *Productivity and Sustainability*

This model will estimate the industry level technological change required to deliver various lifestyles within planetary boundaries to provide a more nuanced understanding of the relationship between sufficiency and efficiency transition strategies. This model applies environmentally-extended multi-regional input-output analysis, which accounts for the complex and interrelated supply chains of the economy, coupled with an econometric analysis of the historical productivity and efficiency growth rates for labour and environmental intensities by industry. The industry level detail provided by input-output analysis will allow for the identification of key technological challenges and develop a series of technological scenarios for bringing the economy in line with planetary boundaries by 2050.

Furthermore, this analysis will be connected with the results of the sustainable wellbeing model to allow for an analysis of the technological changes that would be required to deliver a high-wellbeing lifestyle that is compatible with the limits of the planet.

### *The Welfare State*

In many countries, the welfare state currently provides services (health, education care, etc.) that are critical to supporting wellbeing. Furthermore, state spending on welfare services accounts for a substantial portion of economic activity. Understanding how we can make the welfare state compatible with the limits of the natural world is critical to achieving a 'WISE' future. This model seeks to test the financial stability and environmental impact of different approaches to delivering welfare services in a transition to a more sustainable economy.

To explore the future of the welfare state, a stock-flow consistent (SFC) model (FALSTAFF 2X2) will be employed to explore different models of welfare provision. The SFC framework is particularly useful in understanding the interaction of the real and financial economy and therefore provides a strong basis for testing the implications of different provision models, both in terms of financial feedbacks and the potential environmental feedback.

### *Economic Inclusion*

Building on recent advances in the estimation of tax and transfer progressivity around the world, this model will provide insights into future inequality trajectories under different redistribution scenarios. (2023) provide the first global database of post-tax income inequality for the period 1980-2019. This data opens the door to an extensive analysis of the progressivity of government redistribution around the world by directly comparing the distribution of pre- and post-tax income. By leveraging this data and analysing the historical trends in redistribution, we will be able to make projections on the future of income inequality under different growth and redistribution scenarios.

### *Social Inclusion*

This project seeks to extrapolate historical trends in gender inequality and female labour income shares to assess the gender equality impacts of transition scenarios under different assumptions by 2050. The empirical exercise will build on Neef and Robilliard (2021) who combine data on employment and labour income from the Luxembourg Income Study (LIS), EU-SILC and the ILO to provide a comprehensive

picture of female labour income shares around the world. Since labour income share is an indicator that comprises both, gender differences in labour force participation and earnings, building a model based on this data will enable us to assess different trajectories of these variables and their impacts on overall gender-based income inequality.

### *Environmental Justice*

This strand of work departs from stylised facts on environmental justice which are well established for the US. These stylised facts evolve around socio-economic and racial gaps in the exposure to harmful local pollutants and proximity to toxic industrial sites. These exposure gaps are largely driven by mechanism of residential sorting and selective siting of polluting activities. While environmental policies such as the Clean Air Act in the US have been successful in reducing these gradients, the evidence for countries outside the US is inconclusive. This project will make use of disaggregated spatial data to quantify the degree of inequality in pollution exposure and to estimate the effect of transition-related structural changes, such as the closure of industrial facilities.

### *Bespoke Integrated model*

Both the SDG model and the Bespoke model will have a global input-output model linked to the WISE accounts as its core. The ‘Bespoke model’ focusses on modelling the most important relations between the economic core and the remaining WISE dimensions. It will allow for exogenous changes in the system that are in line with WISE policies. The model is an input-output accounting system extended with the WISE accounting system and stock-flow / system dynamics modelling to capture feedback loops between the WISE dimensions and a better understanding of the current flows (monetary and physical – emissions, material, work, wellbeing, etc) in relation to available stocks. When modelling a policy aimed at a certain WISE aspect, the ‘Bespoke model’ will help us identifying indirect and induced effects on other WISE dimensions as well as other geographic areas or other points in time.

