



Grant Agreement no. 308371

ENV.2012.6.3-2 - Policy Options for a Resource-Efficient Economy

- Collaborative project -

<h2>D2.5</h2> <h3>Report on global governance for resource-efficient economies</h3>

WP 2 – New concepts and paradigms for policies for resource efficiency

Due date of deliverable: Month 16

Submission date: 30 / 01 / 2014

Start date of project: 1st October 2012

Duration: 42 months

Lead beneficiary for this deliverable: UCL

Last editor: Michelle O’Keeffe, UCL

Contributors: Michelle O’Keeffe, Jill Jäger, Franziska Hartwig, Chiara Armeni, Raimund Bleischwitz

<i>The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 308371.</i>		
--	--	--

Dissemination Level		
---------------------	--	--

PU	Public	
-----------	--------	--

		X
--	--	---

1. History

Version	Date	Released by	Comments
0.9	08/01/2014	Michelle O’Keeffe	Circulated to POLFREE Policy Advisory Board for comment
1.0	07/02/2014	Michelle O’Keeffe	Final version, submitted to the European Commission

2. Table of Contents

1. History	2
2. Table of Contents	3
3. Executive Summary	5
4. Introduction	13
4.1. Scope and Context	13
4.2. Key concepts and definitions	14
4.2.1. Governance	14
4.2.2. Resources	15
5. Existing governance architecture for resources	16
5.1. Overview	16
5.2. Global governance actors for resources	17
5.2.1. International institutions relevant to resources	17
5.2.2. Key actors and their inter-relationships	22
5.3. Top-down governance mechanisms relating to resources	26
5.3.1. Hard Law (Binding Agreements)	26
5.3.2. Soft Law (Non-binding)	32
5.4. Bottom-up governance mechanisms relating to resources	39
5.4.1. Certification Schemes	39
5.4.2. Transparency Requirements	41
5.4.3. Corporate Accountability	42
5.4.4. Corporate Social Responsibility	42
5.4.5. Allocation of capital	42
5.4.6. Other bottom-up initiatives	43
5.5. Governance interactions	44
5.6. Summary	45
6. Governance for sustainable resource use – building an analytical framework	47
6.1. Issues associated with resource use	47
6.2. Global pathways for resources	48
6.2.1. Overview	48
6.2.2. Resource groupings	49
6.2.3. Pathways	51
6.3. Other considerations	52
6.4. Criteria for assessment of institutions and mechanisms for international resource governance	53
6.4.1. Legitimacy	53
6.4.2. Feasibility	56
6.5. Summary	58
7. Governance for sustainable resource use – considering legitimacy	60
7.1. Legitimacy of governance in the “international trade in commodities” pathway	61

Policy Options for a Resource-Efficient Economy

7.1.1.	Institutions: discussion	61
7.1.2.	Institutions: assessment.....	62
7.1.3.	Mechanisms: discussion	63
7.1.4.	Mechanisms: assessment.....	64
7.1.5.	Summary assessments.....	65
7.2.	Legitimacy of governance in the “global supply chains and transnational companies” pathway.....	66
7.2.1.	Mechanisms: discussion	66
7.2.2.	Mechanisms: assessment.....	68
7.2.3.	Summary assessments.....	69
7.3.	Legitimacy of governance in the “international concern” pathway.....	71
7.3.1.	Institutions: discussion	71
7.3.2.	Institutions: assessment.....	79
7.3.3.	Mechanisms: discussion	80
7.3.4.	Mechanisms: assessment.....	84
7.3.5.	Summary assessments.....	84
7.4.	Legitimacy of governance in the “commons” pathway	86
7.4.1.	Institutions - discussion.....	86
7.4.2.	Institutions – Assessment	87
7.4.3.	Mechanisms - discussion	88
7.4.4.	Mechanism - Assessment.....	91
7.4.5.	Summary assessments.....	91
7.5.	Summary	93
8.	Governance for sustainable resource use – considering feasibility in 2050	96
8.1.	Feasibility assessment	96
8.1.1.	A multilateral world.....	96
8.1.2.	A coalition based world	97
8.1.3.	A world of unilateral action and bilateral agreements	97
8.2.	Summary	98
9.	Conclusions and recommendations	99
10.	References	102
11.	Appendix A.....	109

3. Executive Summary

INTRODUCTION

This report, forming deliverable 2.5 of the POLFREE project, moves the focus from resource efficiency in Europe to global governance of sustainable resource use. This is an important contribution for two reasons: (i) the recognition of a need to extend the focus of Europe’s resource efficiency agenda to reflect on its reliance on imports for some commodities and the prevalence of global supply chains; and (ii) acknowledgement of the absence of an existing characterisation of the governance structure that covers resource issues across the environmental, trade, human rights, development and energy fields, and through the different layers of governance from international institutions to community level actions.

The report uses a broad characterisation of governance, leading from the UN International History Project definition, encompassing traditional state led institutions and actors, as well as those emerging from individuals, community, not for profit and business groups, with the full suite of formal and informal mechanisms. The definition of resources is also broad, covering all natural resources.

THE EXISTING GOVERNANCE ARCHITECTURE

The research reveals a complex and interacting governance architecture when considered in the context of resources. Although the framing distinction of top-down and bottom-up governance is made to assist with the navigation through the subject matter, the strong interactions between the two and variability within are recognised.

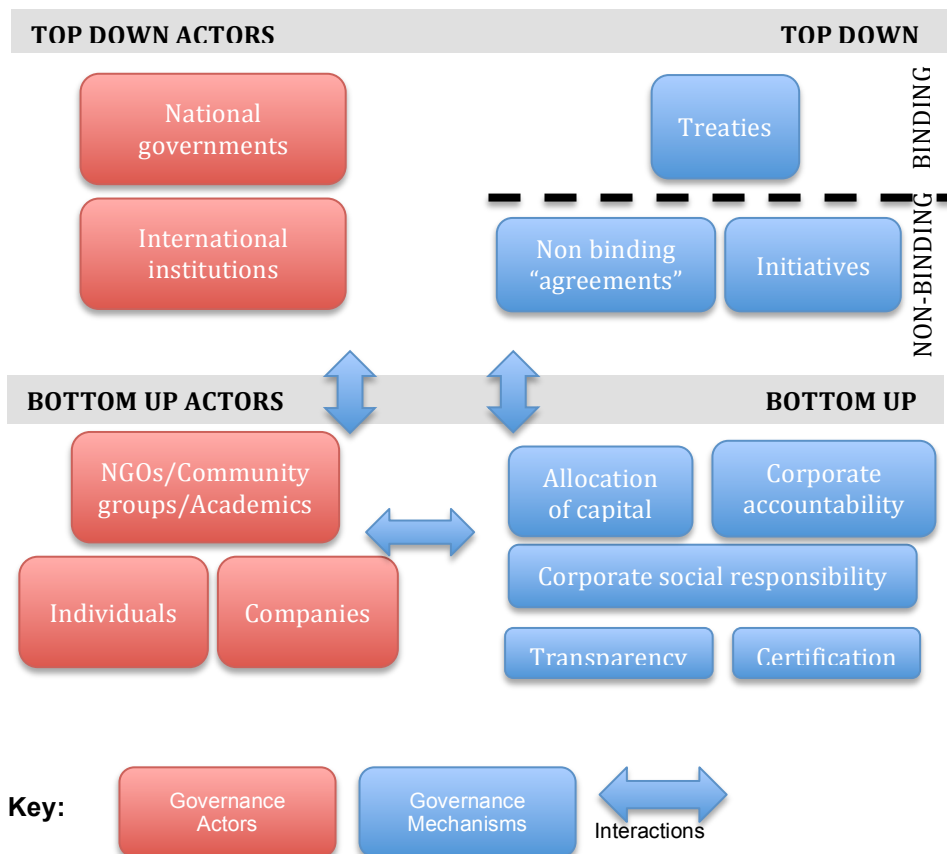


Figure 1: The existing governance architecture for resources

International institutions of relevance for resources include those established at the Bretton Woods conference that followed the end of World War Two, relevant UN institutions, programmes and specialised agencies, and other international institutions operating outside

Policy Options for a Resource-Efficient Economy

the UN system but with a global mandate. The UN Environment Programme (UNEP) has the closest mandate to the full spectrum of resource issues, although in its environmental focus it does not cover all.

With regard to governance mechanisms, those considered as “top-down” are led by state actors, often co-ordinated through international institutions. Two distinct categories of top-down mechanisms can be identified. Hard law mechanisms are binding treaties, protocols and agreements which for resources can be derived from the fields of environmental, trade and human rights law as well as resource-specific areas of law (e.g. relating to global commons resources and similar). Soft law mechanisms are much more numerous and varied, and are non-binding, albeit powerful in the establishment of global norms and procedures. Those described in this work are primarily associated with the UN (directly or indirectly) and are grouped under five categories of scientific initiatives (such as the IPCC and IRP), enabling initiatives (such as the 10 YFP on SCP), business focussed initiatives (such as the UN Global Compact), green economy initiatives (such as the UN Green Economy Initiative) and international groupings of sub-national bodies (such as Resource Efficient Cities).

“Bottom-up” mechanisms originate from a myriad of sources from the not for profit, academic, business and community sectors. Non-binding but extremely effective at bringing in new partners to the governance system and at preparing the ground for development of norms and practices, the bottom-up mechanisms can operate on their own, or as precursors to more formal and traditionally top-down mechanisms. Key mechanisms are described including those relating to certification, transparency, corporate accountability, corporate social responsibility and allocation of capital.

The resulting picture is one of diversity. Whilst some are concerned about the large degree of fragmentation, others see an active patchwork of initiatives that have the potential to create new norms and practices, testing ideas and approaches that can eventually be adopted at scale. The evidence suggests that this national and international level adoption of bottom-up derived initiatives is already happening.

UNDERSTANDING GLOBAL GOVERNANCE FOR SUSTAINABLE USE OF RESOURCES **Establishing the context**

The first stage is one of establishing the context for the assessment. Firstly there is a need to identify the issues that any governance system must address. These are:

- Physical supply and environmental degradation – are sufficient resources available geologically or biologically, and are they in a sufficient state of “health” to be able to support future populations and inter-related ecosystems?
- Access to supply and price volatility – can the resources available be accessed by those that need them in an equitable manner either physically or economically; are the methods of extraction supportive of sustainable long term resource use?
- Socio economic impacts – maximising positive impacts in resource rent capture and reducing negative impacts of competitive land and resource use and degradation of human rights
- Demand reduction – a way of relieving pressure on natural resources but with equity considerations regarding access and economic potential.

The second contextual aspect is the need for resource groupings with common attributes to be defined. For the purposes of this project these have been identified as:

- Internationally traded commodities – including metallic minerals, fossil fuels, timber and agricultural products
- Embedded resources – resources that do not have a direct economic value but are affected by extraction of commodities or relied upon as part of supply chains. They rarely end up in the product itself, and include freshwater, soils, land and air quality.

Policy Options for a Resource-Efficient Economy

- Global utility resources - embedded resources that have a greater perceived value at the global level due to an indirect global function, or through extended reach, including the atmosphere, forests and biodiversity.
- Commons resources – taking a broader than the strict legal interpretation of the commons, and including the high seas (and the fish and mammals that live within it), the seabed and Antarctica.

Thirdly, in this report we are only interested in the resource flows that operate globally. Therefore it is important to establish the pathways through which this occurs. Four pathways have been identified:

- International trade in commodities;
- Global supply chains and transnational companies;
- International concern; and
- Global commons.

Two other aspects that are not considered in detail in the report but are key “threat multipliers” to the issues associated with resource use, and the pathways through which risks are escalated to the global level, are conflict and climate change. Conflict has the potential to arise from unsustainable patterns of resource use and also has the potential to exacerbate the potential negative aspects of the first three issues above, which can also be heightened through climate change.

Establishing the assessment criteria

The second stage is one of establishing assessment criteria, and uses two concepts: legitimacy and feasibility.

Legitimacy allows for the assessment of what each approach is able to govern and how appropriate the approach is with regard to its general governance characteristics. Three types of legitimacy are defined. Source-based legitimacy determines whether the governance approach utilises expertise and tradition and accords with the current discourse; process-based legitimacy determines how the approach engenders participation from government and non-governmental sources, and how it ensures accountability and transparency; and outcome legitimacy, or effectiveness, which evaluates whether the governance approaches address the issues of resource use sustainability and the resource groupings established above. In addition, three characteristics of good governance gleaned from the literature on environmental governance – flexibility, implementation and multidisciplinary – are considered.

The **feasibility** component recognises that to be successful, regardless of its attributes, a governance approach must be adopted, and in the context of this work adoption must be global. Furthermore, the POLFREE project is looking at resource efficiency in 2050 and therefore it is a future feasibility that we are interested in. Therefore, potential governance futures must be envisioned to fully evaluate feasibility.

Envisioning a governance future

Three potential futures can be envisaged:

- A multilateral world
- A coalition driven world
- A world of unilateral action and bilateral agreements

A multilateral world

Here the one country one vote, fully multilateral approach is a successful one with all countries recognising the importance of coordinated action. This approach has characterised the later part of the 20th century with a proliferation of multilateral environmental agreements. Less commitment to these approaches is evident at present, however the potential for climate change impacts to galvanise global efforts should not be dismissed. Although the multilateral approach is seen as the outgoing paradigm, a strong multilateral approach in 2050 does not necessarily mean that the same institutions prevail.

Policy Options for a Resource-Efficient Economy

A coalition driven world

Here collaboration is occurring but it is in smaller coalitions rather than full multilateral processes. Progress is fragmented but is progress nonetheless, focusing potentially on key issues and maybe key regions. In this future it is important to also consider what Europe's role would be in such a fragmented governance system: is it a strong Europe acting as a driving force for the coalition-based leadership, or is Europe on the side lines with developing and emerging economies taking the lead? The fragmented, coalition based approach is characteristic of today's governance preferences, evident even within multilateral processes.

Unilateral action and bilateral agreements

In this final possible future, cooperation is at a minimum, with countries instead preferring to make unilateral decisions and enter into bilateral trade and resource sharing agreements where necessary. There is a wholesale rejection of the global governance institutions developed since world war two and the concepts of shared responsibilities are side lined.

ASSESSING THE LEGITIMACY OF GLOBAL GOVERNANCE FOR SUSTAINABLE USE OF RESOURCES

The following institutions and mechanisms were assessed as part of the research, on aspects of both input legitimacy and output legitimacy. Whilst this list is not exhaustive, and in many cases groups institutions/mechanisms of similar characteristics together, it can be considered to be broadly representative of the key participants in the debate.

Table 1: Governance institutions and mechanisms analysed within the report

	Institution or Mechanism?
Trade in commodities pathway	
World Trade Organisation (WTO)	Institution
Coalitions of the powerful	Institution
Enhanced Sustainable Commodity Agreements	Mechanism
Global supply chains and transnational companies pathway	
Business-focused initiatives	Mechanism
Global extended producer responsibility	Mechanism
International concern pathway	
UN Environment Programme (UNEP)	Institution
UN Environment Organisation	Institution
Expanded UNEP	Institution
Coalitions of the powerful	Institution
Environmental court of justice	Institution
Integrated Resource Management Agency	Institution
Treaties	Mechanism
Sustainable Development Goals	Mechanism
Global commons pathway	
International Maritime Organisation (IMO)	Institution
International Seabed Authority (ISA)	Institution
Antarctic Treaty Consultative Meeting (ATCM)	Institution
Commission for the Conservation of Antarctic Marine Living Organisms	Institution
UN Convention on the Law of the Seas (UNCLOS)	Mechanism

Input legitimacy

The analysis of input legitimacy builds a picture of the process of governance formation and operation. The assessment is performed on a range of institutions and mechanisms, including existing and proposed, across the four pathways.

Overall it can be seen that the institutions and mechanisms concerning resources (existing and proposed) have a strong tradition of incorporating appropriate expertise. The assessment

Policy Options for a Resource-Efficient Economy

indicates that the discourse promoted by these institutions/mechanisms is moderate or better, with the notable exception of the WTO which does not seem to have kept pace with changing attitudes to production and consumption and global relationships. A more mixed picture can be seen when looking at tradition, however this is to be expected from such a dynamic and expanding area of governance and from an assessment that includes both established and proposed governance approaches. It can be argued that an absence of tradition is not necessarily a weakness, particularly where the existing governance approach has been shown to be lacking.

The large number of institutions and mechanisms with a strong or moderate governmental participation demonstrates the continued prominence of nation states in governance approaches to resources in both the existing and proposed governance solutions, although not all provide for full global participation (coalitions of the powerful and the Antarctic governance institutions are examples). Non-governmental participation in top-down institutions and mechanisms has increased considerably over recent years but is still lacking in some areas, with the WTO, coalitions of the powerful and the environmental court of justice proposal assessed as weak in this regard (the latter two being dependent on final institutional proposals). Accountability is the component of legitimacy that the resource governance approaches perform worst in, with only extended Sustainable Commodity Agreements, global Extended Producer Responsibility and the Environmental Court of Justice being assessed as strong in this regard. All of these however are proposals and not established governance approaches and therefore it remains to be seen whether they can deliver on accountability. The final component, transparency, is again an area that has had much focus in recent years and subsequently most established and proposed governance approaches perform well. For the coalitions of the powerful it will remain to be seen whether they can deliver on transparency; the WTO is an existing approach that is again lacking.

Output legitimacy

Looking at the output legitimacy component, the focus is on how the institutions and mechanisms address the issues of sustainable resource use. From the analysis it appears that the physical supply and environmental degradation issue is covered by a number of different governance approaches, reflecting a history of global cooperation in environmental issues, albeit one that is fragmented and with varying success. The institutions developed for environmental protection purposes have recently adopted a focus on demand reduction, which has enabled this issue to be brought into the international arena despite having relatively few dedicated governance institutions or mechanisms at the global level. Socio-economic issues and access to supply (in particular the price volatility component) appear to be much less of a focus in existing and proposed governance approaches and deserve more attention. Looking across the categories of resources adopted for this study, commodities and global commons show the strongest representation although all seem to be reasonably well catered for across the different governance approaches. A more nuanced view however may become evident if looking at individual resources as opposed to resource categories.

ASSESSING THE FEASIBILITY OF GLOBAL GOVERNANCE FOR SUSTAINABLE USE OF RESOURCES

The attitudes to governance in 2050 will be a key determinant of the success of proposed institutions and mechanisms. The key legitimacy attributes that differ depending on the position on the cooperation continuum are tradition and participation, as demonstrated below.

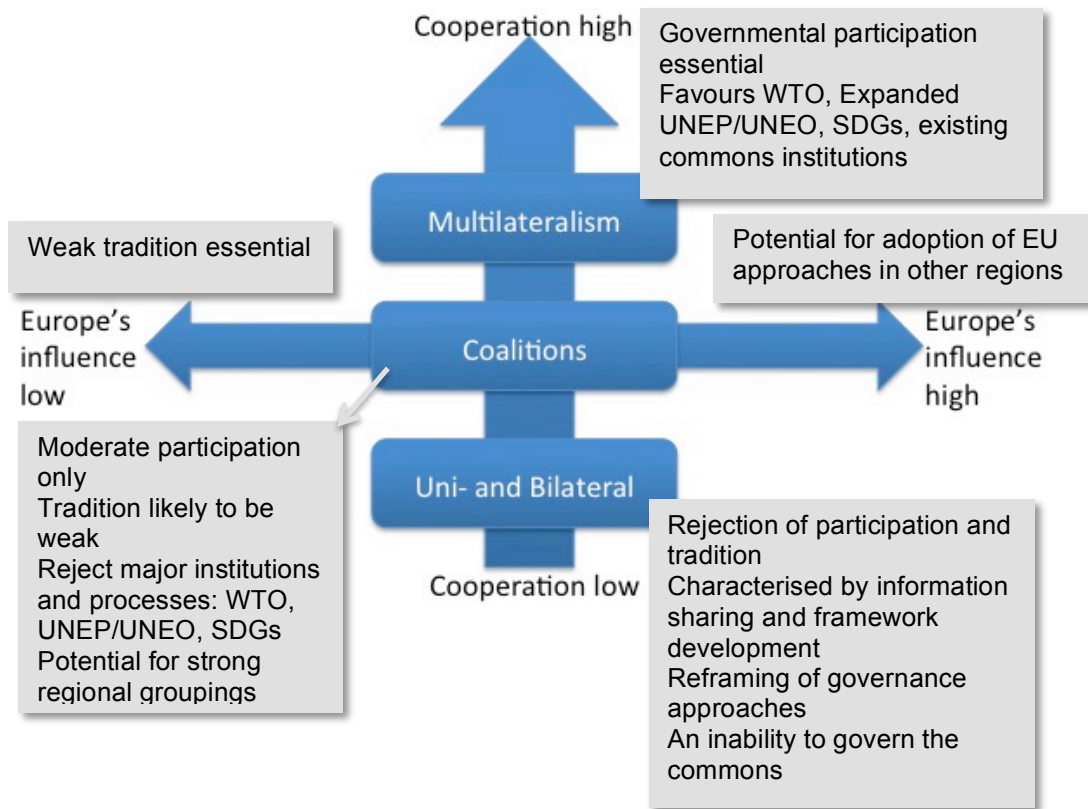


Figure 2: Summary of feasibility assessment

CONCLUSIONS AND RECOMMENDATIONS

This report has provided a basis from which to gain further understanding of the role and complexity of resources within the governance system. It is the first known attempt to collate the full governance framework from a resources perspective as opposed to an environmental or other lens, and reflecting the full range of governance layers. It has demonstrated the wide range of interconnecting resources, issues and pathways that call for a deeper level of understanding.