### *SDG integrated model*

For the SDG model, we will focus on modelling how the WISE policy-induced changes in global value chains affect selected SDG indicators. A static version of the model already quantifies those SDG indicators that can be directly linked to industrial production, emissions and material use, employment, or economic growth. These we call “direct value chain SDG indicators”. In addition, we will be able include those that can be estimated from the WISE accounts and those that can be related to the direct value chain SDG indicators.

## **Global Report**

A “Global Report” will provide a historical analysis which contrasts economic development (economic growth, productivity, and consumption) to wellbeing, inclusion, and sustainability.

The aim is to tell a new story about development (in the last two centuries and for different regions). Novelty in our approach is that we use the WISE conceptual framework as basis for historical analysis. Our expectation is that the ‘Inclusion’ dimension will be particularly interesting, especially on a global scale.

The Global Report is inspired by “How was Life” from the OECD, historical work of Harry Lintsen and Jan-Pieter Smits, “The Rise and Fall of American Growth” by Robert Gordon, “Enlightenment Now” van Steven Pinker.

The Global Report will include deep dives for Europe, Africa, US, and China for the period 1950-now. These deep dives “will include a subnational analysis to show how wellbeing, inclusion and sustainability are regionally distributed and what determines its development”.

## **Website**

WISE Horizons has already launched its project website [www.wisehorizons.world](http://www.wisehorizons.world). The data which has been developed has also helped to improve the data on the two data websites which are managed by Leiden University and Paris School of Economics respectively: [www.beyond-gdp.world](http://www.beyond-gdp.world) and [www.wid.world](http://www.wid.world).

## **Governance and Policy: Collaboration and Co-creation**

WISE Horizons has already hosted two co-creation in 2023 labs to inform the work. In the remainder of the project, various events, online and in person, will be organised to keep informing the scientific work.

## **WISE book**

To finalise the project, a scientific book will be published which summarises the core result of the WISE Horizons project. This is also the place where the theoretical framework will be revisited.

## ANNEX B. MEASUREMENT OF SUSTAINABLE AND INCLUSIVE WELLBEING

This annex will show how the three key dimensions of wellbeing, inclusion, and sustainability follow from five scientific schools of thought that have studied the measurement of wellbeing: welfare economics, subjective wellbeing, needs theories, capability approach, and the ecological approach. In addition, we will illustrate that this three-dimensional approach is also in line with influential reports such as the UN's Brundtland Report (1987) and the Stiglitz-Sen-Fitoussi Report (2009).

### Welfare Economic Theories

According to *welfare economics*, common components of welfare include “utility”-affecting factors such as income or consumption, leisure, unpaid work, the social cost of income inequality, human capital, cost of pollution, and natural capital depletion, as illustrated by the Genuine Progress Indicator and similar metrics (Cobb et al., 1995; Kubiszewski et al., 2013; Nordhaus & Tobin, 1973; Slycken, 2021). Utility was traditionally associated with happiness, with welfare economics studying the allocation of scarce resources to create ‘the greatest happiness for the greatest number’ (Bentham, 1789). However, in the early 20<sup>th</sup> century when economics started to focus on the measurement of more “objective concerns” (see e.g. Kaldor 1939; Hicks 1939), utility came to be associated with a more narrow definition of welfare.

Central to the welfare economic approach is the use of an economic model to measure welfare or to investigate an optimal allocation of resources to create the highest level of social welfare. The overall value of welfare depends both on the inputs (such as consumption and leisure) and the assumptions of the model. For example, an assumption must be made about inequality aversion, which will influence the total amount of estimated welfare (Atkinson, 1970). Income, consumption, leisure, and unpaid work are usually considered as flow variables, meaning they are measured over a specific time horizon. Capital accounts are measured as stocks, capturing the total quantity of specific resources at one specific point in time. The consideration of capital accounts is also known as “wealth accounting” (World Bank, 2005).

### Subjective Wellbeing Approaches

The *subjective wellbeing* approach is marked by the presumption that wellbeing can be self-evaluated through survey responses, usually focussing on individual life satisfaction. Individual life satisfaction is primarily influenced by factors such as mental health, social connections, freedom, and employment, with income playing a relatively minor role (A. Clark et al., 2018; Dolan et al., 2008; Layard, 2005). The limited impact of income can be attributed, in part, to the counteracting effects of social comparison and adaptation (A. Clark et al., 2018). On a national scale, the fluctuations in GDP per capita play a significant role in explaining variations in life satisfaction among different countries (Helliwell et al., 2023). While personality traits, genetic predispositions, and environmental factors are acknowledged contributors to life satisfaction, they are often omitted from macro-analyses due to data constraints.



In addition to life satisfaction, subjective wellbeing might also be assessed studying positive or negative emotions (usually referred to as “positive affect” and “negative affect”) or a feeling of purpose and fulfilment in life (referred to as “eudaimonia”) (OECD, 2013a). The OECD for example, highlights the importance of considering positive and negative effects in addition to life satisfaction. Academic literature also highlights the importance of considering a diverse range of self-evaluation measures, with specific attention given to eudemonic wellbeing or collective wellbeing (Krys et al., 2023; Martela & Ryan, 2023). The latter is especially important to account for cultural differences in the concept of wellbeing, arguing that individual life-satisfaction is not the best indicator of wellbeing within more collectivist cultures.

## Needs Theories

Analysing *needs theories*, common components to consider are physical and mental health, safety, and freedom. Maslow argues there’s a hierarchy of needs, usually depicted in “Maslow’s pyramid” where physiological needs need to be met first, followed by safety and security, then followed by love and belonging, self-esteem and self-actualisation (Maslow, 1954). Max-Neef and Doyal and Gough debate such a hierarchy. Max-Neef suggests that existential needs are subsistence, protection, affection, understanding, participation, idleness, creation, identity, and freedom and that each existential need can be satisfied by factors that relate either to being, having, doing, or interacting. Examples of satisfiers of “subsistence” include physical health (being), food (having), feed (doing), and living environment (interacting) (Max-Neef, M., 1992). Doyal and Gough go further and suggest that ultimately, human need fulfilment is about the goal to have a minimally impaired participation in society. This can only be achieved if people can fulfil basic needs: people are in good health and have autonomy, the latter in turn requiring good mental and physical health, social and cognitive capacities, and opportunities for societal participation (Doyal & Gough, 1984). Max-Neef and Doyal and Gough describe both that it is possible to define a fundamental and universal set of objective human needs, even if the ways in which we satisfy these needs vary across cultures.

## Capability Approaches

The *capability approach* is proposed by Amartya Sen, relating wellbeing to people’s “capability to function”. That is, a person’s ability and freedom to lead one type of life or another (depending on their values) (Sen, 2001). The components that influence the capability to function overlap with the components discussed related to needs theories. The more capabilities someone has, the better their quality of life is said to be. Deprivation of capabilities on the other hand, can be understood in terms of poverty, which is not limited to having low income. The capability to function might be influenced by a wide range of factors such as living environment, education, and mental and physical health. In practice, the capability approach focusses on observable achievements. Martha Nussbaum developed a list of most important capabilities, which has been empirically operationalised by Anand et al (Anand et al., 2009; Nussbaum, 2003). Nussbaum’s list has similarities to measurement frameworks based on needs theories. The capability approach inspired the development of the Human Development Index and Multidimensional Poverty Index (UNDP, 2022, 2023). Both metrics also relate to needs theories.

## Ecological Approaches

*Ecological approaches* are based on the premise that human wellbeing is intricately linked to the Earth's systems. Researchers have defined nine planetary boundaries within which humanity can operate safely. Transgressing one or more planetary boundaries poses potentially catastrophic risks that will trigger abrupt and severe environmental change (Rockstrom et al., 2009) undermining the biophysical systems which support human wellbeing. Kate Raworth combines the planetary boundaries with human basic needs, providing an approach to integrate social dynamics and environmental concerns (Raworth, 2012).