Some key findings from the research are as follows:

- Resource efficiency and resource use sustainability can and should be tackled at an international scale.
- It must be recognised that the current international mood is one of scepticism regarding multilateralism, heightened by the failure to achieve a global consensus on climate change. This can be heightened by different national/continental attitudes towards international collaboration as a whole.
- Despite the noted scepticism, there is evidence that the multilateral processes have stimulated activity in the more informal areas of governance to allow progress to still be achieved and creating a new pathway of adoption of norms and practices established at the bottom up level into more formal areas of governance. Key areas include transparency and accountability. It could also be argued that the strengthening of regional governance in many parts of the world could facilitate greater global governance.
- In the resource context, no clear and targeted governance structure has emerged yet that covers all the issues associated with sustainable resource use although the Integrated Resource Management Agency proposal has potential. Given the breadth of issues, fragmentation is likely to be a key feature in the near future and can in some cases be beneficial. Waiting for a perfect all-encompassing solution is not only overly optimistic but also ill advised.

Policy Options for a Resource-Efficient Economy

- There are clear opportunities to address some of the issues of resource use sustainability through the international trade on commodities pathway, such as extended Sustainable Commodity Agreements, however such mechanisms are hampered by the need to operate within the WTO's framework.
- The proposed coalition of the powerful approach, whilst not meeting the academic understanding of good governance, is attracting a lot of attention and fits with current attitudes to multilateralism.
- Voluntary bottom-up measures have great potential to road test future international arrangements, and also to address issues of demand reduction. A significant breadth of approaches is in place at the moment and the field is extremely dynamic.
- Few of the international governance approaches address socio-economic issues associated with resource use and price volatility.
- Demand reduction has been incorporated into the global environmental agenda to some extent however it is important to ensure that the global implications of demand reduction at a national or regional level are understood.
- The business-focused initiatives have a lot of potential but need to address criticisms of ambition and accountability to be truly transformative.
- Transparency is also essential to allow for the full range of initiatives to flourish.
- Funding is key to regime success both in generating trust and in supporting capacity building for effective implementation.

Therefore some key actions for Europe to consider are:

Influence: As the world's largest importer, a member of the G8, home to three of the top ten largest stock exchanges in the world (by market capitalisation) and to four of the 10 largest companies globally (based on the Fortune 500), Europe is a significant player in global governance. Europe can use its influence in agenda setting at these important fora to ensure that resource use sustainability remains in focus. Where the appetite for action is not yet strong, transparency initiatives offer an opportunity to build the evidence base.

Support: Europe has demonstrated leadership in its adoption of a series of bottom up initiatives. These bottom-up mechanisms have shown an ability to build capacity, develop novel approaches that are transferable into national and regional top down governance. Supporting such initiatives can further capitalise on the potential for new approaches to governance to arise, with the support of a wide number of stakeholders.

Collaborate: It is important to keep multilateral dialogues open as future governance attitudes may be more conducive to such an approach. Potential solutions to address some of the issues of resource use sustainability are present within the range of initiatives already in operation, including the Natural Resources Charter, certification schemes, voluntary codes of practice and commodity agreements, however many will eventually require a full global commitment to reach their maximum potential. In the meantime it may be collaboration through coalitions that is the most successful, including with other regional governance structures around the world.

Investigate: A number of areas have been identified for further investigation:

- The sheer volume and variety of measures that have some relevance to resources suggest the need for a body that orchestrates approaches on resource use sustainability. This is particularly important given the need to address impacts across the international trade system, as well as fields of environmental and human rights law. The Integrated Resource Panel is an assessment and advisory body and therefore does not fulfil this role, and there is no alternative coordinating institution

Policy Options for a Resource-Efficient Economy

with a remit that stretches this far. Further elaboration of the International Resource Management Agency proposal including evaluating the potential for a mineral based OPEC could therefore be informative.

- Considerations of conflict, security and climate change have not been fully explored within this work and represent significant areas of risk that warrant more detailed study.
- Looking in detail at interactions between international governance and national action on resource issues. Issues such as taxation, subsidies, governmental capacity and information gathering are essentially national issues but for which an international framework of support could be developed.
- In an attempt to cover multiple disciplines and layers of governance in the report, the importance of financial institutions (both multilateral development banks and private sector investment funds) has been neglected. This is something that should be remedied.
- It has not been the aim of this report to fully explore resource use from an ethical perspective in the context of a carbon constrained world and planetary boundary perspective, however this is clearly an area for consideration at the global level.
- More radical alterations in governance structure could yield a very different understanding of future governance mechanisms in the timeframe considered. More exploration in this area, and in particular of Europe's role in such a development, could provide an interesting extension to this work.

4. Introduction

4.1. Scope and Context

The POLFREE project is concerned with a resource efficient economy in Europe, and as such the majority of the project is focused on interventions within the region. However, given the level of globalisation and interconnectedness of Europe with the rest of the world, it is necessary to consider the global context. Global governance, as the world becomes more interdependent through deepening economic globalisation, increasing migration, trade and capital flows, climate change and increasing activities in the global commons, is increasingly relevant (OHCHR, OHRLS, UNDESA, UNEP & UNFPA, 2013). This report therefore represents an important beginning to bringing the global aspect into debate on resource efficiency in Europe, providing insights to policymakers considering resource use and the global implications of Europe's production and consumption.

Carmody (2009) describes globally extended "politico-ecological footprints", occurring where industrialised countries demand for natural resources outstrips what is available in their national territories. This is particularly relevant for Europe, which, as of 2010, was the largest importer of resources worldwide (Bleischwitz *et al.*, 2012). This is already recognised by the EU, with the EU Trade Policy for Europe 2nd Activity Report (European Commission Directorate-General for Trade, 2012) noting that:

"given the interdependence between countries and the relation between the different policy fields, also given the fact that raw materials are fundamental to the successful functioning of the world economy in the decades ahead there is a need to identify the best way of how to promote a better international framework and closer cooperation, pulling together activities in different fora".

The discussion that follows evaluates existing and potential global governance institutions and mechanisms and how they apply to the resource context. As the lens moves from Europe to the World, the consideration of resource efficiency also expands to incorporate a much wider evaluation of sustainable resource use. When considering resources at the global scale it is impossible to separate the issue of practical resource efficiency, getting more with less, from the context within which resource extraction is taking place economically, socially and environmentally and the implications for development and social justice.

This report, resulting from task 2.5 of the POLFREE project, therefore considers the global governance framework that currently exists, its ability to deal with the issues presented by resource use sustainability, and proposals for addressing any gaps in governance, to ultimately provide recommendations for how Europe should attempt to influence the global governance regime.

There is very little literature available that draws together the governance of resources across the full governance spectrum; the majority of the literature is more narrowly focused, primarily on environmental governance (e.g. the Global Governance Project, see Biermann & Pattberg, 2012b), traded commodities (e.g. Lee *et al.*, 2012; Ekins & Voituriez, 2009; Hailu *et al.*, 2011) or sector-specific governance such as within the mining industry, genetic resources, water or (more broadly) corporations (e.g. Wilts *et al.*, 2011; Oberthür & Poarowska, 2013; Singh *et al.*, 2009; Bleischwitz, 2007). Therefore the characterisation of the existing architecture that follows this introduction (Chapters 4 and 5) is a useful, albeit descriptive, outcome of this work. It aims to provide an insight into the regime complex which bridges different domains within which resources operate, providing an overview of the extent and complexity of the actors and mechanisms involved.

The section that follows (Chapter 6) describes the analytical framework for assessing the current and proposed global governance systems for resources. First it establishes the key issues associated with resource use, then establishes resources groupings and pathways through which resource use becomes a global governance concern, and then identifies methods for understanding actual or potential success using the concepts of legitimacy and

Policy Options for a Resource-Efficient Economy

feasibility. The subsequent analysis chapters do exactly this (Chapters 7 and 8 for legitimacy and feasibility respectively).

The final section then draws out the key conclusions from the work and core recommendations.

It is important to note that this report is not an abstract discussion on governance methods, rather it discusses the applicability of current and proposed governance methods to resource efficiency and sustainability. It is based on a broad literature review utilising academic and grey literature and encompassing the fields of policy, law, economics, governance, environment and resources. In addition it has been informed by a series of informal interviews with key stakeholders, a stakeholder event and expert reviews. Full details of the consultations undertaken are provided in Appendix A. Such a multidisciplinary approach is not only essential given the breadth of resources considered but also interesting from the point of view of governance styles as distinctions can be seen between dominant approaches in the different discipline areas.

4.2. Key concepts and definitions

4.2.1. Governance

As will be demonstrated in the following chapters, global governance institutions and mechanisms that have some relevance for resources have been evolving since the end of the Second World War. However the academic consideration of “governance” as a concept was first widely explored in the late 1980’s as a means of encompassing a more broad set of factors, representing the political system as a multilevel complex of formal and informal arrangements contrasting with a more traditional state-led view of formal structures ruling people (Kemp, Parto & Gibson, 2005; Singh *et al.*, 2009). “Global governance” followed, becoming a key term in academic and policy debates since the late 1990s (Biermann & Pattberg, 2012a). At the same time as the consideration of governance began to grow, so too did the debate on the consequences of natural resource use, beginning with the 1972 book “Limits to Growth” (Meadows *et al.*, 1972).

Despite this, there is no commonly accepted definition of global governance (Biermann & Pattberg, 2012) and in particular resource governance is not yet an established and coherent field (compared, for example, with environmental governance). Indeed, whilst for some resources the need for global governance is taken for granted, for others such as energy it is seen as almost taboo (Karlsson-Vinkhuyzen *et al.*, 2012). In the World Bank’s and OECD’s usage it is adopted to serve the neo-liberal agenda of reducing the role of governments in favour of market mechanisms and corporate interests, whereas others define it to serve democratic pluralism as a means of integrating divergent preferences of inter-dependent actors (Kemp, Parto & Gibson, 2005). The UN defines global governance as:

“the sum of laws, norms, policies and institutions that define, constitute, and mediate trans-border relations between states, cultures, citizens, intergovernmental and nongovernmental organizations, and the market. It embraces the totality of institutions, policies, rules, practices, norms, procedures and initiatives by which states and their citizens (indeed humanity as a whole) try to bring more predictability, stability, and order to their responses to transnational challenges – such as climate change and environmental degradation, nuclear proliferation, and terrorism – which go beyond the capacity of a single state to solve” (UN International History Project, 2009).

“Good governance” is even harder to define. Carmody (2009) suggests that in policy circles it is considered as the *“regularisation and institutionalisation of social interactions along publicly articulated and broadly accepted lines to achieve desired outcomes for the common good”*. A more contextualised consideration of what good governance means for natural resources is developed later in this report as part of the analytical framework.

Policy Options for a Resource-Efficient Economy

The move from governments to governance that has taken place over the last couple of decades has not removed the role of governments which remain, and are likely to continue to do so, powerful actors (Kemp, Parto & Gibson, 2005). However they are joined by an increasingly diverse group of stakeholders who bring additional legitimacy, reduce the risk of conflict, offer an additional source of ideas and information, and allow for two way learning on key issues (Kemp, Parto & Gibson, 2005). In turn, however this leads to increased complexity, uncertainty in roles and relationships and a very diffuse power structure.

For the purpose of this report, the definition of governance is aligned to that provided by the UN above. It is broad, encompassing traditional state led institutions and actors, as well as those emerging from individuals, community, not for profit and business groups. It encompasses the institutions and actors along with the mechanisms (formal and informal), norms and procedures that they create and pursue.

4.2.2. Resources

As part of the POLFREE project, this report builds on the definitions of resources established in the Analytical Framework for the project: *“The production and use of goods and services is associated with the use of natural resources: water, land and a range of minerals or materials. A common distinction of resources is in fossil fuels, construction minerals, metallic minerals, biomass, water and land”* (Kemp & Dijk, 2013).

As this report's focus is global as opposed to Europe it addresses only those resources that are significant parts of global pathways. These pathways are discussed further in Section 6.2 but when comparing against the definition above, construction minerals are removed as their international trade and impacts are limited.

5. Existing governance architecture for resources

This descriptive chapter describes the current governance architecture that pertains to the resources considered under the POLFREE project and described in the preceding chapter.

5.1. Overview

Governance can be broadly defined as either top-down or bottom-up. Top-down approaches are led by international institutions and national governments and are exemplified by binding multilateral agreements, or conventions, coming into effect when ratified by the majority of countries. Sitting below these conventions is a myriad of soft law and advisory institutions that both feed into the international conventions, and independently provide norms and practices that form part of the top-down governance structure. Initiatives led from the bottom-up are more traditionally thought of as local and regional level activities, however increasingly they are having a global reach. Industry-developed certification schemes and non-governmental organisation campaigns for corporate accountability are just two examples of bottom-up initiatives that operate globally.

Traditional top-down actors are international institutions and national governments. Bottom-up actors include individuals, communities, non-governmental organisations, corporations and institutional investors.

The top-down/bottom-up distinction has a framing purpose but is by no means representative of hard boundaries. A bottom-up perspective does not necessarily imply a more participative grass-roots involvement by societal actors. In addition, with the importance of participation being increasingly recognised, traditional bottom-up actors are becoming more influential in decision making at the international top-down level, and as the resources in question are being traded internationally or embedded within global supply chains, engaging these bottom up actors is of utmost importance. In other cases, bottom-up initiatives may be working in parallel or tangentially with top-down counterparts. A group of mechanisms that straddle the illustrative divide are hybrid public-private partnerships; in this report they have been included according to the initiating party (whether it is a top-down actor or bottom-up actor), although it is acknowledged that this is an over-simplification.

Figure 3 utilises this framing to illustrate an overview of the governance system that applies to resources. The remainder of the chapter is structured as follows:

- Global governance actors – describing the institutions and key actors groups involved in the global governance of resources.
- Top-down governance mechanisms – describing the mechanisms deriving from governmental sources.
- Bottom-up governance mechanisms – describing the mechanisms deriving from non-governmental sources.
- Governance interactions – looking at how the system works together and crossovers between top-down and bottom-up actors and mechanisms.

No attempt to analyse their effectiveness for the sustainable use of resources is made in this chapter. Instead, these sections aim to provide as clear a picture as possible of what is in place within the context of resources – subsequent chapters of this report assess how these institutions, processes and mechanisms, along with others proposed, do and could support the key objectives of sustainable resource use, and how feasible they are in the world of 2050.

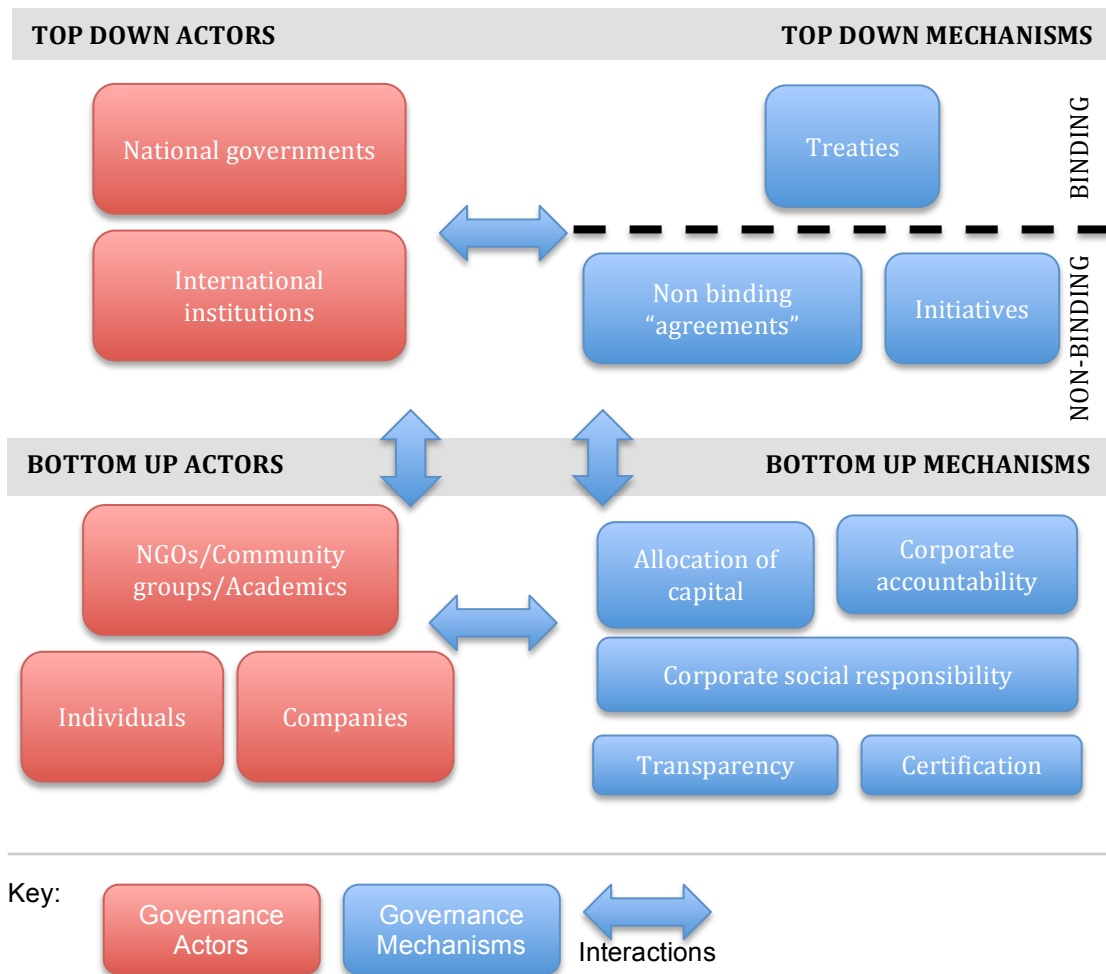


Figure 3: Simplified overview of current international governance architecture for resources

The most obvious discipline focus within which to consider resource use sustainability is the environmental field and indeed the majority of the governance approaches considered in this report come from this discipline. However, looking at the issue from an international perspective requires us to look further and also incorporate governance associated with trade and human rights.

5.2. Global governance actors for resources

Figure 3 shows five groups of actors that have a key role to play in resource governance. Section 5.2.2 describes how these actors function and their inter-relationships. Before this, however, Section 5.2.1 describes the international institutions of most relevance to resources.

5.2.1. International institutions relevant to resources

Many issue areas within global governance are significantly affected by more than one institution (Oberthür & Pozarowska, 2013), and resources are no exception. Although not an exhaustive list, the following key global institutions can be identified, grouped broadly into Bretton Woods institutions, relevant United Nations institutions, programmes and agencies, and other institutions. It is important to take stock of the institutions that already have a role relating to resources. These institutions may be able to facilitate governance of resource use sustainability, and if not, any new institutions would need to complement them.

Policy Options for a Resource-Efficient Economy

This section includes permanent inter-governmental institutions only, focusing on the aspects of their roles most relevant to resources. Other groups are derived from specific initiatives on resources and these are discussed in Section 5.3.2. Information has been compiled largely from institution websites and supplemented where relevant by academic and grey literature.

Bretton Woods Institutions

The Bretton Woods Conference in 1944 was set up to address methods to rebuild the main international economic system in anticipation of the end of World War II.

- **World Bank Group:** The World Bank Group currently comprises 5 institutions: (1) The International Bank for Reconstruction and Development (established in 1945, the original "World Bank"); (2) The International Finance Corporation (established in 1956); (3) The International Development Association (established in 1960); (4) The International Centre for Settlement of Investment Disputes (established in 1966); and (5) The Multilateral Investment Guarantee Agency (established in 1988). Through these component institutions it works with middle income to the poorest countries through (i) provision of loans, investments and grants; (ii) mobilising capital in international financial markets; (iii) providing guarantees and risk management products, and (iv) analytical, advisory and dispute settlement services. The World Bank is relevant both due to its requirements for lending (for example with regard to resource use and environmental protection) and its investment in resource related projects.
- **International Monetary Fund (IMF):** Formally created in 1945 by 29 member countries, the IMF comprises a member fund from which countries with payment imbalances can borrow temporarily. It also monitors its members' economies and makes demands for self-correcting policies. Of most relevance here is its objective to promote international trade; other objectives are to encourage international economic cooperation, employment, and exchange rate stability.

Relevant UN Institutions, Programmes And Specialised Agencies

- **Food and Agriculture Organisation (FAO):** Established in 1943, the FAO became a specialised agency of the United Nations in 1945. It leads international efforts to defeat hunger. It provides a forum for negotiation of treaties and provides the institutional hosting for the Convention on Plant Protection (1952), and also acts as a source of information on agriculture, forestry and fisheries practices. Working closely with the FAO, and located in their Rome headquarters is the **Committee on World Food Security (CFS)**, set up in 1974 as an intergovernmental body to serve as a forum for review and follow up of food security policies.
- **International Atomic Energy Agency (IAEA):** The IAEA is the world's centre of cooperation in the nuclear field. It was set up as the world's "Atoms for Peace" organization in 1957 within the United Nations family. The Agency works with its Member States and multiple partners worldwide to promote safe, secure and peaceful nuclear technologies.
- **International Maritime Organization (IMO):** As an international organization in its own right, the International Marine Organisation (IMO) is the UN specialised agency with key responsibilities over shipping and maritime safety, including the prevention of pollution of sea by ships. It is the competent organisation for the implementation of a number of UNCLOS provisions, and is responsible to ensure 'the general adoption of the highest standards in matters concerning the maritime safety, efficiency of navigation and prevention and control of marine pollution from ships', including in the high seas'.¹
- **United Nations Commission for Sustainable Development (CSD):** CSD was established in December 1992 to ensure effective follow-up of the United Nations Conference on Environment and Development (UNCED, the Rio Earth Summit). Following criticisms of the institutions inability to address contemporary global challenges and add value to existing processes (Ivanova, 2013), at Rio+20, Member States agreed to establish a **High-level Political Forum on Sustainable Development** that will replace the CSD from 2014 onwards. The core function of the

¹ Article 1, Convention establishing the international maritime consultative organisation (changed to IMO in 1982).

Policy Options for a Resource-Efficient Economy

new institution will be to provide political leadership, follow up and review progress on implementation of commitments, enhance integration of the three pillars and provide an action-orientated agenda.

- **United Nations Conference on Trade and Development (UNCTAD):** UNCTAD, which is governed by its 194 member States, is the United Nations body responsible for dealing with development issues, particularly international trade as the main driver of development. Every two years, UNCTAD organizes the World Investment Forum, which brings together major players from the international investment community to discuss challenges and opportunities and to promote investment policies and partnerships for sustainable development and equitable growth. Its primary focus is on the drivers and indirect impacts of resource use rather than the resources themselves.
- **United Nations Development Programme (UNDP):** Established in 1966, UNDP works in the areas of: (i) poverty reduction and achieving the Millennium Development Goals (MDGs); (ii) promoting democratic governance; (iii) crisis prevention and recovery; and (iv) environment and sustainable development. In the resources field UNDP support extractive economies through a range of programmes including knowledge exchange and legal support for revenue management and resource allocations, environmental impact analysis of extractive industries and micro-financing for small scale mining projects (Hailu *et al.*, 2011).

United Nations Environment Programme (UNEP): **UNEP, established in 1972, is the primary environmental institution of the UN. Its mission is “to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations”². It hosts a number of multilateral environmental agreements, providing the funding mechanism for some, and also supports a number of special initiatives in the field of environment and sustainability, many of which are described in Section 5.3.2. For a more in-depth look at UNEP, see**

- Box 1.
- **United Nations Forum on Forests (UNFF):** Established in October 2000, the United Nations Forum on Forests (UNFF) is a subsidiary body with the main objective to promote “... the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end...” based on the Rio Declaration, the Forest Principles, Chapter 11 of Agenda 21. The Forum has universal membership, and is composed of all Member States of the United Nations and specialized agencies. Its work led to the successful adoption of the landmark Non-Legally Binding Instrument on All Types of Forests in 2007.
- **United Nations Industrial Development Organisation (UNIDO):** Formed in 1985, UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. It interacts with the resource agenda through supporting developing and emerging economies through technology diffusion, sustainable energy provision, enhancing trade opportunities and implementing multilateral environmental agreements.
- **World Meteorological Organisation:** Established in 1950 it is the UN system's authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.

Other Institutions

- **Antarctic Treaty Consultative Meeting (ATCM):** The Antarctic Treaty Consultative Meeting (ATCM) of the Parties is the decision-making body of the 1959 Antarctic Treaty and its Environmental Protocol. These treaties constitute the core instruments of the Antarctic Treaty System (ATS), jointly with the Convention for the Conservation of Antarctic Seals (CCAS, London, 1972) ; the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR, Canberra, 1980).

² About UNEP: The Organization
<http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=43>

Policy Options for a Resource-Efficient Economy

- **Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR):** In the context of the Antarctic common resources, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is also an important treaty-based institution. This is the main decision-making body established under the Convention on the Conservation of Marine Living Resources, which established a protection regime based on an ecosystem-based management approach to these resources, including in the high sea zone. The coverage of this agreement extends beyond the Antarctic Treaty area. The Commission establishes conservation measures by consensus, including the agreement of sovereign states concerned. The Commission gives effects to the Convention's principles. Its functions include the 'identification of conservation needs and the efficacy of conservation measures, formulating and adopting such measures on the basis of scientific evidence available, and implementing the system of observation and inspection established under CCAMLR (Art VII- XIII).
- **Global Environment Facility (GEF):** An independently operating financial organization, the GEF provides grants for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants, acting as the funding mechanism for selected multilateral environmental agreements in those areas. The GEF was formed in 1991, originally as a pilot project of the World Bank, becoming an independent institution in 1992.
- **International Energy Agency (IEA):** Founded in response to the 1973/4 oil crisis, the IEA's initial role was to help countries co-ordinate a collective response to major disruptions in oil supply through the release of emergency oil stocks. Nowadays, it is an autonomous organisation that works to ensure reliable, affordable and clean energy for its 28 member countries and beyond, working in energy security, economic development, environmental awareness, and engagement worldwide. Its Energy Efficiency Working Party has been meeting for almost three decades to share information and experience relating to energy efficiency policy development and implementation, and the IEA has also facilitated international technical agreements such as the implementing agreement on 'Efficient Electrical End-Use Equipment (4E)' which aims to coordinate energy efficiency standards development and implementation (Karlsson-Vinkhuyzen *et al.*, 2012).
- **International Partnership for Energy Efficient Cooperation (IPEEC):** IPEEC is an autonomous intergovernmental entity established in 2009 at the G8 summit. Currently, IPEEC members include Australia, Brazil, Canada, China, the European Union, France, Germany, India, Italy, Japan, Mexico, the Russian Federation, South Africa, South Korea, the United Kingdom, and the United States. Other countries, non-governmental organizations, international organizations and private sector entities actively participate in the IPEEC work program. The IPEEC seeks to accelerate the adoption of energy efficiency policies and practices, encouraging cooperation in areas including exchanging information on standards/codes/norms and labels for buildings, energy-using products and services, methods for energy measurement, tools for financing energy efficiency, public procurement policies, best practice guidelines, technology development etc. ((Karlsson-Vinkhuyzen *et al.*, 2012).
- **International Renewable Energy Agency (IRENA):** Created in January 2009 by 75 countries at a founding conference in Bonn, Germany and headquartered in Abu Dhabi. It became operational in 2011 and has a current membership of 122 with an additional 45 states in accession (as of 31st December 2013). Its remit is to support countries in their transition to a sustainable energy future, serving as the principal platform for international cooperation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. The creation of IRENA is significant due to three "firsts": it is the first truly international institution to be hosted in the Middle East, the first created under German leadership and the first that the US has joined in fifteen years (Van de Graaf, 2013).
- **International Seabed Authority (ISA):** The ISA is an independent international authority that administers the resources in the Area (see definition below).³ It is

³ The Authority has been established under the 1982 United Nations Convention on the Law of the Sea and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea.

Policy Options for a Resource-Efficient Economy

constituted by three principal organs: the council (the executive organ), the assembly (the political organ) and the secretariat (the administrative organ). Its role mainly stems from the qualification of such resources as ‘common heritage of mankind’ (art 136 UNCLOS), which entails that both the responsibility for their conservation and the benefits of their exploitation are to be shared between all States. The ISA’s principal function is to regulate deep seabed mining activities and ensure the protection of the marine environment during these operations. It does so by exercising a legal and regulatory role as well as supporting research activities. It mainly works with operators willing to engage in exploration activities by granting authorization and administering their contributions.

- **International Union for the Conservation of Nature and Natural Resources (IUCN):** IUCN was founded in October 1948 as the International Union for the Protection of Nature (or IUPN), changing its name to the International Union for Conservation of Nature and Natural Resources in 1956. It was the world’s first global environmental organization and today is the largest professional global conservation network and is the secretariat for the Ramsar Convention on Wetlands of International Importance.
- **Multilateral Development Banks (MDBs):** Institutions created by a group of countries that provide financing and professional advisory for the purpose of development. MDB memberships include both developed donor countries and developing borrower countries. The World Bank falls under this umbrella term (listed separately in this document under Bretton Woods Institutions), along with the European Investment Bank (EIB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IADB), African Development Bank (AfDB) and the Islamic Development Bank (IDB). As with the World Bank their influence is through the lending criteria they impose and the resource related projects that they finance.
- **Organisation for Economic Co-operation and Development (OECD):** An international economic organisation founded to stimulate economic progress and world trade through sharing of best practice and coordinating domestic and international policies of its members. It originated in 1948 as the Organisation for European Economic Co-operation (OEEC) to help allocate financial aid post-World War II. In 1961, the OEEC was reformed into the OECD and membership was extended to non-European states. Most OECD members are developed countries with high-income economies.
- **Organisation of Petroleum Producing Countries (OPEC):** OPEC was established to counter the bargaining asymmetry that occurs due to the host governments’ inferior knowledge and expertise compared with the international oil companies in the drawing up of contracts for extraction (Hailu *et al.*, 2011).
- **World Trade Organisation (WTO):** In 1995 the WTO became the successor to the General Agreement on Tariffs and Trade (GATT) established in 1947. The WTO is the only global international organization dealing with the rules of trade between nations. The WTO has about 150 members, accounting for about 95% of world trade. Around 30 others are negotiating membership.

Box 1: UNEP in more detail

UNEP’s mandate is to be the leading global environmental authority within the United Nations. It has been fulfilling this mandate since 1972 (Johnson 2012). The United Nations was created in 1945 without an environmental body. Almost thirty years later, in 1972, governments established the United Nations Environment Programme (UNEP) as the result of the Stockholm Conference (the United Nations Conference on the Human Environment). It became the principal UN body, or “anchor institution”, for the global environment.

Based in Nairobi, Kenya, but with offices in several other countries, UNEP’s mission is to provide leadership and encourage partnership in caring for the environment by inspiring,

Policy Options for a Resource-Efficient Economy

informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UNEP's Division of Technology, Industry and Economics - based in Paris - helps governments, local authorities and decision-makers in business and industry to develop and implement policies and practices focusing on sustainable development. The Division leads UNEP's work in the areas of climate change, resource efficiency, harmful substances and hazardous waste and hosts the Green Economy Initiative.

Apart from a small contribution from the United Nations Regular Budget, which is about 5% of UNEP's total budget and is for "servicing the Governing Council and providing the small secretariat" (UN General Assembly 1972), UNEP depends entirely on voluntary support. The Environment Fund is the main source of funding for UNEP's activities. All Member States of the United Nations, taking into account their economic and social circumstances, should contribute financially but voluntarily to the Environment Fund. Between 1973 and 2011 only 12 countries maintained regular annual contributions. Additional financing of UNEP is provided in the form of earmarked funding for specific UNEP activities, paid through Trust Funds and Earmarked contributions. The non-governmental donors, including the private sector and individuals also play an important role in providing financial and in-kind support to various UNEP programme initiatives.

The UNEP takes a polycentric governance approach and thus focuses on strengthening global, regional, national and local environmental governance to address agreed environmental priorities. Its four key goals are:

1. Sound science for decision-making
2. International cooperation
3. National development planning
4. International policy setting and technical assistance

UNEP's role in developing special issue initiatives and in supporting multilateral environmental agreements is evidenced in Section 5.3 of this report.

The Rio+20 conference in 2012 identified the need for changes to UNEP's structure and role; this is discussed in more detail in Section 7.3.1.

5.2.2. Key actors and their inter-relationships

The direct and indirect roles of different actors in resource governance formation and implementation are summarised in Figure 4 and discussed below.

Top-down state actors

International institutions and processes set the framework for governing at a global level. They are primarily concerned with global development, prosperity and peace. These institutions and processes derive from agreements between national governments and their strategies and policies are overseen, or determined, by international civil servants and national government representatives. Sometimes they rely on national governments for implementation. No specific permanent international institutions exist for resources, although their remits may overlap with resource issues and specific initiatives have been established to begin to address this.

A State enjoys sovereign rights over its natural resources (Stockholm Declaration 1972: Principle 21; Rio Declaration, 1992: Principle 2). This principle applies to resources found in

- land within its boundaries, including the subsoil;
- internal waters, such as lakes, rivers and canals;
- territorial seas, which adjacent to the coast, including its seabed, subsoil and the resources thereof; and

Policy Options for a Resource-Efficient Economy

- the airspace above its land, internal waters and territorial sea, up to the point at which the legal regime of outer space begins (Sands, 2012: 12).

The right of Permanent Sovereignty over Natural Resources (PSNR) has been formulated in a series of important UN GA Resolutions (e.g. UNGA Res. 1803/62). Sovereign rights over natural resources include the right to conduct and authorise activities within a State's own territory, affecting the natural environment (e.g. issuing exploration and exploitation permit for oil and minerals). It also implies the obligations of not to cause harm to the environment of other States or to areas beyond national jurisdiction. PSNR is therefore not absolute, as it is qualified by treaty obligations and rules of customary international law to conserve natural resources and protect the environment (Birnie, Boyle and Redgwell, 2009). National governments work with stakeholders within their boundaries to manage their national resources and derive benefits from them.

Regional government groupings are also becoming increasingly prominent in governance. Although not the focus of this report, they provide an important role in negotiations (often leading on negotiations for the block of member countries) and formation of norms through regional policy development. Some key regional groupings and examples of their role in the resources debate are considered below.

- **APEC:** The APEC Growth Strategy was agreed in 2013 and is focused on five desired attributes for economic growth, one of which is: "Sustainable Growth: We seek growth compatible with global efforts for protection of the environment and transition to green economies"⁴. Key actions under this heading are: Enhance energy security and promote energy-efficiency and low-carbon policies; develop a low-carbon energy sector; improve access for environmental goods and services (EGS) and develop EGS sectors; promote green jobs education and training; promote private investment in green industries and production processes and promote conservation and more sustainable management of agriculture and natural resources.
- **African Union:** the African Mining Vision (AMV) was adopted by the First African Union Conference of African Ministers responsible for mineral resources development in 2008, with the aim to use Africa's mineral resources to meet the Millennium Development Goals, eradicate poverty, and achieve rapid and broad-based socio-economic development (African Union Commission, African Development Bank and UN Economic Commission for Africa, 2011).
- **European Union:** The EU's flagship initiative on resource efficiency aims to create a framework for policies to support the shift towards a resource-efficient and low-carbon economy (European Commission, 2011). To support this initiative the EU has created a European Resource Efficiency Platform and Roadmap. The EU has also taken an active role in adopting transparency provision for conflict minerals and timber (discussed later in this chapter).
- **Mercosur:** Mercosur is a collaboration between South American states⁵. Their focus is primarily on trade both within the region and with other parties.
- **Union for the Mediterranean (UfM):** The Union for the Mediterranean was formed by 43 Euro-Mediterranean Heads of State and Government in Paris on 13 July 2008, creating an international institution headquartered in Barcelona. Its membership comprises the 28 EU countries plus the EU, along with 15 Mediterranean states⁶. Presidency is shared between a northern and southern state, currently the EU and Jordan. The UfM has identified six priority areas: De-pollution of the Mediterranean; Maritime and land highways; Civil protection; Alternative energies (Mediterranean solar plan); Higher education and research (Euro-Mediterranean University); and the Mediterranean Business Initiative.

⁴ <http://www.apec.org>

⁵ Membership comprises Argentina, Brazil, Paraguay, Uruguay, Venezuela and Bolivia, with associate membership held by Chile, Colombia, Peru, Ecuador, Guyana and Suriname

⁶ Albania, Algeria, Bosnia and Herzegovina, Egypt, Israel, Jordan, Lebanon, Mauritania, Monaco, Montenegro, Morocco, Palestine, Syria (currently suspended), Tunisia and Turkey

Policy Options for a Resource-Efficient Economy

- **League of Arab States:** Created in 1945 in Egypt the League of Arab States is comprised of 22 countries with predominantly Arab speaking populations located in North Africa, the Horn of Africa and Southwest Asia⁷. Its focus is primarily on economic development, regional peace and stability and cultural issues.

The different regional groupings have different relationships with each other and externally. This can range from setting regional level legislation that must be enacted at Member State level (such as the EU) to more loose associations for negotiations and information sharing. As such they have not been included on either the governance architecture overview figure (Figure 3) or on the figure that follows on key actors and their inter-relationships (Figure 4). Depending on the type of regional grouping they could hold a role akin to national governments, or international institutions, or at the intersection of these two.

Another group of top-down actors not represented in this report are those operating at the sub-national level. It is acknowledged that in some cases there is considerable action being generated at this level, however this is not within the scope of this report.

Bottom-up non-state actors

Non-state actors comprise a broad range of non-governmental actors including firms, civil society organisations, experts, indigenous people and others that play a crucial role at all stages of international policy making through participating in governmental process or creating their own sets of rules (Orsini, 2013).