## Brundtland/Stiglitz reports

The consideration of three domains and a combination of objective and subjective indicators, is in line with recommendations of the Brundtland Report (1987) and Stiglitz-Sen-Fitoussi Report (2009), and the CES Recommendations (2014). The CES Recommendations (2014) synthesise the foregoing reports by proposing a distinction between wellbeing here and now, wellbeing later, and wellbeing elsewhere, and the inclusion of subjective and objective indicators. Overlapping much with the lessons from the scientific schools of thought.

## Summary

The scientific schools of thought are characterised by different approaches to measure different dimensions of wellbeing. Despite the differences, there are some shared insights. The scientific schools of thought illustrate that wellbeing is a multidimensional concept encompassing subjective and objective dimensions. The importance of subjective dimensions such as self-evaluated life satisfaction is underscored by the subjective wellbeing approach and need theories. Welfare economics has a subjective component as well, considering its focus on utility to determine social welfare. The relevance of objective dimensions is highlighted by welfare economics, the ecological approach, and some work in the field of needs theories and the capability approach.

We also see that measurement of the wellbeing of current generations differs from the measurement of the wellbeing of future generations, and both are important to consider. Potential trade-offs and synergies in current and future wellbeing are illustrated by welfare economics and the ecological approach, for example by accounting for both short-term and long-term consequences of current consumption. Current and future wellbeing should be evaluated separately to support decision-making that safeguards the wellbeing of both the current and future generations effectively.

We also learn that the distribution of wellbeing matters. Human needs exist for everyone, as highlighted by need theories. Abundance within some regions cannot compensate for deprivations elsewhere (both within and between countries). Welfare economics also illustrates that society as a whole is better off when inequality is limited.

Last, we learn that human wellbeing will be harmed if the Earth's carrying capacity is exceeded. The ecological approach illustrates the necessity of operating within Earth's planetary boundaries to safeguard the wellbeing of future generations.

## ANNEX C. EXAMPLES OF MACRO-ECONOMIC MODELS WHICH INCLUDE WISE ELEMENTS

Model	Strengths	Weaknesses
FIDELIO (European Commission) (Rocchi et al., 2019)	A dynamic econometric multi-sectorial model that is used for assessing sustainable production and consumption policies by providing their economic and environmental impacts, with a detailed household consumption model. This combined with a detailed energy-environment module, makes the model very suitable for analysing both production- and consumption-related energy and environmental policies.	Limited global coverage (only EU plus 7 largest trading partners), and limited representation of detailed labour force characteristics. Society-related data are not (yet) integrated into the model, limiting the analysis of wellbeing and inclusion.
E3ME (Cambridge Econometrics) (Barker, 1999)	E3ME is a macro-econometric input-output model, following the post-Keynesian economic school. It has two-way integration between economy, energy, environment (mainly represented by emissions), and technology, with a detailed technology development and diffusion model. It is mainly based on publicly available data.	The model code is privately owned and not shared with others. While the labour market follows the industry disaggregation of the economy, labour characteristics such as age, household size, skill level are not modelled in detail. This also limits the analysis of other well-being and inclusion aspects.
GINFORS	GINFORS combines simple macro-econometric equations for every country, following the SNA logic, with demand driven input-output models, based on OECD IO tables. It has a detailed physical energy and emissions module based on energy balances and GHG emissions. There is a two-way feedback mechanism between the energy-environment module and the technology coefficients in the economic model. Global trade flows are estimated bilaterally at the product level.	The model code is privately owned and not shared with others. Very reduced representation of labour market (employment as outcome of industry value added) and social dimension of WISE. No factor constraints.
World Trade Model based on Leontief's World Model	The World Trade Model is a linear programming model that determines world prices and international trade flows based on comparative advantages that internalise scarcity rents, using a Balance of Payments formulation for international financial flows. It is a generalisation of Leontief's et al (1977) World Model. Rather than maximising consumption or output, the model minimises factor use, such as material, energy, or other elements from the biosphere (which are modelled in physical units), allowing for a detailed modelling of interlinkages between the economy and the physical environment. This	The model determines the globally optimal (minimum) factor use. For that, assumptions need to be made regarding prices of physical input factors (i.e., the scarcity rents). Even if there exists an economic value for some of the factors, this conversion into monetary terms most probably does not reflect the value of the factor inputs in WISE terms. In addition, even if a global optimum exists, it is impossible to achieve in the real world