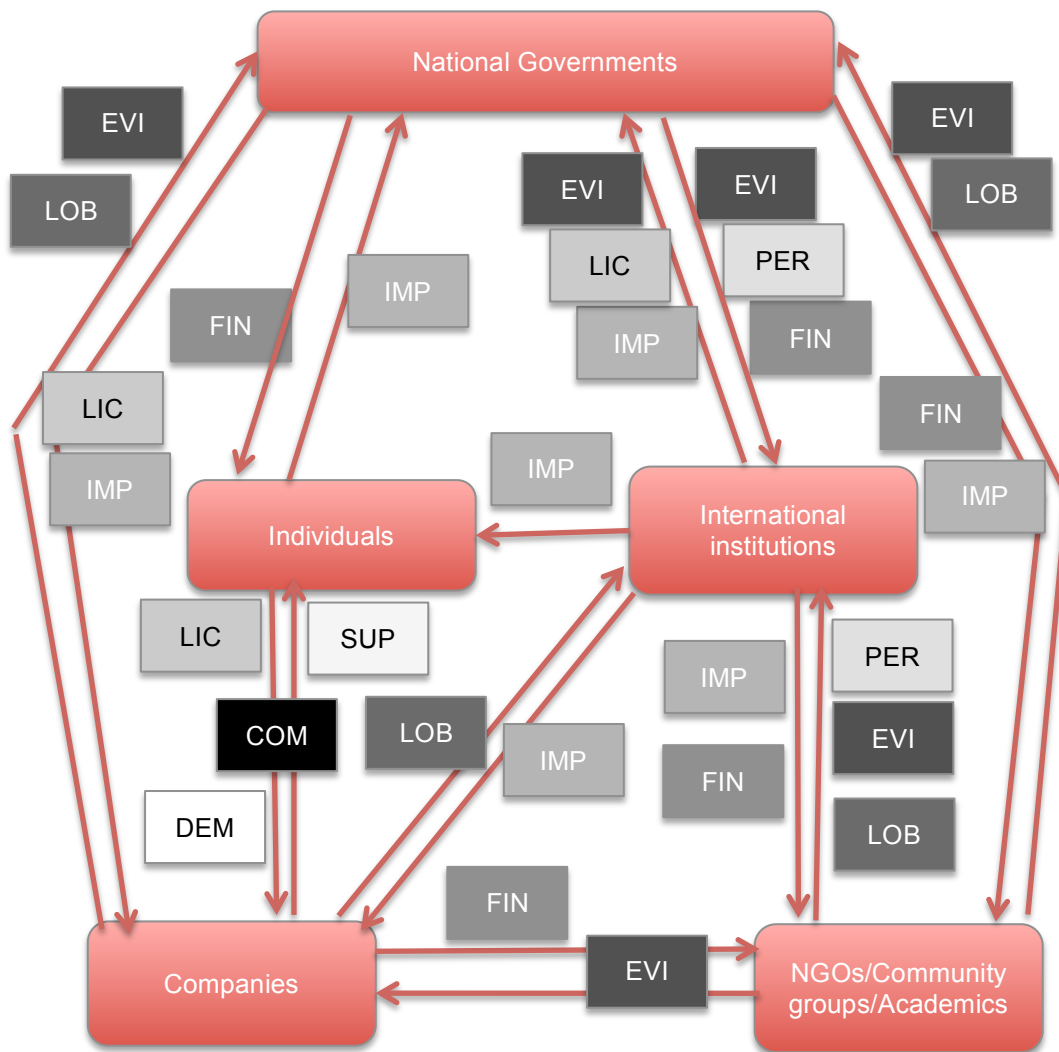
Corporations are involved in resource extraction and processing and influence the way in which resources are used and what reaches the consumer. They work within the legislative framework set by national governments and respond to consumer demands. There can be multiple corporations and stages of resource processing. Corporations rely on access to resources of sufficient quality and quantity to operate their business. They work with national governments to gain favourable conditions in which to operate and stimulate economic activity. They are also increasingly using their influence to directly lobby governments and other actors involved in top-down governance formation. As a sub-set of corporations, investors as the shareholders of listed corporations have leverage over the activities of the corporations in which they are invested. They can exercise this leverage through shareholder resolutions, voting activities and ultimately divestment. As important parties in economic activity, governments will seek to create conditions which support investor confidence in nationally based corporations.

Individuals interact with the resource pathway in three main ways: (1) as consumers they create demand for the goods produced by the corporations and influence the way in which they are disposed of; (2) as communities they share and/or compete for many of the natural resources such as land and water with corporations; and (3) as citizens they may or may not have an influence in the national government.

Non-governmental organisations (NGOs), civil society and academics variously act through direct relationships, information provision, direct and indirect lobbying and public campaigns to influence the behaviour of all other parties in the resource pathway.

Further discussion on the interactions between top-down and bottom-up actors is provided in Section 5.5.

⁷ Membership includes Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Syria (currently suspended), Tunisia, United Arab Emirates and Yemen. Eritrea, Brazil, Venezuela and India are observer states.



Key: Note gradations in colour are for identification purposes only.

COM	Competition for natural resources
EVI	Evidence base
LOB	Lobbying, influencing, encouraging action
FIN	Financing
IMP	Implementation
LIC	License to operate, either through setting regulatory requirements, social license to operate or license to govern
PER	Personnel
SUP	Supply of goods and services
DEM	Demand for goods and services

Figure 4: Actors in resource governance and their inter-relationships

Policy Options for a Resource-Efficient Economy

5.3. Top-down governance mechanisms relating to resources

This section sets out the different governance mechanisms that relate to some aspect of resource use and operate in a top-down manner. It outlines the key features of these mechanisms and their historical development.

International law distinguishes between hard (legal norms) and soft (non-legal norms) law. While binding international agreements pertain to the first category, there is no uniform definition of 'soft law'. This phenomenon could however be neutrally defined as non-legally binding norms, such as resolutions, declarations, standards, guidelines, codes of conduct and principles, primarily led by International Institutions outside the formal - consensus-based - international law-making process.⁸

In the context of this report, we therefore consider:

- Hard law – binding agreements including those arising in the fields of environmental, trade and human rights law.
- Soft law – divided into two categories:
 - the first focusing on target or objective-based non-binding “agreements” which although not binding and therefore distinct from the true agreements defined in hard law, comprise commitments in principal by the signatory countries to work towards achieving those goals or action plans. The key instruments discussed under this category are Agenda 21 and the Millennium Declaration and Millennium Development Goals;
 - the second on broader initiatives including those focused on the green economy, businesses, international groupings of sub-national bodies and scientific evidence.

In the later section of the report on evaluation of existing and proposed governance mechanisms, these mechanisms are considered in the context of criteria developed based on key resource use issues.

5.3.1. Hard Law (Binding Agreements)

Environmental law

Research undertaken for the fifth Global Environment Outlook (GEO) report identify a proliferation of multilateral environmental agreements (MEAs) since the 1970s – reaching more than 500 by 2011, of which 177 are global in coverage (Baste *et al.*, 2012). The first environmental treaty to be negotiated of those that are still in place is the International Plant Protection Convention, which came into force in 1952 and aims to secure coordinated, effective action to prevent and to control the introduction and spread of pests of plants and plant products. Other examples of particular relevance for resource efficiency are the Convention on Biological Diversity (CBD, 1993), the Vienna Convention for the Protection of the Ozone Layer (1985, from which the Montreal Protocol was developed in 1988), the UN Convention to Combat Desertification (UNCCD, 1996), the UNESCO World Heritage Convention (1972), the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES, 1975), the Stockholm Convention on Persistent Organic Pollutants (POPs, 2004) and the UN Framework Convention on Climate Change (UNFCCC, 1992). More details on the content of the MEAs of relevance to resources are provided at Box 2.

The majority of MEAs are negotiated and administered through the UN, either through UNEP, another UN institution, or through one of the specialised agencies (for example, the Convention on Plant Protection comes under the auspices of the Food and Agriculture Organisation). A notable exception is the 1971 Ramsar Convention on Wetlands of

⁸ For a review of the legal implications, see e.g. P.M.Dupuy, 'Soft law and the International Law of the Environment', 12 *Michigan Journal of International Law*, (1991) 420-453; C. Redgwell, 'International Soft Law and Globalisation', in Barton et al, *Regulating Energy and Natural Resources*, (OUP) 2006, 89.

Policy Options for a Resource-Efficient Economy

International Importance, which is hosted by the International Union for Conservation of Nature (IUCN).

These MEAs must be implemented into national legal systems in each of the countries that have ratified the treaty. In some cases there are funding mechanisms to assist with implementation. The Global Environment Facility (GEF), an independently operating funding organisation, formed as a pilot project of the World Bank Group in 1991, supports the funding for Economies in Transition of the CBD, UNFCCC, UNCCD, POPs and the Montreal Protocol. In other cases the funding is administered through UNEP.

Box 2: MEAs of most relevance to resources

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, usually known as the Basel Convention, was designed to reduce the movements of hazardous waste (except radioactive waste) between nations, and specifically to control transfer of hazardous waste from developed to less developed countries.

The Convention on Biological Diversity (CBD) has 3 main objectives: (i) the conservation of biological diversity; (ii) the sustainable use of the components of biological diversity; and (iii) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The Convention on the Protection and Use of Transboundary and International Lakes, also known as the Water Convention, aims to improve national attempts and measures for protection and management of transboundary surface waters and groundwaters. The Convention includes provisions on: monitoring, research, development, consultations, warning and alarm systems, mutual assistance and access as well as exchange of information.

The International Treaty on Plant Genetic Resources for Food and Agriculture (IT PGRFA) (also known as the International Seed Treaty), aims to guarantee food security through the conservation, exchange and sustainable use of the world's plant genetic resources for food and agriculture, as well as the fair and equitable benefit sharing arising from its use. It also recognises Farmers' Rights: to freely access genetic resources, unrestricted by intellectual property rights; to be involved in relevant policy discussions and decision making; and to use, save, sell and exchange seeds, subject to national laws.

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (otherwise known as the Rotterdam Convention) promotes shared responsibilities in relation to importation of hazardous chemicals. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans.

The Stockholm Convention on Persistent Organic Pollutants (POPs) aims to eliminate or restrict the production and use of persistent organic pollutants.

The United Nations Convention to Combat Desertification (UNCCD) seeks to combat desertification and mitigate the effects of drought through national action programs that incorporate long-term strategies supported by international cooperation and partnership arrangements.

The United Nations Framework Convention on Climate Change (UNFCCC) enshrined a commitment by countries to consider cooperatively what they could do to limit average global temperature increases and the resulting climate change, and to cope with whatever impacts occurred. The Kyoto Protocol to the UNFCCC sought to set binding obligations for industrialised countries to reduce emissions of greenhouse gases but ultimately proved ineffective in reducing the emissions. Parties to UNFCCC are now in the process of

Policy Options for a Resource-Efficient Economy

negotiating another agreement. Whilst the UNFCCC addresses greenhouse gas emissions resulting from fossil fuels and other activities, it does not aim to regulate any such resources directly.

The Vienna Convention for the Protection of the Ozone Layer acts as a framework for the international efforts to protect the ozone layer. The accompanying Montreal Protocol sets out the legally binding reduction goals for the use of CFCs required to achieve the desired outcome.

Other resource related law

Outside of the direct environmental law arena there are other binding multilateral agreements that have an influence on resources and how they are used.

One of the most relevant examples is the United Nations Convention on the Law of the Sea (UNCLOS), which defines the rights and responsibilities of nations in their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources. Three conferences in 1958, 1960 and 1982 codified the existing international law into a treaty that came into force in 1994 (Buck, 1998).

UNCLOS is the key international treaty regulating States' activities at sea, including the exploration and exploitation of the common resources of the high seas and the Area. It divides the global oceans and seas into zones where states exercise different rights and are bound to different obligations. These include: the **territorial sea** – where the coastal state exercise sovereignty, within the limits of innocent passage of foreign State-flagged vessels; the **Exclusive Economic Zone (EEZ)**- where the coastal state enjoys sovereign rights to explore and exploit the resources, if it so declares- and the **Area Beyond National Jurisdiction (ABNJ)**, including: the water column beyond the EEZ, or beyond the territorial sea if an EEZ has not been declared ('**High Seas**' – art 86 UNCLOS) and the seabed that lies beyond the limits of the continental shelf ('**the Area**' Art 1, 1 UNCLOS).

In addition the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks sets out principles for the conservation and management of those fish stocks and establishes that such management must be based on the precautionary approach and the best available scientific information. This agreement entered into force in 2001.

The Antarctic Region is subject to a regime which comprise 5 treaties: the 1959 Antarctic Treaty, the 1972 Convention for the conservation of Antarctic Seals (Seals convention); the 1980 convention on the conservation of the regulation of Antarctic Marine Living Resources (1980 CCAMLR); the 1988 Convention on the regulation of Antarctic Mineral resources Activities (1988 CRAMRA –yet to come into force) and the 1991 Protocol on Environment Protection to the Antarctic treaty. In addition other instruments apply to these regions, such as UNCLOS and Basel convention on transboundary movement of waste. Both agreements are at the heart of many political resource conflicts as related to access to natural resources.

Human rights law

Resource sustainability has a strong relationship with the fulfilment of human rights. The legal protection granted by these rights needs to be considered in accessing and using these resources, in both developed and developing countries. The potentially negative impact of resource exploration and exploitation over the fulfilment of fundamental human rights has long been debated (Zillman *et al.*, 2002). Key examples can be found in the forced evictions and displacement of communities for the construction of large hydroelectric dams; the impact of mining or deforestation projects on the natural environment, including negative consequences upon health, food productivity and access to water resources (Clark, 2002;

Policy Options for a Resource-Efficient Economy

Richards, 2010; Angelsen, 2011; Scanlon *et al.*, 2007). The protection and fulfilment of the some fundamental human rights - listed below- are largely depended upon the accessibility and sustainable utilization of resources. However, these rights can equally be seen as potentially threatened by the unsustainable paths of exploration and exploitation of those same natural resources (e.g. minerals exploration/exploitation, energy production, access to water and land, forestry exploitation).

The human rights that most directly relate to resources are:

Right to Water: the UN Committee on Economic, Social and Cultural Rights (CESCR) General Comment 15 states that “[t]he human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses” (CESCR, GC 15 (2002) para 2). Its legal basis can be found in the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) as one of elements that enable the fulfilment of ‘the right of everyone to an adequate standard of living for himself and his family’ (ICESCR, art 11.1). The right to water is also deeply related with the right to the highest attainable standard of health (ICESCR, art. 12, para. 1) and the rights to adequate housing and adequate food (art. 11, para. 1).

Right to Adequate Food: This right encompasses “[t]he availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture; [and] the accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights.” (CESCR General Comment 12 (1999) para 8). Its legal basis can be found in article 11 and 12 of the 1966 International Covenant on Economic, Social and Cultural Rights.

Right to the highest attainable standard of health: The CESCR considered this right as ‘an inclusive right extending not only to timely and appropriate health care, but also to the underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, nutrition and housing, healthy occupational and environmental conditions, and access to health-related education and information, including on sexual and reproductive health’. A further important aspect is the participation of the population in all health-related decision-making at the community, national and international levels’ (CESCR General Comment 14 para 11). Its legal basis can be found in Article 25.1 of the Universal Declaration of Human Rights, which affirms: “Everyone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing, housing and medical care and necessary social services”. This is spelled out in more detail in art. 12, para. 1 of ICESCR, which affirms that “[t]he States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health”.

Right to adequate housing and not to be subject to forced evictions: this right is an element of the wider right to an adequate standard of living (art 11). It includes elements such as: legal security of tenure; availability of services, materials, facilities and infrastructure; affordability; habitability; accessibility; location and cultural adequacy (art. 11, para. 1 – CESCR General Comment 4 (1991) para 8). In 1997, the CESCR also noted that the right not to be subject to forced eviction was a result of legal security of tenure required to fulfil the right to adequate housing. As such, forced evictions have been considered a *prima facie* violation of human rights (General comment No. 7: The right to adequate housing (art. 11.1 of the Covenant): forced evictions, sixteenth session, 1997, para 1.)

These rights therefore imply the ‘availability’, ‘accessibility’, ‘affordability’, ‘acceptability’ and ‘quality’ of the resources and the establishment of the conditions essential to enable their fulfilment.

Special protection is granted in this context to the rights of indigenous communities, with special focus on their cultural relationship with the land and its natural resources. From an international human rights perspective, the recognition of a universal right to a satisfactory or decent environment as a self-standing right is more controversial (Birnie, Boyle, Redgwell,

Policy Options for a Resource-Efficient Economy

2009: 277-282). This right has however been recognised in a variety of regional instruments (Sands, 2012).

Trade law

Finally, resources are in most cases location dependent and therefore their supply is not necessarily co-located with demand. As such, many resource pathways include an export/import stage and therefore come under the influence of international trade agreements.

The legal grounds for international trade are established in WTO agreements, which are negotiated and signed by trading nations and ratified through their national legal systems. They guarantee member countries certain trade rights and bind governments to keep their trade policies within agreed limits.

The multilateral trading system was developed through a series of trade negotiations (also referred to as rounds) held under the General Agreement on Tariffs and Trade (GATT) beginning in 1947. The first rounds dealt mainly with tariff reductions but later negotiations included other areas such as anti-dumping and non-tariff measures. There have been nine rounds of negotiations since 1947; the WTO was created as an outcome of the Uruguay Round of negotiations, in 1995.

In addition to the global trade agreements, regional trade agreements (RTAs) have become increasingly prevalent since the 1990s. These are reciprocal trade agreements between two or more partners; preferential trade agreements (PTAs) are unilateral trade preferences – both forms of agreement are notified to the WTO.

Efforts to take into account the impacts of trade agreements have been introduced through Trade Sustainability Impact Assessments (SIAs), which originated in the context of the WTO negotiations on trade liberalization a few months before the 1999 Seattle WTO Ministerial Conference (Ekins & Voituriez, 2009).

In 2000, new talks started on agriculture and services. These have now been incorporated into a broader agenda launched at the fourth WTO Ministerial Conference in Doha, Qatar, in November 2001. The work programme, the Doha Development Agenda (DDA), adds negotiations and other work on non-agricultural tariffs, trade and environment, WTO rules such as anti-dumping and subsidies, investment, competition policy, trade facilitation, transparency in government procurement, intellectual property, and a range of issues raised by developing countries as difficulties they face in implementing the present WTO agreements. Progress on these negotiations has currently stalled due to both a dispute between the US and India about rules governing trade in agricultural goods and a declining appetite more generally for multilateral trade agreements.

Disputes in the WTO are dealt with through a multilateral system instead of taking action unilaterally, requiring abiding by the agreed procedures, and respecting judgements. A dispute arises when one country adopts a trade policy measure or takes some action that one or more fellow-WTO members considers to be breaking the WTO agreements, or to be a failure to live up to obligations. A third group of countries can declare that they have an interest in the case and enjoy some rights. Some example disputes raised in the last two years that have relevance for resources are included in

Box 3 below.

Policy Options for a Resource-Efficient Economy

Box 3: Some recent example disputes in the WTO, related to resources

On 4 November 2013, Denmark, in respect of the Faroe Islands, requested consultations with the European Union with regard to the use of coercive economic measures by the European Union in relation to Atlanto-Scandian herring and Northeast Atlantic mackerel.

On 24 July 2013, Japan requested consultations with the Russian Federation regarding Russia's measures relating to a charge, the so-called "recycling fee", imposed on motor vehicles. According to Japan, the Russian Federation imposes the recycling fee on imported and domestic motor vehicles. Russia, however, exempts from the fee vehicles that are manufactured by companies: (a) that are registered in Russia; (b) that have committed to produce their vehicles in Russia involving certain specific manufacturing operations in the territory of Russia, Belarus or Kazakhstan.

On 15 May 2013, Argentina requested consultations with the European Union and its member States regarding certain measures that allegedly affect the importation and marketing of biodiesel, as well as measures supporting the biodiesel industry. Argentina's request relates to two types of measures adopted by the European Union and certain member States: (a) measures to promote the use of energy from renewable sources and to introduce a mechanism to control and reduce greenhouse emissions; and (b) measures to establish support schemes for the biodiesel sector.

On 5 November 2012, China requested consultations with the European Union, Greece and Italy regarding certain measures, including domestic content restrictions, that affect the renewable energy generation sector relating to the feed-in tariff programs of EU member States, including but not limited to Italy and Greece.

On 13 March 2012, the United States, European Union and Japan requested consultations with China with respect to China's restrictions on the export of various forms of rare earths, tungsten and molybdenum. The request refers to materials falling under but not limited to 212 eight-digit Chinese Customs Commodity Codes and over 30 measures. The request also refers to a number of Chinese published as well as unpublished measures that, operating separately or collectively, allegedly impose and administer export restrictions. These restrictions include export duties, export quotas, minimum export price requirements, export licensing requirements and additional requirements and procedures in connection with the administration of the quantitative restrictions.

All information taken from WTO website

http://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.htm

Specialist initiatives related to trade but sitting outside the WTO process have been developed in recent years regarding conflict diamonds (diamonds mined in a conflict zone with profits used to support violence), financial flows in extractive industries, timber and biofuels.

The Kimberley Process is a joint government, industry and civil society initiative supported by the United Nations. Initiated in 2000 it developed a certification scheme for diamonds to certify that there are not conflict diamonds. The Kimberley Process Certification Scheme subsequently entered into force in 2003, and is open to all countries who are willing and able to implement its requirements. In recent years this approach has been amalgamated into US law, with the Dodd Frank Wall Street Reform and Consumer Protection Act requiring companies to publicly disclose their use of conflict minerals that originated in the Democratic Republic of the Congo (DRC) or an adjoining country to the Securities and Exchange Commission (SEC) as part of their annual filings: (Section 1502). The Act was passed in 2010 and came into force in 2012, subsequently surviving a legal challenge.

Policy Options for a Resource-Efficient Economy

Also part of the Dodd Frank Wall Street Reform and Consumer Protection Act (Section 1504), those companies engaged in the commercial development of oil, natural gas or minerals, must disclose to the SEC, payments made to governments at both the country (including sub-national) and the project level. This is analogous to and follows from the Extractive Industries Transparency Initiative (EITI), a bottom up transparency initiative discussed in more detail in Section 5.4.2. The EU is also replicating the requirements of the EITI through amendments to the Accounting Directives (78/660/EEC and 83/349/EEC) and the Transparency Directive (2004/109/EC), requiring for listed and large non-listed extractive and logging companies to report all material payments to governments broken down by country and by project.

In 2008, the US Congress amended the Lacey Act, originally developed to address the spread of non-native species and trade in wildlife, to include for the ban of commerce in illegally sourced timber and timber products. Shortly after, in 2010, the EU Timber Regulations came into force, prohibiting traders bringing timber or timber products resulting from illegal logging onto the European market, and requiring traders of timber products to exercise due diligence in their supply chain. This builds on the EU's voluntary partnership agreements (VPAs) under their Forest Law Enforcement Governance and Trade (FLEGT) programme, in operation since 2008. VPAs are treaties with timber producing countries that export timber and timber products to the EU. A country that has a VPA and an operational licensing system can issue FLEGT licences for legally produced timber and timber products. All timber and timber products with a FLEGT licence automatically comply with the EU Timber Regulation.

Similarly, in order to receive government support or count towards mandatory national renewable energy targets, biofuels used in the EU (whether locally produced or imported) have to comply with sustainability criteria. This requirement is captured in Directive 2009/28/EC. The criteria aim at preventing the conversion of areas of high biodiversity and high carbon stock for the production of raw materials for biofuels. The entire biofuels' production and supply chain has to be sustainable. To this end, the sustainability of biofuels needs to be checked by Member States or through voluntary schemes that have been approved by the European Commission (EC).

In all such schemes, where global trade flows are affected, compatibility with WTO law is essential, ensuring non-discrimination principles and prohibition of quantitative restrictions for imports are adhered to. With the biofuels scheme in particular there has been some debate in the literature on whether this is the case (for example, see Lendle & Schaus, 2010; Erixon, 2013).

Voluntary certification schemes that operate at the industry level are discussed in Section 5.4.1 below.

5.3.2. Soft Law (Non-binding)

Non-binding "agreements"

Agenda 21

Developed as an outcome of the UN Conference on Environment and Development (UNCED or Earth Summit) in Rio in 1992, Agenda 21 is an action agenda for sustainable development that can be implemented at the local, national and international level. To date it has been supported by the UN Commission on Sustainable Development acting as a high-level forum on sustainable development, and it provides a framework for progress towards sustainable development in line with four themes: Social and Economic Dimensions; Conservation and Management of Resources for Development; Strengthening the Role of Major Groups; and Means of Implementation. Section 2 of the agreed text (on Conservation and Management of Resources for Development), established principles around, *inter alia*,

- Changing Consumption Patterns
- Protection of the Atmosphere

Policy Options for a Resource-Efficient Economy

- Integrated Approach to the Planning and Management of Land Resources
- Combating Deforestation
- Combating Desertification and Drought
- Sustainable Mountain Development
- Promoting Sustainable Agriculture and Rural Development
- Conservation of Biological Diversity
- Environmentally Sound Management of Biotechnology
- Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas and coastal areas and the protection rational use and development of their living resources
- Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources
- Environmentally sound management of toxic chemicals including prevention of illegal international traffic in toxic and dangerous products
- Environmentally sound management of wastes.

The 10th anniversary of the Rio Summit was marked with the World Summit on Sustainable Development in Johannesburg, where Agenda 21 was reviewed. The outcome was the Johannesburg Declaration which reaffirmed commitment to achieving the goals of Agenda 21 and on resources in particular stated: “*We recognize that poverty eradication, changing consumption and production patterns and protecting and managing the natural resource base for economic and social development are overarching objectives of and essential requirements for sustainable development*”. The Johannesburg Plan of Implementation also resulted from the Summit, including commitments to changing unsustainable patterns of consumption and production and protecting and managing the natural resource base of economic and social development.

At the Rio+20 conference in 2012, commitment to the principles of Agenda 21 was reaffirmed and encapsulated in the document “The Future We Want” (UN General Assembly, 2012). In the section on the green economy, the potential for enhanced resource efficiency is highlighted as is national sovereignty over natural resources and the promotion of sustainable consumption and production processes as a matter of urgency. Also affirming the need for a strong and coherent governance structure, the framework for action and follow up covers resource relevant topics such as food security and nutrition and sustainable agriculture, water and sanitation, energy, oceans and seas, climate change, forests, biodiversity, desertification, land degradation and drought, sustainable production and consumption, and mining.

The Millennium Declaration and Millennium Development Goals

The Millennium Summit of 2000 led to the adoption of the UN Millennium Declaration and a commitment to achieving eight development goals by 2015:

- Eradicating extreme poverty and hunger,
- Achieving universal primary education,
- Promoting gender equality and empowering women,
- Reducing child mortality rates,
- Improving maternal health,
- Combating HIV/AIDS, malaria, and other diseases,
- Ensuring environmental sustainability, and
- Developing a global partnership for development

Work is currently underway to establish Sustainable Development Goals (SDGs) to follow post-2015. Agreed at the Rio+20 summit, the SDGs are to:

- Be based on Agenda 21 and the Johannesburg Plan of Implementation (see above).
- Fully respect all the Rio Principles.
- Be consistent with international law.
- Build upon commitments already made.
- Contribute to the full implementation of the outcomes of all major summits in the economic, social and environmental fields.

Policy Options for a Resource-Efficient Economy

- Focus on priority areas for the achievement of sustainable development, being guided by the outcome document.
- Address and incorporate in a balanced way all three dimensions of sustainable development and their inter-linkages.
- Be coherent with and integrated into the United Nations development agenda beyond 2015.
- Not divert focus or effort from the achievement of the Millennium Development Goals.
- Include active involvement of all relevant stakeholders, as appropriate, in the process.

UN Guiding Principles on Business and Human Rights

The relationship between resources and human rights has come under greater scrutiny in the context of multilateral corporations’ business practices in the exploration and exploitation of resources. To address this, the UN Guiding Principles on Business and Human Rights were developed in 2005 and endorsed by the UN Human Rights Council in 2011. The process was guided by the Special Rapporteur, John Ruggie, who was appointed by the UN Secretary General to:

- Identify and clarify standards of corporate responsibility and accountability for businesses and human rights;
- Clarify the implications for businesses of concepts such as “complicity” and “sphere of influence” of corporations;
- Develop materials and methodologies for undertaking human rights impact assessments of the activities of transnational corporations and other business enterprises.

The process leading to the adoption of these principles was consultative and inclusive of multiple actors involved in activities and human rights organizations.

Non-binding initiatives

A myriad of initiatives populate the soft law field for resources. These can usefully be grouped into five categories: scientific or advisory initiatives, enabling initiatives, initiatives focused on business activities, those focusing on the green economy and those comprising international groupings of sub-national bodies. The most relevant of these initiatives are shown in Figure 5 below and are described in more detail in the text that follows. All initiatives included in this section are either fully incorporated within the UN structure, or supported by the UN in some way with the exception of the GGGI, however membership of this initiative is only open to UN Member States. Unless stated otherwise, content is taken from the initiative websites.

Scientific	IPCC		IRP	IPBES SDSN	
Enabling				REDD 10YFP SCP	
Business		UNGC	UNGP BHR UNPRI		
Green Economy				GEI GGGI	
Sub-National Groups				GI-REC	
Established:	1998-1992	1993-1997	1998-2002	2003-2007	2008-2012

See text below for an explanation of the acronyms

Figure 5: Summary of top-down non-binding international initiatives relating to resources

Policy Options for a Resource-Efficient Economy

Scientific Initiatives

International Resource Panel

Established by UNEP in 2007, with the support of a wide range of governments, the European Commission and representatives from civil society, the scientific panel is part of an international partnership on resource management. The panel was officially launched in November 2007 and is expected to provide the scientific impetus for decoupling economic growth and resource use from environmental degradation.

The objectives of the International Resource Panel are to:

- provide independent, coherent and authoritative scientific assessments of policy relevance on the sustainable use of natural resources and their environmental impacts over the full life cycle;
- contribute to a better understanding of how to decouple economic growth from environmental degradation.

This work builds on and contributes to other related international initiatives, including the development of the 10-Year Framework of Programmes on Sustainable Consumption and Production (10 YFP Marrakech process), the 3R (reduce, reuse and recycle) initiative, the circular economy approach, Global Environment Outlook and the Millennium Ecosystem Assessment.

The Panel is supported by a Secretariat, hosted by the Sustainable Consumption and Production Branch of UNEP's Division of Technology, Industry and Economics, based in Paris. The scientific discourse on resource efficiency is advanced with the International Resource Panel taking the lead on providing data on specific resource categories.

Intergovernmental Panel on Climate Change (IPCC)

The IPCC is an intergovernmental scientific body under the auspices of the United Nations (UN) with 195 countries as members to date. It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change. It was established by the UNEP and the WMO in 1988 and in the same year, the UN General Assembly endorsed the action by WMO and UNEP in jointly establishing the IPCC.

Thousands of scientists from all over the world contribute to the work of the IPCC on a voluntary basis. The Secretariat coordinates all the IPCC work and liaises with Governments. It continues to be supported by WMO and UNEP and hosted at WMO headquarters in Geneva.

Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

IPBES was established in April 2012, as an independent intergovernmental body open to all member countries of the United Nations for assessing the state of the planet's biodiversity, its ecosystems and the essential services they provide to society. Utilising a group of experts, IPBES provides a mechanism to synthesize, review, assess and critically evaluate relevant information and knowledge generated worldwide by governments, academia, scientific organizations, non-governmental organizations and indigenous communities. In doing so it aims to strengthen capacity for the effective use of science in decision-making and address the needs of Multilateral Environmental Agreements that are related to biodiversity and ecosystem services. It is early days for IPBES and the first work plan and budget have just been agreed.

UN Sustainable Development Solutions Network (SDSN)

As part of UN Secretary General Ban Ki-moon's initiatives to promote sustainable development the UN Sustainable Development Solutions Network (SDSN) was launched in 2012 to mobilise global scientific and technological knowledge on the challenges of sustainable development, including the design and implementation of the post-2015 global sustainable development agenda (Leadership Council of the Sustainable Development Solutions Network, 2013).

Policy Options for a Resource-Efficient Economy

Enabling initiatives

Reducing Emissions from Deforestation and Degradation (REDD)

The UN-REDD Programme is the United Nations collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries. The Programme was launched in 2008 and builds on the convening role and technical expertise of the FAO, UNDP and UNEP. The UN-REDD Programme supports nationally-led REDD+ processes (which includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks) and promotes the informed and meaningful involvement of all stakeholders, including Indigenous Peoples and other forest-dependent communities, in national and international REDD+ implementation.

10-Year Framework of Programmes on Sustainable Consumption and Production

In 2012, at the United Nations Conference on Sustainable Development (Rio+20), the Heads of State reaffirmed that promoting sustainable patterns of consumption and production (SCP) is one of the three overarching objectives of, and essential requirements for, sustainable development. They emphasised that fundamental changes in the way societies consume and produce are indispensable for achieving global sustainable development.

The concept of resource efficiency lies at the heart of UNEP's SCP programme. Its main objectives are to:

- increase resource efficiency and reduce pollution over product life cycles and along supply chains.
- increase investment in efficient, clean and safe industrial production methods through public policies and private sector action.
- change consumer choice so that it favours more resource-efficient and environmentally friendly products.

At Rio+20, Heads of State strengthened their commitment to accelerate the shift towards SCP patterns with the adoption of the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP) – as stated in paragraph 226 of the Rio+20 Outcome Document “The Future we Want” (UN General Assembly, 2012).

The 10YFP is a concrete and operational outcome of Rio+20. It responds to the 2002 Johannesburg Plan of Implementation (JPOI). It builds on the work of the Marrakech Process, on regional SCP strategies and initiatives, as well as on the national cleaner production centres and other SCP best practices engaging a wide range of SCP stakeholders.

The 10YFP is a global framework of action to enhance international cooperation to accelerate the shift towards SCP in both developed and developing countries. The framework supports capacity building, and provides technical and financial assistance to developing countries for this shift. The 10YFP develops, replicates and scales up SCP and resource efficiency initiatives, at national and regional levels, decoupling environmental degradation and resource use from economic growth, and thus enhance the net contribution of economic activities to poverty eradication and social development. The framework will encourage innovation and cooperation among all stakeholders.

Business focused initiatives

UN Global Compact

The UN Global Compact is a strategic policy initiative asking businesses to commit to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption. Proponents see the Compact as the best forum to gather all interested parties in a positive dialogue and achieve consensus on the ways forward and one of the few initiatives able to gain consensus on the role of business in society (King, 2001; Williams 2004).

The Global Compact initiative has grown rapidly since its inception in 2000, now boasting over 10,000 corporate participants and other stakeholders from over 130 countries, resulting in its claim as the largest voluntary corporate responsibility initiative in the world. The initiative

Policy Options for a Resource-Efficient Economy

seeks to mainstream the Global Compact's Ten Principles in business strategy and operations around the world and catalyse business action in support of UN goals and issues, with emphasis on collaboration and collective action.

The Ten Principles are:

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.
- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.
- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.
- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

UN Principles for Responsible Investment

The United Nations-supported Principles for Responsible Investment (PRI) Initiative is an international network of investors launched in 2006, working to put the following six Principles for Responsible Investment into practice:

- Principle 1: We will incorporate ESG issues into investment analysis and decision-making processes.
- Principle 2: We will be active owners and incorporate ESG issues into our ownership policies and practices.
- Principle 3: We will seek appropriate disclosure on ESG issues by the entities in which we invest.
- Principle 4: We will promote acceptance and implementation of the Principles within the investment industry.
- Principle 5: We will work together to enhance our effectiveness in implementing the Principles.
- Principle 6: We will each report on our activities and progress towards implementing the Principles.

Its goal is to understand the implications of sustainability for investors and support signatories to incorporate these issues into their investment decision-making and ownership practices. In implementing the Principles, signatories contribute to the development of a more sustainable global financial system. The Principles are voluntary and aspirational. They offer a menu of possible actions for incorporating ESG issues into investment practices across asset classes. They are designed to be compatible with the investment styles of large, diversified, institutional investors that operate within a traditional fiduciary framework.

Green Economy Initiatives

UNEP Green Economy Initiative

The UNEP-led Green Economy Initiative, launched in late 2008, consists of several components whose collective overall objective is to provide the analysis and policy support for investing in green sectors and in greening environmental unfriendly sectors.

Within UNEP, the Green Economy Initiative includes three sets of activities:

1. Promoting the Green Economy Report and related research materials, which analyse the macroeconomic, sustainability, and poverty reduction implications of green investment in a range of sectors from renewable energy to sustainable agriculture

Policy Options for a Resource-Efficient Economy

- and providing guidance on policies that can catalyse increased investment in these sectors.
2. Providing advisory services on ways to move towards a green economy in specific countries.
 3. Engaging a wide range of research, non-governmental organizations, business and UN partners in implementing the Green Economy Initiative.

Global Green Growth Initiative (GGGI)

GGGI is an international organization established by several forward-thinking governments to maximize the opportunity for “bottom-up” (i.e., country- and business-led) progress on climate change and other environmental challenges within core economic policy and business strategies. It was initially launched in 2010 building on the experience of the Republic of Korea and became an international organization in 2012. The Institute is designed to be an open, global platform to support experimentation and collective learning by developing countries seeking to leapfrog the resource-intensive and environmentally unsustainable model of industrial development pioneered by advanced economies. Its activities are organised under three areas: green growth planning and implementation, research and public-private cooperation.

In collaboration with the World Bank, OECD and UNEP the GGGI has developed the Green Growth Knowledge Platform (GGKP), a global network of researchers and development experts that identifies and addresses major knowledge gaps in green growth theory and practice, to help countries design and implement green growth policy.

International groupings of sub national bodies

Resource Efficient Cities

The Global Initiative for Resource Efficient Cities (GI-REC) was launched at the Rio+20 Summit in 2012 to capitalise on the potential for cities to lead actions towards greater resource efficiency. UNEP recognizes the growing need to address global environmental concerns from an urban perspective and to integrate the urban dimensions of global environmental issues. The Initiative brings together all the major institutional players - UNEP, UN Habitat, World Bank, ICLEI, IIED and various other NGO and industry players. The purpose is to take forward the 'new agenda' on resources flows through cities - a core outcome of the Report on Cities of the International Resource Panel (see UNEP, 2013).

UNEP's efforts are supposed to enhance the quality of life in urban areas, in particular in rapidly growing cities in developing countries, by minimising resource extraction, energy consumption, and waste generation and through safeguarding ecosystem services.

In order to respond to the needs of an increasingly urbanizing world, UNEP supports cities in emphasizing interventions that have both local and global benefits. Areas of focus include:

- Urban Environmental Planning
- Resource Efficiency & the Green Economy
- Cities and Climate Change
- Sustainable Buildings
- Sustainable Transport and Air Pollution
- Solid Waste Management
- Water and Sanitation
- Biodiversity and Ecosystems
- Risk Reduction & Disaster Preparedness
- Sustainable Lifestyles

In cooperation with partners, UNEP supports cities across the world in addressing environmental impacts and in integrating environmental concerns into their long-term strategic planning. The emphasis is on supporting developing countries to develop and implement policies, through capacity building, technology and knowledge transfer.

Policy Options for a Resource-Efficient Economy

5.4. Bottom-up governance mechanisms relating to resources

Resources have many characteristics that call for a coordinated bottom up approach (Bleischwitz *et al.*, 2012), with many resources (although not all) occupying defined geographical limits at the sub-national level.

This section introduces the various “bottom-up” global governance systems currently in place with relevance to resource use, led by corporations, communities, non-governmental organisations and individuals. It is impossible to chart all schemes that operate on a multinational basis, however it aims to characterise the types of initiatives in place with examples taken from those with the widest global reach and of most relevance to resource use sustainability.

This section is structured to move from the formal, prescribed governance mechanisms such as voluntary certification schemes right through to the flexible concepts such as corporate responsibility. By the fact that they are “bottom-up” all initiatives discussed in this section are voluntary and therefore they seek to use other leverages, such as consumer demand and investor pressure to generate the desired outcomes.

5.4.1. Certification Schemes

Through a system of certification of the extraction sites/processes and the chain of custody, to prominent and recognisable consumer product labelling, these schemes offer traceability throughout the supply chain from resource extraction to consumer.

They began in the late 1980s, with the first fair trade product and now cover a wide range of sectors and issues. Driven by NGOs, although often in collaboration with industry and community representatives these initiatives are voluntary and rely on stimulating preferential consumer choices to drive better environmental and social performance. This reliance on generating a consumer demand differs from the certification schemes that form part of trade agreements or government compliance as discussed in the previous section.