	<p>approach could also be extended to include more of the social WISE aspects.</p>	<p>due to national rules and regulations and imperfect collaboration between countries (both firms and governments). The model does not consider constraints of gross fixed capital formation (machineries, infrastructure).</p>
<p>Green Jobs Assessment Models (GJAM) (Simas et al., 2022; Wiebe, Andersen, et al., 2021; Wiebe, Simas, et al., 2021)</p>	<p>Demand driven macro-econometric Input-Output (Supply-Use) models.                      Parsimony: The model depends on very few types of data, which can be combined into one consistent framework with few equations. The model is data driven and reflects country-specific characteristics very well.                      Transparency: For every single result and simulation, is possible to find an explanation that lies in the data or one of the very few assumptions underlying the model.                      Flexibility: It allows the incorporation of multiple policies and extensions if more data are available. These models can run with the most basic national account data, or with very detail social accounting matrices.</p>	<p>Not a fully detailed labour market: The model simulations show which industries are likely to have an increased demand for labour, and which industries might contract. Labour market outcomes also depend on other factors as well as dynamic labour market adjustments such as wage adjustments, labour availability, labour productivity changes etc.                      Only applied at national level so far, with very simplified modelling of international trade. Import shares by product are based on the supply table from the base year. Exports grow with global GDP projections from the IMF or OECD.</p>
<p>MEDEAS (Capellán-Pérez et al., 2020)</p>	<p>System Dynamics Integration: MEDEAS utilises System Dynamics, enabling the incorporation of diverse perspectives and feedback from various subsystems.                      Comprehensive Modules: Structured into seven submodules, including Economy, Energy, and Climate Change, MEDEAS covers a broad spectrum of factors influencing wellbeing.                      High Degree of Disaggregation: The Economy and Energy modules exhibit extensive disaggregation, offering detailed insights into complex interactions.</p>	<p>Challenges in Economic Module: Faces challenges in incorporating more dynamics into the economy module, particularly in making A matrix evolve under scenarios.                      Energy Scarcity Interaction: Improvement is needed in modelling the interaction between energy supply and demand during energy scarcity scenarios.</p>
<p>EUROGREEN (D'Alessandro et al., 2020)</p>	<p>Multidimensional Approach: EUROGREEN employs simulations to analyse the complex interactions among economic, social, and ecological dimensions, supporting a multidimensional and interdisciplinary approach.                      Evaluation of Policy Impacts: The model allows the evaluation of the impacts of simultaneous implementation of multiple policies, providing insights into social justice, environmental care, and economic performance.</p>	<p>Technological Coefficient Rigidity: The model maintains rigidity in the technical coefficients matrix (A), potentially overlooking spillover effects of technological progress on the demand for intermediate commodities.                      Scale and Institutional Constraints: Developed at a country scale, EUROGREEN</p>

	High disaggregation of Public sector	does not consider negative feedback effects from global emissions or binding institutional constraints defined by the European Union.
EARTH4ALL (Dixson-Declève et al. 2022)	<p>Sectoral Representation: Earth4ALL incorporates multiple sectors influencing human wellbeing, including Population, Output, Public, Labour Market, Demand, Inventory, Finance, Energy, Food and Land, Climate, Reform Delay, and Wellbeing sectors.</p> <p>Quantitative History-Based Forecasting: Leverages stable relationships between human behaviour and GDP per person observed in the global past, providing a basis for forecasting dynamics of human wellbeing.</p> <p>Well-Defined Wellbeing Components: Defines average wellbeing using five components—worker disposable income, public spending, inequality, environmental quality, and perceived progress—offering a comprehensive perspective.</p>	<p>Model Complexity: The detailed model equations run into thousands of pages, potentially posing challenges in comprehensibility for non-experts.</p> <p>Assumption on Future Behaviour: Relies on the assumption that future human behaviour will mirror past behaviour concerning income levels, potentially oversimplifying complex socio-economic dynamics.</p>



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