Although the fair trade initiative is focused on social justice issues – ensuring a fair price for farmers disadvantaged by existing trade systems – its successors, such as the Forest Stewardship Council, Marine Stewardship Council and Roundtable for Responsible Palm Oil, include an environmental aspect (in full or in part). Until recently all certification schemes have been based around agricultural or other biosphere resources. However work is under way to extend the certification process to mining, with the introduction in 2013 of fairtrade gold and the ongoing development of the Initiative for Responsible Mining Assurance. Further details of some of the voluntary certification schemes are provided in Box 4.

The other initiative that belongs in this section but does not follow the typical certification model exactly is the Global Reporting Initiative (GRI), which applies not to a product or production process, but instead to reporting of a company’s corporate and social responsibility activities across all aspects of their business (see

Box 4 for further details and Section 5.4.4 for a discussion on corporate social responsibility more broadly).

Box 4: Voluntary certification schemes

Fair trade certification: The first Fairtrade certification was of coffee from Mexico and was launched in 1988, an initiative of the Dutch development agency Solidaridad. Schemes were developed worldwide and now for a product to display the FAIRTRADE Mark it must meet international Fairtrade standards which are set by the international certification body Fairtrade Labelling Organisations International (FLO). These standards are agreed through a process of research and consultation with key participants in the Fairtrade scheme, including

Policy Options for a Resource-Efficient Economy

producers themselves, traders, NGOs, academic institutions and labelling organisations in individual countries. The purpose of the scheme is to create opportunities for producers and workers who have been economically disadvantaged or marginalized by the conventional trading system. Products traditionally covered by the scheme include coffee and tea, cocoa, sugar and honey products, flowers, wine, cotton, and fresh fruit and juices. A new initiative by the Fairtrade Foundation (the UK fairtrade organisation) is Fairtrade gold. It is the world's first independent ethical certification system for gold, exclusively from artisanal and small-scale miners that meet standards on safety, worker rights and the environment. The Standard was developed by Fairtrade International and The Alliance for Responsible Mining, as a pilot project in 2011, with Fairtrade International launching an independent Standard and FAIRTRADE Mark for precious metals in 2013.

Forestry Stewardship Council (FSC) certification scheme: The concept for the FSC certification scheme was established in 1990 by a group of timber users, traders and NGOs who identified the need for a system that could credibly identify well managed forests to support sustainable procurement decisions. The initiative became a legal entity in 1993 and, as of August 2013, now has a certified forest area of just under 180 million hectares. It provides an unbroken chain between the forest management certification and chain of custody certification allowing for a wide range of paper and forest products to carry the FSC logo.

Global Reporting Initiative: The organization was founded in 1997 and the first Sustainability Reporting Framework was released in 2000. Now on its fourth iteration the Reporting Framework is intended to standardise approaches to corporate social responsibility across all three pillars of sustainability, offering both cross-sector and sector specific guidance and different application levels to allow companies to build their competence in reporting.

Initiative for Responsible Mining Assurance: Established in 2006 by a consortium of mining companies, downstream users of mining products such as jewellery retailers, environmental and human rights focused NGOs and affected and indigenous communities, IRMA is establishing best practice standards that improve the environmental and social performance of mining operations, as well as a system to independently verify compliance with those standards. Work is still underway, however they hope to begin certifying mining sites in 2015.

International Cyanide Management Code For the Manufacture, Transport, and Use of Cyanide In the Production of Gold: Developed by a multi-stakeholder Steering Committee under the guidance of the United Nations Environmental Program (UNEP) and the then-International Council on Metals and the Environment (ICME), the Code is an industry voluntary program for gold mining companies. It focuses exclusively on the safe management of cyanide and cyanidation mill tailings and leach solutions. Companies that adopt the Code must have their mining operations that use cyanide to recover gold audited by an independent third party to determine the status of Code implementation.

Marine Stewardship Council (MSC) certification scheme: Established in 1997 by the World Wide Fund for Nature and Unilever, and becoming a fully independent NGO in 1999, the MSC certification scheme has developed standards for sustainable fishing and seafood traceability through its suite of certified fisheries, chain of custody certificates and ecolabels for products. In its Global Impacts Report in 2013 it reports growing take up of all three types of certification (up by 390%, 180% and 710% for fisheries, chain of custody and ecolabeling respectively), with a coverage of 188 certified fisheries representing around 7% of global wild capture. Whilst chain of custody certificates are held in 57 countries and ecolabelled products in 106 countries, the number of certified fisheries in developing countries is low (at 8% of all certified fisheries) (Marine Stewardship Council, 2013).

Roundtable on Sustainable Palm Oil (RSPO): Established in 2004 by an NGO-business consortium comprising the World Wildlife Fund (WWF), Unilever, Migros, AarhusKarlshamn (AAK) and the Malaysian Palm Oil Association (MPOA). It allows for growers to become certified and for retailers to include a trademark on products that contain RSPO certified palm

Policy Options for a Resource-Efficient Economy

oil. Currently 14% of palm oil globally is certified by RSPO, with companies such as Unilever, Carrefour, Walmart, Nestle, Johnson & Johnson, P&G and Ferrero, as well as the governments of the United Kingdom, Germany, France, Belgium and the Netherlands, making commitments to use 100% certified sustainable palm oil. Other countries – Italy, Switzerland, USA, Australia, China and India - are said to be showing positive momentum towards a sustainable palm oil commitment.

The principle behind the certification schemes has been adopted by the EU in their eco-labelling Directive, which aims to promote products which have a reduced environmental impact compared with other products in the same product group and provide consumers with accurate and scientifically based information and guidance on products.

5.4.2. Transparency Requirements

Two distinct types of transparency initiatives are emerging from bottom-up governance – those focused on corporate reporting of activities and emissions and those focused on financial transactions, each of which are discussed below.

Corporate reporting of activities and emissions

Formal requests for transparency regarding resource use were driven from the evolution of corporate sustainability reporting which began in the late 1980s. More than twenty years on, reporting on environmental and sustainability issues (often called Corporate and Social Responsibility (CSR) reports), although still voluntary has become an important part of the annual reporting landscape for many companies, particularly those listed on the various stock exchanges around the world. However the first explicit request for data on a global scale came in 2003, when the first climate change disclosure request covering key areas of governance, strategy and emissions accounting was sent to the world's largest publically listed corporations globally by London based NGO CDP. The request was sent on behalf of institutional investors on the basis of the potential risk to their investments that company management of climate change risks and opportunities could pose. With 35 signatories in 2003, the initiative has grown year on year with 722 institutional investors with \$87 trillion in assets endorsing it in 2013, and also has expanded to cover water (since 2010) and forests (since 2013) as well.

The key leverage of the CDP request is its endorsement by investors, who have the ultimate power to bring about shareholder resolutions or even divest from companies who do not act in accordance with their expectations. The data from CDP and other similar transparency initiatives has led to a number of ratings and data analysis tools that can support decision making by investors on sustainability matters for both mainstream and socially responsible investment (SRI) funds.

An aspect specific to mineral extraction which has attracted additional disclosure requirements is the trade of conflict diamonds. These initiatives have been led by governmental level coalitions and are discussed in Section 5.3.1.

Transparency of financial transactions

Another technically NGO-led initiative, although much more government focused in its implementation, is the Extractive Industries Transparency Initiative (EITI). Announced by Tony Blair at the World Summit for Sustainable Development in 2002, and incorporated into Norwegian law as an NGO, the EITI Association works with governments to establish nationally appropriate legislation to comply with the EITI standard for corporations and governments to disclose payments and receipts respectively for extractive activities (oil, gas and mineral extraction) in the host country. The initiative became fully operational when Azerbaijan became the first EITI compliant country in 2006. Although not the subject of any trade agreements, and therefore still technically voluntary, through the government implementation of the initiative the driver for disclosure is legislation-based (albeit at the national rather than international level). However, more akin to other "bottom-up" initiatives, the real leverage comes from that information being in the public domain and used by

Policy Options for a Resource-Efficient Economy

individuals, community groups and NGOs to hold the governments to account in their use of that extraction-based revenue.

Government initiatives building on the EITI have been discussed under Section 5.3.1.

5.4.3. Corporate Accountability

Whilst many bottom-up mechanisms described in this report are based on leveraging stakeholder demands for corporations to be more accountable for their impacts, this section specifically looks at the more informal ways in which corporate behaviour can be driven outside of formal legislation, schemes or processes.

Activities that fall under this section include the increasing activities of more traditional environmental NGOs who have launched issue-specific campaigns, utilising the potential for reputational risk as leverage. A particularly prominent organization that utilises this approach is Greenpeace, whose 2008 report “Burning up Borneo” highlighted the deforestation activities of Unilever’s palm oil suppliers, their 2009 “Slaughtering the Amazon” reported on deforestation associated with leather use and their 2011 “Dirty Laundry” reports looked at toxic chemicals associated with clothing manufacturing overseas (Greenpeace, 2008, 2009, 2011).

5.4.4. Corporate Social Responsibility

In contrast to corporate accountability, which is externally driven, corporate social responsibility describes voluntary corporate activities to become more sustainable in their operations and their supply chain and to encourage their customers to do so too. This is a form of governance led by companies who see their sustainability credentials as a key component of their business. This is included last as it is the most informal of all the mechanisms – individual companies choose their agendas and drive behaviour in ways that they feel gives them a competitive advantage either in a direct monetary sense or more indirectly through enhanced reputation. As multinational companies with extensive global supply chains and significant purchasing power their corporate positions can create clear shifts in behaviours across the globe.

In addition to individual actions and commitments in CSR some initiatives have developed to drive forward an industry approach. The International Council on Metals and Mining (ICMM) is one such example. It was founded in 2001 to improve sustainable development performance in the mining and metals industry in response to a multi-stakeholder research initiative that examined the role of mining in a sustainable future called the Mining, Minerals and Sustainable Development (MMSD) project. Today, it brings together 21 mining and metals companies as well as 33 national and regional mining associations and global commodity associations to address core sustainable development challenges. At a cross-sectoral level the World Business Council for Sustainable Development, established in 1995 in a merger of the Business Council for Sustainable Development and the World Industry Council for the Environment. It is a CEO led initiative that deals exclusively with issues of business and sustainable development. In 2010 it published its “Vision 2050: the new agenda for business” report that was produced from a consensus process and sets out a pathway to a world in which nine billion people can live well, and within the planet’s resources, by mid-century (World Business Council for Sustainable Development, 2010). The World Economic Forum (WEF) also engages businesses and runs work programmes under a range of headings, with most relevance for resources being agriculture and food security, energy, environment, geopolitics and sustainability. It also set up the Responsible Mineral Development Initiative.

5.4.5. Allocation of capital

In the bottom-up context, allocation of capital refers to the actions of institutional investors. Recent years have seen a growth in Socially Responsible investment, or SRI funds, that take into account what a company does and how it does it when making investment decisions. As shareholders in public listed companies, investors have the ability to instigate shareholder resolutions and ultimate power to divest.

Policy Options for a Resource-Efficient Economy

Sustainability information of corporations was put into investment tools from 1999 with the launch of the Dow Jones Sustainability World Index, the first global sustainability benchmark tracking the stock performance of the world's leading companies in terms of economic, environmental and social criteria. This was shortly followed in 2001 by the FTSE4Good Index, which serves as to track, benchmark and identify good performing companies as well as provide a basis for creating index-tracking investments, financial instruments or fund products focusing on responsible investment. In 2003, the Carbon Disclosure Project sent its first information request to companies on behalf of investors.

In addition to the top-down initiatives targeting investors, the most prominent of which being the UN Principles for Responsible Investment, there are number of initiatives driven from investors themselves. The IIGCC is an example of such an initiative, providing investors with a collaborative platform to encourage public policies, investment practices, and corporate behaviour that address long-term risks and opportunities associated with climate change. IIGCC pursues its mission through two strategic objectives: (1) Changing market signals by encouraging the adoption of strong and credible public policy solutions that ensure an orderly and efficient move to a low carbon economy, as well as measures for adaptation and (2) Informing investment practices to preserve and enhance long-term investment values.

5.4.6. Other bottom-up initiatives

The Natural Resource Charter

The Natural Resource Charter is a global initiative designed to help governments and societies effectively harness the opportunities created by natural resources. The drafters of the Charter are an independent group of experts in economically sustainable resource extraction. It is based on 12 precepts, reproduced below:

- The development of a country's natural resources should be designed to secure the greatest social and economic benefit for its people. This requires a comprehensive approach in which every stage of the decision chain is understood and addressed.
- Successful natural resource management requires government accountability to an informed public.
- Fiscal policies and contractual terms should ensure that the country gets full benefit from the resource, subject to attracting the investment necessary to realize that benefit. The long-term nature of resource extraction requires policies and contracts that are robust to changing and uncertain circumstances.
- Competition in the award of contracts and development rights can be an effective mechanism to secure value and integrity.
- Resource projects can have significant positive or negative local economic, environmental and social effects which should be identified, explored, accounted, mitigated or compensated for at all stages of the project cycle. The decision to extract should be considered carefully.
- Nationally owned resource companies should operate transparently with the objective of being commercially viable in a competitive environment.
- Resource revenues should be used primarily to promote sustained, inclusive economic development through enabling and maintaining high levels of investment in the country.
- Effective utilization of resource revenues requires that domestic expenditure and investment be built up gradually and be smoothed to take account of revenue volatility.
- Government should use resource wealth as an opportunity to increase the efficiency and equity of public spending and enable the private sector to respond to structural changes in the economy.
- Government should facilitate private sector investments at the national and local levels for the purposes of diversification, as well as for exploiting the opportunities for domestic value added.
- The home governments of extractive companies and international capital centres should require and enforce best practice.

Policy Options for a Resource-Efficient Economy

- All extraction companies should follow best practice in contracting, operations and payments.

The Model Mining Development Agreement Project

At its 2009 Annual Meeting, the Mining Law Committee of the International Bar Association established a project to prepare a Model Mining Development Agreement (MMDA) that can be used by mining companies and host governments for mining projects. The project is led by the Mining Committee, with the support of civil society and university-based groups.

The final product is web-based and publicly accessible. It is not “prescriptive” in the sense of setting out one standard form, instead it seeks to provide an agenda for negotiations based on a sustainable development objective that is common to all parties, aiming to contribute to sustainable development not just of the project itself, but of the local, regional and national community. Its public nature is intended to allow local communities and civil society groups to contribute in a sound manner to negotiation processes.

5.5. Governance interactions

As the top-down and bottom-up actors do not work in isolation from each other, as established in Section 5.2.2, the top-down and bottom-up governance mechanisms also show a high degree of interaction.

The most obvious interaction is the top-down setting of a regulatory framework within which the bottom-up elements operate. At the same time, in many cases bottom-up mechanisms are used for implementation and monitoring of top-down requirements. For example, Agenda 21 is focused on supported bottom-up action on sustainable development and enabling communities to act.

Bottom-up mechanisms can also provide a key role in establishing the norms and practices and scientific evidence that are eventually enshrined in top-down national or global agreements. The Extractive Industries Transparency Initiative (EITI) is a good example of how voluntary and binding regulations might interlink (Bleischwitz *et al.*, 2012). Along with the soft law driven Kimberley Process, transparency requirements for mineral extraction have moved into the mandatory field for EU and US companies. Other examples of soft law initiatives feeding into binding mechanisms include the evolution of the Basel Convention on Transboundary Movement of Waste and the Rotterdam Convention on Prior Informed Consent. In these cases key enabling soft law instruments were UNEP’s London Guidelines for the Exchange of Information on Chemicals in International Trade (revised 1989) and the FAO’s International Code of Conduct on the Distribution and Use of Pesticides (revised 2002), respectively.

Finally, in addition to the more traditional lobbying practices of bottom-up actors on government representatives, these conferences have developed an active forum for collaboration. Ivanova (2013) notes that at the Rio+20 conference, “*progress seem[ed] more palpable on the side lines...as hundreds of voluntary commitments sprang up and pledges of over \$513 billion poured in*”.

In addition to the top-down and bottom-up interactions it should be noted that the international governance systems are closely bound to those at the national level, demonstrating interactions within the top-down system. Global responses are critical for enhancing national capacity and facilitating the uptake of solutions among nations with regional commonalities, and at the same time policy changes adopted by individual governments can transmit normative signals, exert peer pressure or encourage learning and replication – providing incentives for the collective adoption of international norms, rules, laws or policies (Baste, Ivanova and Lee, 2012).

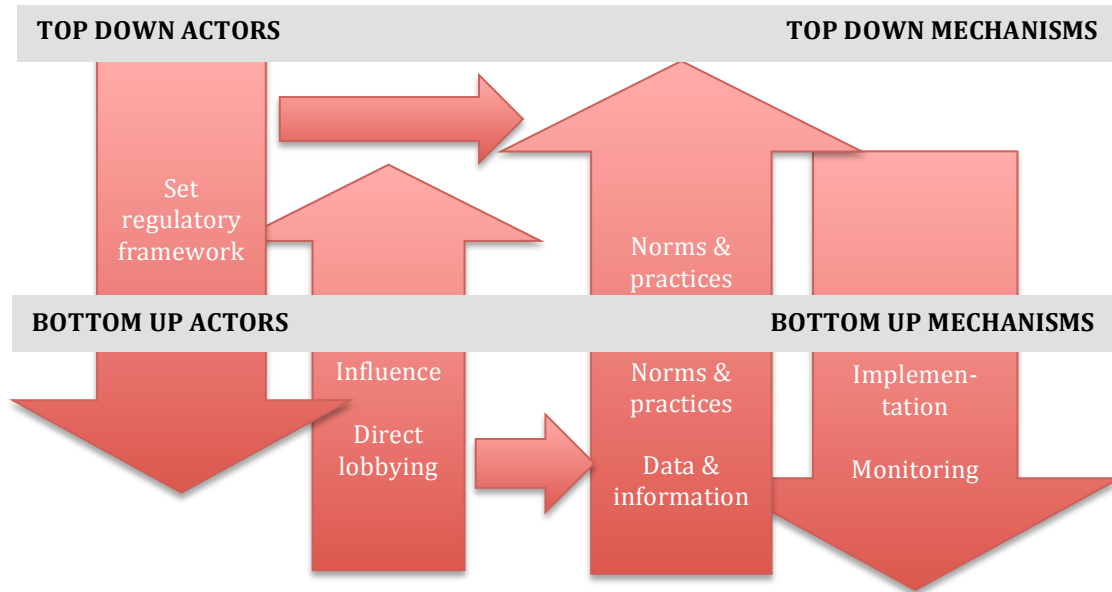


Figure 6: Summary of governance interactions

5.6. Summary

This chapter describes a complex and interacting governance architecture that is of relevance to resources. It uses the distinction of top-down and bottom-up governance to assist with the navigation through the subject matter, although recognises the strong interactions between the two.

International institutions are described, along with their role in resource management, including those established at the Bretton Woods conference that followed the end of World War Two, relevant UN institutions, programmes and specialised agencies, and other international institutions operating outside the UN system but with a global mandate. As the part of the UN with a strongest mandate across the full range of resources considered in the POLFREE project, the UN Environment Programme is described in some detail.

The most pertinent governance mechanisms are also described. Those considered as “top-down” are led by state actors, often co-ordinated through international institutions. Two distinct categories of top-down mechanisms can be identified. Hard law mechanisms are binding treaties, protocols and agreements which for resources can be derived from the fields of environmental, trade and human rights law as well as resource-specific areas of law (e.g. relating to global commons resources and similar). Soft law mechanisms are much more numerous and varied, and are non-binding, albeit still powerful in the establishment of global norms and procedures. Those described in this work are primarily associated with the UN (directly or indirectly) and have been grouped under five categories of scientific initiatives (such as the IPCC and IRP), enabling initiatives (such as the 10 YFP on SCP), business focussed initiatives (such as the UN Global Compact), green economy initiatives (such as the UN Green Economy Initiative) and international groupings of sub-national bodies (such as Resource Efficient Cities).

“Bottom-up” mechanisms originate from a myriad of sources from the not for profit, academic, business and community sectors. Non-binding but extremely effective at bringing in new partners to the governance system and at preparing the ground for development of norms and practices, the bottom-up mechanisms can operate on their own, or as precursors to more formal and traditionally top-down mechanisms. Although the institutions are too numerous to discuss, key mechanisms are described including those relating to certification, transparency, corporate accountability, corporate social responsibility and allocation of capital.

Policy Options for a Resource-Efficient Economy

The resulting picture is one of diversity. Whilst some are concerned about the large degree of fragmentation, others see an active patchwork of initiatives that have the potential to create new norms and practices, testing ideas and approaches that can eventually be adopted at scale. The evidence suggests that this national and international level adoption of bottom-up derived initiatives is already happening.

6. Governance for sustainable resource use – building an analytical framework

This report now turns to the question of analysing the governance of resources. With such a large subject matter it is important to build a strong analytical framework through which to address the question. This chapter does this by (1) establishing the issues associated with resource use that should be addressed by any governance approach; (2) establishing the pathways by which these resource issues become a global concern and therefore of relevance for global governance; and (3) establishing the criteria by which the current and proposed governance institutions and mechanisms should be assessed. The assessment itself is then completed in Chapters 7 and 8.

6.1. Issues associated with resource use

To begin this chapter and the development of an analytical framework we must consider what a global governance mechanism for resources should achieve by evaluating the issues associated with the different resource types identified. Four different issues are identified here although it should be noted that they are closely interlinked through a resource nexus and provide feedbacks to each other.

Physical supply and environmental degradation

There are two supply-based issues that apply when considering the sustainable use of resources. The first is the physical supply of resources and, given a broad definition of resources, encompasses the issue of environmental degradation. Where resource use exceeds the rate at which the resource is replenished (for renewable resources) or depletes a non-renewable resource, supply will be affected. However, the potential supply can also be affected by environmental damage, such as pollution of watercourses leading to available water supplies being unfit for consumption.

For the abiotic resources geological supply is not an issue. A number of sources point to the abundance of metallic minerals, including rare earths, and although declining reserves have been identified for some fossil fuel resources, abundance in others has been able to compensate (e.g. Dobbs *et al.*, 2013). Indeed, in the wake of the unconventional oil and gas revolution, fears of declining fossil fuel supplies and peak oil have been replaced by fears of abundance leading to overshooting of carbon budgets (Van de Graaf, 2013). The process of extraction however does have a significant impact on environmental degradation. The extraction processes are usually large scale and have the potential for impacts on a large range of embedded resources including freshwater, soils, forests, biodiversity and the atmosphere either through direct disturbance or pollution.

For the biotic resources physical supply is more of an issue and is likely to be increasingly so as the impacts of climate change are felt. Furthermore, production processes such as monoculture are reducing resilience.

Access to supply and price volatility

The second supply-based issue is access to supply. This is independent of the physical availability of a resource. An example of this is the recent focus on rare earth metals. Despite abundant geological reserves, China's imposition of export restrictions and the fact that it is the only country with currently operational mines for rare earths, led to a supply crisis. Whilst this issue is more commonly associated with abiotic resources, it is an issue for the biotic resources too. Competitive uses of limited freshwater resources can limit access for all, commercial exploitation of forests can reduce access for local communities and land grabbing can lead to population displacement.

Although grouped here with access to supply, many see price volatility of internationally traded commodities as a key concern in its own right. Due to the global trade in these commodities impacts on resource availability are felt throughout the world, through prices – for example Russia's major heat wave in 2010 led to a sharp spike in global wheat prices and

Policy Options for a Resource-Efficient Economy

the US droughts of 2012 had a similar effect on global soybean and maize prices (Lee *et al.*, 2012). Rather than one-off events, Lee *et al.* (2012) describe a recent trend for increasing resource prices and sustained high levels of volatility.

Volatility of commodity prices, in particular agricultural commodities can have severe impacts on populations, in particular in poorer countries where resilience is lower (Lee *et al.*, 2012). At an individual level this can be through loss of income (employment) or through a reduced access to food (Hailu *et al.*, 2011). At the national level, revenue instability obstructs long term planning and reduces national income and can accelerate debt accumulation (Hailu *et al.*, 2011). There is evidence that price volatility can lead to a breakdown in the social contract between governments and their citizens, which can spark conflict (Hailu *et al.*, 2011). Individual commodity price shocks can also drive socio-economic concerns and also conflict, with analysts linking high wheat prices in 2011 with social unrest in North Africa and subsequently the Middle East (Lee *et al.*, 2012). Others point to the relationship between price volatility and exchange rates, with historical values of the Brazilian Real correlated with deforestation associated with soy production (Walker, *pers comm*). At an international level, commodity price increases and volatility can spur resource nationalism, erosion of trust and undermine multilateralism (Lee *et al.*, 2012), and in private financing, can constitute obstacles for markets to make accessible the long-term capital required (Huntington & Jojath, 2010 cited in Karlsson-Vinkhuyzen *et al.*, 2012).

Socio-economic impacts

The socio-economic impacts of natural resource use are complex. Exports can provide opportunities to drive growth and human development, yet at the same time can result in slow growth, poverty and conflict (Hailu *et al.*, 2011). The issue of capturing resource rents is a significant one particularly in developing countries with large resource endowments. As discussed above, the impacts associated with price volatility also have the potential for significant negative socio-economic outcomes.

Key direct impacts from natural resource extraction include community displacement, or inability of communities to support themselves. In particular the relationship between extraction, livelihoods and equity has gained little attention to date, with people fighting for access to – and affordable prices for – water and food, whose shortages result from the overuse of resources and the subsequent environmental impacts (Bleischwitz *et al.*, 2012).

Demand reduction

Demand reduction has the potential to reduce the impacts of all of the issues discussed above as more efficient use of resources will lower pressures on commodity markets, reduce environmental impact of extraction and other production methods and lessen the burden on local communities. This applies to all resource types described above.

However, there is a complication with regard to demand reduction. Many developing economies rely on primary resource extraction revenues to support internal investment and socio-economic development. Therefore, consideration of how world development goals could be advanced with lower levels of primary resource extraction, need to be considered. To date many developing countries have not profited from resource extraction and are demanding compensation where a resource is being substituted or displaced (Bleischwitz *et al.*, 2012). In addition, for developing countries newly discovering resource endowments, should a demand reduction agenda lead to them being unable to realise the potential economic benefits of their resources? (Toulmin, *pers comm*).

6.2. Global pathways for resources

6.2.1. Overview

When considering the challenges of resource use sustainability that can be governed at the global scale, resources can be divided into four interconnected groups, all with defined pathways that turn local resources into global issues.

Policy Options for a Resource-Efficient Economy

These resource groupings are:

- Internationally traded commodities
- Embedded resources
- Global utility resources
- Commons resources

The pathways identified are:

- International commodity trade
- Global supply chains and transnational companies
- International concern
- Global commons

It should be noted that these groupings have been generated for the purpose of this report and do not apply across the POLFREE project. They represent an attempt to amalgamate the individual issues associated with different resource types and different global pathways in a way that allows the governance structures to be assessed in a manageable way, despite the enormity of the subject matter. They have been derived on the basis of their pathways and although they reflect resource status in international law to some extent they are not completely analogous. They are also highly interconnected, reflecting the resource nexus – the global interaction between various resources required to produce fuel and energy feed stocks, industrial inputs and food (Bleischwitz, 2013).

These pathways and resource groupings are described in detail below and are summarised in Figure 7.



Figure 7: Global pathways

6.2.2. Resource groupings

Internationally traded commodities

Internationally traded commodities are the resources that have a direct economic value and are traded on global markets. They include metallic minerals, fossil fuels, timber and agricultural products. Commodities have no product differentiation, that is to say that a commodity produced in one country is equivalent to that produced in another.

Policy Options for a Resource-Efficient Economy

Embedded resources

In the context of this report, these are resources that do not have a direct global economic value but without them it would not be possible to produce the goods that power the economy. They include freshwater, soils, land and air quality. In most cases they are used locally and, with the exception of freshwater on some occasions, do not actually end up in the product itself. Embedded resources are often also, along with other resources, termed ecosystem services. An alternative use of this term is in a wider context, referring to all resources embedded in production such as, for example, metal ores where metal is in the final product; such a wider definition is often referred to as a rucksack or material footprint approach and seeks to address hidden flows associated with production.

Global utility resources

Embedded resources that have a greater perceived value at the global level due to an indirect global function, or through extended reach. They have some overlap with the common concern concept in international law. 'Common concern' is used to refer to the legal status of climate change (UNGA Res 43/53 1988, UNFCCC Preamble) and of the conservation of biological diversity (CBD, Preamble). This approach clarifies that the global atmosphere is not considered as common property beyond the sovereignty of states as a whole (compare with global commons below), but – like the ozone layer – is treated as a global unity insofar as injury in the form of global warming or climate change may affect the community of states as a whole (Birnie, Boyle Regdwell, 2009). The impact of this legal qualification is to attribute the international community as a whole a legitimate interest in resources of global significance, as well as a common responsibility to protect them. To reflect this, the global utility resources category established for this work therefore includes the atmosphere, forests (due to their role in carbon sequestration), and biodiversity. Again, this category could also be considered as describing ecosystem services.

Commons resources

Combining two categories of international law – that of common property and common heritage of mankind - the final category is defined here as commons resources.

In areas beyond the national jurisdiction and control of any State, natural resources have the status of common property. These areas are mainly the high seas (i.e. the sea beyond 200 nautical miles from the coastal baseline) and their sub-adjacent airspace. In these common spaces, all States enjoy the freedom of legitimate and reasonable use of natural resources, which means that no State can claim exclusive sovereignty or exclude others from joining in the exploitation of the resources in this area. From a resource perspective then, this right includes the freedom to exploit most of the living resources, including fish and mammals, subject to the limitations imposed by Treaty provisions with respect to overexploitation and cooperation.

The common heritage of mankind regime applies to resources that may not be exploited for individual advantage, but must be conserved and used for the benefit of the international community at large (Bowman, Davies and Redgwell, 2010). For political reasons and owing to opposition from exploiting states and resource-rich States, this concept has been little codified in international agreements. This explains why the only two recognised examples of such category are the non-living resources of the deep seabed beyond national jurisdiction (so-called 'the Area') and of the outer space (which is not considered as part of this work). As opposed to common property resources, the exploitation and management of these resources requires the establishment of an international institution to carry on, or at least supervise, these activities and distribute their benefits. This is because, as opposed to common property, all States are entitled to a share of the benefits from these resources, even if they have not participated in the exploration and extraction process.

Interestingly, the Antarctic Treaty System has been adopted to protect that area and its ecosystems 'in the interest of mankind as a whole'. However, the Parties have excluded a direct assimilation to the legal status of the Moon and the deep seabed. Indeed, while some have suggested that Antarctica shares many features with a common heritage regime, this

Policy Options for a Resource-Efficient Economy

remains legally and politically controversial (Birnie, Boyle, Redgwell, 2009). For the purpose of this work however, Antarctica is considered under the category of common resources.

6.2.3. Pathways

The presence of global pathways of resource use suggests the need for some form of global governance.

International trade in commodities

One of the most well recognised global pathways is that of international trade in commodities. This pathway describes the global trade system for commodities which have a global price and their trade is overseen by the World Trade Organisation. Resource trade has more than tripled between 2000 and 2010, from less than \$1.5 trillion to nearly \$5 trillion reflecting both an increase in prices and a growth in volume⁹; although dropping in response to the recession in 2009, it had almost recovered in value by 2010 (Lee et al., 2012). A similar pattern can be seen when looking at global resource commodity trade volumes (Lee *et al.*, 2012).

Global supply chains and transnational companies

Much resource processing is now done as part of a long and global supply chain, with multiple production stages where the output of one stage is the input of another, often crossing international borders between stages, and in many cases characterised by vertical disintegration by transnational companies (i.e. using third parties to undertake many of the upstream processing stages) (Meixell & Gargaya, 2005; Costinot, Vogel & Wang, 2013; Gereffi, Humphrey & Sturgeon, 2005). It is through these global supply chains that embedded resources enter the global system, where demand for products globally leads to the use of these embedded resources.

Such global supply chains provide advantages in terms of access to resources and markets and preferential environmental, economic and labour conditions (Meixell & Gargaya, 2005). For example, Lee et al. (2012) describe the emergence of Thailand as a processing hub, which imports refined metals from Japan and South Korea, which in turn imported ores and concentrates from South America and Australia, and then processes them into products or components for sale or further processing/assembly elsewhere. This has two main implications: (1) increasing trade relationships with a higher degree of trade of components and intermediate goods and; (2) distributed accountability within global supply chains resulting from vertical disintegration (Gereffi, Humphrey & Sturgeon, 2005).

In some cases it is direct transnational company activities rather than through the supply chain that creates the pathway. Companies acting in one country but headquartered and potentially listed in another will create a bridge between the national jurisdictions of those countries.

Embedded resources and global utility resources are part of this pathway. Internationally traded commodities are also applicable both directly and indirectly. Transnational company activity is particularly prevalent in the abiotic primary extraction industries. For example in Ghana, Mali, Zambia and Mongolia the mining sector is 100% under the control of foreign companies (Bäeurle *et al.*, 2011, cited in Bleischwitz *et al.*, 2012). International commodities are also the building blocks of many products further down the supply chain. Extraction of such commodities invariably uses and degrades embedded resources. For example, water is required in mining activities for dust suppression, in energy generation in hydro plants and for cooling in nuclear and traditional power plants (supplying energy to other industries), and in agricultural production for irrigation.

International concern

The first two pathways described are characterised by the economic activity associated with them – international markets and corporate activities. However, some resources are also part

⁹ The figures are based on the Resources Futures Trade Database, which is based on COMTRADE and BACI, produced by Chatham House

Policy Options for a Resource-Efficient Economy

of a pathway termed here “international concern”, whereby there is a global interest in safeguarding their sustainability. The evidence for the international concern pathway is the presence of international institution, initiatives and agreements addressing resource issues. This is most evident for the global utility resources, however can also apply to embedded resources such as freshwater which has significant transboundary issues, and for those resources affected by global issues such as climate change or those which form basic needs for populations.

The Commons

The final pathway, and as with the first, one that is well recognised is that of the commons. This report takes a broader view of “commons” than in international law and uses this pathway to describe all cases where national jurisdiction is not clearly identified and where resource sharing is essential.

6.3. Other considerations

Two issues that are not considered further within this study but warrant further investigation as important additional layers of issues, pathways and governance, are **conflict** and **climate change**. They are of relevance for both the issues of resource use sustainability and the pathways through which they become of global importance and can be considered as threat multipliers as they both heighten the issues associated with resource use and also help to shift the status of an issue from local to global.

Section 6.1 discussed some of the ways in which resource related issues can lead to conflict, in particular with regard to price volatility and socio-economic impacts, however it also has the potential to engage the global community in issues that would otherwise be considered to be local or regional. Water in particular is an area where the potential for conflict in times of scarcity has been discussed (e.g. Singh *et al.*, 2009), primarily due to the large areas over which water systems extend and the high number of competitive uses including agriculture, industry and households. Shiva (2002) in her book on “Water Wars” describes the greed and appropriation of other people’s share of the planet’s precious resources to be at the root of conflicts, and terrorism. Whilst in many cases water basin management is successfully operated at the regional level (e.g. the Mekong Commission, the Danube Commission), concern over possible “water wars” derives from a perception that countries could wage war to safeguard their access to water resources in circumstances where there is water scarcity, competitive use and there is a history of conflict over other issues (Alam, 2002). Other potential resource-related drivers of conflict are land grabbing and population migration due to lack of water, agricultural land or population displacement.

Evidence of resource related escalations include a naval arms race in the Indo-Pacific region to secure access to offshore fishing and resources, investments in coastguards and air systems in anticipation of conflict over Arctic resources and dam projects in China, Ethiopia and Sudan causing concern for downstream countries (Bleishchwitz *et al.*, 2012). UNDP also note that countries with resource based economies (in fossil fuels and metallic minerals) face a higher risk of violent conflicts due to increases in unemployment, inequalities and inadequate provision of social services. In such cases conflict provides a positive feedback by increasing dependence of resource extraction through the weakening of markets, displacement of alternative industries and lowering attractiveness for investment (Hailu, 2011). NATO also recognises security of resource supply as a key issue. Bleishchwitz *et al.* (2012) cite the following extract from NATO’s Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organisation document published in 2010: “*Key environmental and resource constraints, including health risks, climate change, water scarcity and increasing energy needs will further shape the future security environment in areas of concern to NATO and have the potential to significantly affect NATO planning and operations*”. Therefore, conflict has the potential to marry together resource issues with security and human rights concerns.

Policy Options for a Resource-Efficient Economy

The second additional consideration is climate change, which is expected to exacerbate the pressures of poverty on natural resource management and generate a range of complex social, economic and political risks (Deere-Birkbeck, 2009). All natural systems are expected to be affected by climate change, with an uneven global distribution. The fifth report of the IPCC describes continuing surface and sea temperature rises, with increasing ocean acidification and impacts on ocean circulation expected, reductions in arctic sea ice, glacier volume and northern hemisphere spring snow cover, and increasing contrasts in precipitation between wet and dry regions and seasons (IPCC, 2013). As such, it can be expected that natural resource quality and quantity could be reduced.

Furthermore, recent research, drawing together findings from 60 quantitative studies into conflict and climate change from the fields of archaeology, criminology, economics, geography, history, political science, and psychology, finds strong causal evidence linking climatic events to human conflict across a range of spatial and temporal scales and across all major regions of the world (Hsiang, Burke & Miguel, 2013), thereby demonstrating the potential for a positive feedback on the first threat multiplier, albeit one that is likely to require a complex range of factors to align.

Thus, unsustainable resource use at the national and regional level may become a concern globally in the context of increasing climate change impacts.

6.4. Criteria for assessment of institutions and mechanisms for international resource governance

As part of the assessment that follows, two different components are assessed: legitimacy and feasibility. Legitimacy addresses both the inputs to the governance system, including their appropriateness and inclusiveness, how effective the existing and proposed institutions and mechanisms are, building on common approaches in governance analysis. Feasibility reflects how likely the governance systems will achieve their full effectiveness in 2050.

Note that the analysis focuses only on the global aspects of the governance mechanisms. There will be many other initiatives that are appropriate to be driven at the national level which can support the stated objectives but are not considered here. In this respect, the analysis that follows is not exhaustive, instead it aims to focus on key global interventions that can support the sustainable use of resources.

Inevitably, due to the interconnectedness of environmental, social and economic systems there will be some overlap between the different objectives and the potential for competing measures. The final chapter of the report therefore brings together the key findings and offers core recommendations for focus in global governance negotiations both in the short term and longer term.

6.4.1. Legitimacy

Studies of governance often use the concept of legitimacy to assess governance systems. It is appropriate to this context as it is sufficiently broad to accommodate the breadth of discipline areas, sectors, actors that are considered in this study, to allow for institutions and mechanisms to be assessed using a common framework, and to incorporate both existing and proposed governance approaches. It is acknowledged that when the scope is narrower than that attempted here, more targeted assessment criteria can be utilised (e.g. see the network analysis approach used in Langrock & Bleischwitz, 2007, which allows for more detailed questions, e.g. of actor networks, targets, strategies, costs and side effects, etc., to be addressed). Indeed, as the POLFREE project develops into one that reviews policy mixes, this broad assessment approach will be replaced within an analytical framework that is more targeted at measurable and predictable outcomes.

Karlsson-Vinkhuyzen and Vihma used a series of studies in the field to develop an analytical framework of normative legitimacy, summarised in Karlsson-Vinkhuyzen & McGee (2013) and

Policy Options for a Resource-Efficient Economy

reproduced below. A similar approach has also been employed in the Global Environmental Governance Project, with work by Bäckstrand *et al.* (2012) utilising a similar distinction of input and output legitimacy (citing Dingwall, 2007), instead dividing input legitimacy into three parts: (a) participation and inclusion, (b) democratic control and accountability and (c) deliberative quality. Both approaches are relevant for this work, however the approach of Karlsson-Vinkhuyzen and McGee has been selected as it provides a useful breakdown of component parts. The relevance of each type of legitimacy for this study is discussed in the text that follows.

Component of legitimacy	Sub-components
Source-based legitimacy (input legitimacy)	Expertise
	Tradition
	Discourse
Process-based legitimacy (input legitimacy)	Governmental participation
	Non-governmental participation
	Accountability
	Transparency
Outcome-based legitimacy (output legitimacy)	Effectiveness
	Equity

Input legitimacy

Source-based

Three sub-components of source-based legitimacy are discussed above. In the context of the discussion on sustainable resource use governance, expertise refers to the way in which science and knowledge is incorporated. Tradition reflects a history of addressing related problems (Karlsson-Vinkhuyzen and McGee, 2013) and therefore is an important characteristic to consider when comparing existing, new and adapted regimes. Discourse reflects the extent to which the discourses propagated reflect the dominant discourses of society (Karlsson-Vinkhuyzen and McGee, 2013).

Process-based

As established in the earlier chapters of this report, governance extends beyond governments to embrace a wide variety of actors. The importance of this inclusive approach is captured in the four sub-components of process legitimacy listed above.

Output legitimacy

In the context of this report the primary consideration for effectiveness is that of addressing the issues for resource use sustainability (as defined in Section 6.1) that are relevant for any given pathway. If an institution or mechanism does not do this, it cannot be successful. This is an important consideration as many of the institutions and mechanism that have a role in resource use are not explicitly created for that purpose, and there is no current overarching resource regime. A clear and focused mandate is a key element to a successful governance system (Ivanova, 2012).

Andersson and Ostrom (2008) note that no perfect governance arrangement exists; all are imperfect responses to the challenge of collective action problems and as these imperfections can exist at any level of governance. Indeed, multiple pathways can lead to success and regime complexes can offer a way forward where a single governance system cannot address all issues (Young, 2011). However there is a body of research on the effectiveness of governance, in particular from the environmental governance perspective, which allows us to draw some important lessons for a global governance structure addressing resource use sustainability and therefore assisting with our understanding of effectiveness. Whilst the assessment provided will be based on the alignment of the institution’s/mechanism’s mandate with issues of resource governance, some discussion of how it aligns with the key aspects below will be provided.

Policy Options for a Resource-Efficient Economy

Firstly a governance system for resources needs to facilitate flexibility within a common framework. The top-down approach fulfils the need for a global response. However the one size fits all approach can lack the subtleties required for the individual national situations, overlooking traditions of governance, scientific research and levels of social capital (Dufy, 2013; Falaleeva & Rauschmayer, 2013). Oberthür & Pozarowska (2013) point to fears among the old G-77 alliance of a one-size-fits-all agenda for the green economy concept preventing its uptake as a driver of “the future we want” document arising from the Rio+20 negotiations.

Secondly, without proper implementation any global governance approach will fail. It is important to pay attention to the supporting components of top-down treaties which may not be binding on the parties directly but implementing these provisions enhances and enables parties to achieve the goals of the treaty. These include financing, national programmes, technology transfer, capacity building and even institutional parts of the treaty such as the treaty secretariat (Chambers, 2008). Even though processes may be fully global, there exist large differences in the capacity of countries with regard to assets, skills and capabilities and to consult and engage with relevant stakeholders (Deere-Birkbeck, 2009). In addition it is important to consider the relative weight and capacity of resource related departments within governments; Walker (*pers com*) points to forest initiatives being limited by the relative standing of ministries responsible for forests. A key component of implementation is financing (Chambers 2008; Ivanova, 2012; Walker, *pers comm*). Chambers (2008) notes that “though not a legal requirement of treaty effectiveness, financing is nevertheless a crucial lesson that has been learned from treaty making in the past”. Where this financing is expected to come from the private sector, policy certainty needs to be in place to support appropriate financial flows. For example a joint statement on climate change issued in 2011 by 5 investor coalitions and signed by 285 investment firms stated that private sector investment will only flow at the scale and pace necessary if it is supported by clear, credible and long-term domestic and international policy frameworks that shift the balance in favour of low-carbon investment opportunities (IIGCC, 2011).

The final observation, largely made in reference to environmental issues but potentially more relevant for resources, is the need for a multidisciplinary approach. Authors point to the reality of environmental governance as a very fragmented picture, with treaties primarily issue focused and not addressing overlaps between resources and impacts (Carlane, 2008). Whilst this has allowed environmental governance to develop in a manageable way it does not reflect the complexity of the issues faced, both with regard to overlap within the environmental field but also outside it; such issues are exacerbated by treaty proliferation which is evident in international environmental law (Carlane, 2008). Indeed, Deere-Birkbeck (2009) notes that “*governments have generally been more successful at devising and adopting new international treaties and agreements than they have been at adapting existing regimes and fulfilling commitments to implement long term solutions*”. The issue of overlapping policy areas is particularly pertinent. The fisheries sector provides a useful example here where challenges of declining global fish stocks are well known but the policy framework includes laws for fisheries, biodiversity, ports, coastal waters, coastal land management, international waters and shipping (Deere-Birkbeck, 2009).

Where overlaps exist outside of the environmental field the lack of institutional capacity in environmental matters often means that environmental issues are subsumed into the other areas of law and subsequently undervalued. An example of this is in the development of trade agreements (Carlane, 2008) where bridging the gap between policy makers involved in global economic and environmental governance has presented challenges (Deere-Birkbeck, 2009). The issue of climate change in particular highlights the overlap between different environmental disciplines, sector specific issues and cross cutting themes such as science, innovation, development assistance, post conflict tensions and gender policy (Carlane, 2008; Deere-Birkbeck, 2009). Whilst this has the potential to generate difficulties based on the current approach to environmental treaties, it also offers opportunities to develop a greater interdisciplinary understanding (Carlane, 2008). The need to deal with the issue of overlap is recognised in the UN General Assembly Resolution arising from Rio+20 which states that “We underscore the need to strengthen United Nations system-wide coherence and

Policy Options for a Resource-Efficient Economy

coordination...by, inter alia, enhancing coherence in reporting and reinforcing cooperative efforts under existing inter-agency mechanism and strategies to advance the integration of the three dimensions of sustainable development within the United Nations system...and also with the international financial institutions and other relevant organizations such as the World Trade Organization, within their respective mandates” (UN General Assembly, 2012).

The second sub-component of equity is a key component of the resource issues established and therefore this is not addressed as a separate item.

6.4.2. Feasibility

Alongside legitimacy, it is important to consider how likely institutions and mechanisms are to be instigated, i.e. their feasibility.

This very much depends on the attitudes to governance as a whole. The “vital importance” of a strong and effective multilateral system to address sustainable development (and within that, sustainable resource production and consumption), is stated within the UN General Assembly outcome document from Rio+20 (UN General Assembly, 2012). However, other authors point to the overriding self-interest of States over common concerns, and priorities for short-term economic gains, undermining multilateralism in pursuit of sustainability goals (Beyerlin & Maruhn, 2011). Others point to trends away from cooperation and multilateralism (Bleischwitz *et al.*, 2012).

With regard to the POLFREE project the appropriate context for considering feasibility is not the current governance framework, or attitude, but that in 2050. This is impossible to determine and therefore the approach taken is one of postulating a range of possible futures against which to consider the feasibility of the governance mechanisms discussed, presented below¹⁰.

In addition to a potential change in attitudes to governance in 2050 many of the other key influencing factors on resource use sustainability are likely to change. Looking just at the next fifteen year period the Leadership Council of the Sustainable Development Solutions Network (2013) note five shifts that are likely to happen: “*the feasibility of ending extreme poverty in all its forms, (ii) a drastically higher human impact on the physical Earth, (iii) rapid technological change, (iv) increasing inequality, and (v) a growing diffusion and complexity of governance*”.

Potential future attitudes to governance in 2050

Three potential futures can be envisaged and are discussed in more detail below and summarised in Figure 8:

- A multilateral world
- A coalition driven world
- A world of unilateral action and bilateral agreements

A multilateral world

Here the one country one vote, fully multilateral approach is a successful one with all countries recognising the importance of coordinated action. This approach has characterised the later part of the 20th century with a proliferation of multilateral environmental agreements. Less commitment to these approach is evident at present, however it is noted that much collaborative action has occurred in response to clear and visible problems (King *et al.*, 2007) and when the issues at hand are of high priority for governments (Ivanova 2012). New regimes have tended to come into being as a result of “transformational” events; examples include the UN and Bretton Woods institutions arising at the end of the Second World War, the IEA created in reaction to the 1970s oil crisis and the Energy Charter Treaty being an indirect product of the breakup of the Soviet Union (Van de Graaf, 2013). As climate change

¹⁰ Note that potential pathways for development to 2050 in Europe will be considered in more detail in subsequent workstreams of the POLFREE project.

Policy Options for a Resource-Efficient Economy

impacts become more evident, it may create such an incentive to pursue a multilateral approach.

Although the multilateral approach is seen as the outgoing paradigm, a strong multilateral approach in 2050 does not necessarily mean that the same institutions prevail. The Leadership Council of the Sustainable Development Solutions Network (2013) note that: *“Global problems require global institutions that are representative of the world they seek to govern. The voting rights and shares in many international institutions reflect the world as it was after the Second World War and not as it is today”*.

A coalition driven world

Here collaboration is occurring but it is in smaller coalitions rather than full multilateral processes. Progress is fragmented but is progress nonetheless, focusing potentially on key issues and maybe key regions. In this future it is important to also consider what Europe's role would be in such a fragmented governance system. Again, one can envision some alternatives:

The first variant sees Europe in the lead – a strong Europe could be a driving force for the coalition-based leadership.

The second variant sees Europe on the side lines – developing and emerging economies are the key drivers of the coalitions, turning their backs on the traditional governance leaders of the post World War II era and creating new partnerships that reflect new powerhouses of consumption and production. Here, Europe's influence is limited or even, rejected. For example, Beyerlin & Marauhn (2011) point to co-operation in environmental and developmental matters suffering from a North-South divide and a failure of international environmental law to address developing country concerns to date. In addition, whilst northern industrialised countries have monopolised international trade for many years the rapid growth in the South has changed the picture since 2000 with Southern countries holding increasing weight in world commerce and increasing prominence of South-South trade (Hochstetler, 2013). Brazil's relationship with China and its South American neighbours demonstrates this, with dynamic, diversified and dominant Southern economies slotting into the economic roles the North historically played, importing natural resources from less developed countries and sending them manufactured products in return (Hochstetler, 2013). The idea of developed and developing countries is also changing with the climate negotiations. Groupings such as the BASIC countries (Brazil, China, India and South Africa), IBSA (India, Brazil and South Africa) and the BRICS (Brazil, Russia, India, China and South Africa) are reshaping the character of international relations (Hochstetler, 2013; Swilling *pers comm*).

The fragmented, coalition based approach is characteristic of today's governance preferences. Even within multilateral processes, coalition style approaches such as that led by the Brazilian Government to push through the Rio+20 agreement are evident.

Unilateral action and bilateral agreements

In this final possible future, cooperation is at a minimum, with countries instead preferring to make unilateral decisions and enter into bilateral trade and resource sharing agreements where necessary. There is a wholesale rejection of the global governance institutions developed since world war two and the concepts of shared responsibilities are side lined.

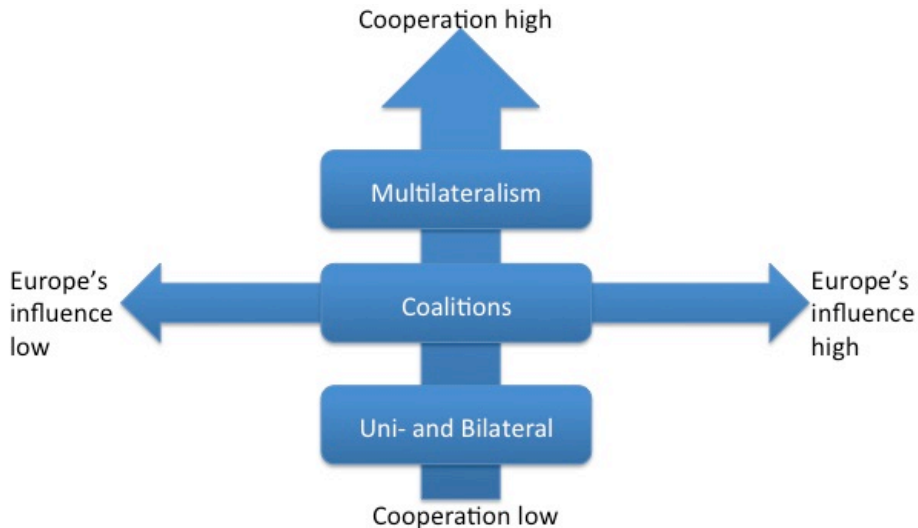


Figure 8: Possible governance futures in 2050

These alternative worlds form the basis for analysis of feasibility of the different institutions and mechanisms. It is acknowledged that all of these options make an assumption of national states having a key role in governance in 2050. A more radical proposal could be to consider a more interdependent social system with authority distributed across public and private authorities within new forms of supranational governance structures (Pegram, *pers comm.*). This would represent a much more theoretical approach to that taken in this report but would be an interesting extension to this discussion.

6.5. Summary

Chapter 5 sets out the means by which the different governance approaches can be assessed with regard to the question of their appropriateness for the global governance of resources use sustainability.

Establishing the context

The first stage is one of establishing the context for the assessment. Firstly there is a need to identify the issues that any governance system must address. These are:

- Physical supply and environmental degradation – are sufficient resources available geologically or biologically, and are they in a sufficient state of “health” to be able to support future populations and inter-related ecosystems?
- Access to supply and price volatility – can the resources available be accessed by those that need them in an equitable manner either physically or economically; are the methods of extraction supportive of sustainable long term resource use?
- Socio economic impacts – maximising positive impacts in resource rent capture and reducing negative impacts of competitive land and resource use and degradation of human rights
- Demand reduction – a way of relieving pressure on natural resources but with equity considerations regarding access and economic potential.

In addition to the above two aspects that are not considered in detail in the report but are key “threat multipliers” to the issues associated with resource use are conflict and climate change. Conflict has the potential to arise from unsustainable patterns of resource use and also has

Policy Options for a Resource-Efficient Economy

the potential to exacerbate the potential negative aspects of the first three issues above, which can also be heightened through climate change.

The second contextual aspect is the need for resource groupings with common attributes to be defined. For the purposes of this project these have been identified as:

- Internationally traded commodities – including metallic minerals, fossil fuels, timber and agricultural products
- Embedded resources – resources that do not have a direct economic value but are affected by extraction of commodities or relied upon as part of supply chains. They rarely end up in the product itself, and include freshwater, soils, land and air quality.
- Global utility resources - embedded resources that have a greater perceived value at the global level due to an indirect global function, or through extended reach, including the atmosphere, forests and biodiversity.
- Commons resources – taking a broader than the strict legal interpretation of the commons, and including the high seas (and the fish and mammals that live within it), the seabed and Antarctica.

Thirdly, in this report we are only interested in the resource flows that operate globally. Therefore it is important to establish the pathways through which this occurs. Four pathways have been identified:

- International trade in commodities;
- Global supply chains and transnational companies;
- International concern; and
- Global commons.

Establishing the assessment criteria

The second stage is one of establishing assessment criteria, and uses two concepts: legitimacy and feasibility.

Legitimacy allows for the assessment of what each approach is able to govern and how appropriate the approach is with regard to its general governance characteristics. Three types of legitimacy are defined. Firstly is source-based legitimacy, which determines whether the governance approach utilises expertise and tradition and accords with the current discourse. Second is process-based legitimacy, which determines how the approach engenders participation from government and non-governmental sources, and how it ensures accountability and transparency. The third category is outcome legitimacy, or effectiveness. It is in this third category where governance approaches are evaluated on whether they address the issues of resource use sustainability and the resource groupings established above. In addition, three characteristics of good governance gleaned from the literature on environmental governance – flexibility, implementation and multidisciplinary – are discussed.

The feasibility component recognises that to be successful, regardless of its attributes, a governance approach must be adopted, and in the context of this work, adopted globally. Furthermore, the POLFREE project is looking at resource efficiency in 2050 and therefore it is a future feasibility that we are interested in. To explore this, three future worlds are envisioned, one with multilateral cooperation high on the agenda, one ruled by smaller coalitions making fragmented progress, and one where unilateral action and bilateral agreements are the defining feature of international relations.

7. Governance for sustainable resource use – considering legitimacy

As the first of the two analytical chapters, this chapter assesses how the governance architecture can drive for sustainable resource use, building on its successes and failures to date, and what new proposals may be brought forward in the coming years, using the principles of input and output legitimacy established in the previous chapter.

It is structured around the four pathways established in Section 6.2.3. For each pathway five sub-sections establish:

- The relevant institutions described in Chapter 5 and new proposals for institutions – first comprising a discussion on legitimacy based on the available literature and the secondly an assessment of legitimacy based on the analytical framework described in Section 6.4.1.
- As above for existing and new mechanisms.

The institutions and mechanisms analysed have been selected on the basis of (1) their centrality to resources issues; and (2) available literature on their performance to date.

Policy Options for a Resource-Efficient Economy

7.1. Legitimacy of governance in the “international trade in commodities” pathway

This section considers the international trade in commodities pathway only. Actors in this pathway are likely to also be active in the global supply chains pathway, which is considered separately.

7.1.1. Institutions: discussion

World Trade Organisation

Evolving from the Bretton Woods Conference the WTO has established a great deal of institutional capacity and encompasses a wide range of countries from industrialised, merging and developing economies operating on a one country one vote basis. A key operational aspect of the WTO that many see as an advantage is its dispute resolution function. In terms of engaging outside of member governments, however the WTO is much less inclusive. Whilst improvements have been made since the days of GATT, the involvement of NGOs in the policy-making, policy-implementation, compliance-monitoring and dispute-settlement activities of the WTO remains, quite modest; with the exception of the formal plenary meeting of the Ministerial Conference, NGOs are not allowed to attend – let alone – actively participate in any meeting of WTO bodies (Van den Bossche, 2006). In addition, despite the one country one vote regime, many developing countries view the World Trade Organisation (as well as the other key Bretton Woods institution, the World Bank), with distrust (Swilling, *pers comm*).

The WTO’s role in overseeing global trade places it in a key position to address the issues associated with commodity production. Its primary function is in the negotiation of commodity agreements which typically involve a pre-agreed intervention in the supply of a commodity to stabilise price over the long term either involving all significant producers through an international agreement or with a small group at a national or local level (Ekins & Vanner, 2009). However, recent evidence of increasing price volatility would suggest that the current system is not effective in addressing this issue. Furthermore, whilst the WTO has a tradition to monitor import restrictions it has not typically addressed the more recent export restrictions.

Such a central role in the trade process however could allow the WTO to take an active role in the other issues discussed above. However, a number of dispute cases, set out in Ekins and Vanner (2009), demonstrate a reluctance of the WTO to allow for restrictions on imports due to differences in production methods, and hence the environmental impact of production, unless supported by a multilateral environmental agreement, or the honest pursuit of one. Ekins and Vanner (2009) conclude that *“it is clear that the WTO is not, and is most unlikely to become, a body that can systematically reduce the negative environmental impacts of commodity production”*. More than not promoting environmental protection, the WTO has been cited as providing barriers to individual countries enacting stronger environmental standards (Leadership Council of the Sustainable Development Solutions Network, 2013). Bernstein (2013) concurs with this view, providing an example of the green economy: *“achieving a green economy might require relaxing rules on intellectual property rights (to ease transfer or uptake of green technologies), treating green products and services as special categories or admitting (and managing) at least short term trade-offs among environmental goals, social goals like employment, and economic growth”*. Instead the WTO has retained a focus on trade liberalisation and a strong distinction between the WTO defining general criteria of trade measures and multilateral environmental agreements designing and adopting such measures has developed over time (Gehring 2011 cited in Oberthür & Pozarowska, 2013). Transforming the trade system to allow it to support sustainable development, and sustainable resource use, is seen as key (Leadership Council of the Sustainable Development Solutions Network, 2013).

In recent years the inclusiveness of the WTO has led to a stalemate in decision-making. The Doha Round of negotiations began in 2001 and although some progress has been made they have yet to be concluded. Instead the Doha negotiations have occurred in pieces, resulting in plurilateral or bilateral agreements that leave out many (mostly developing) countries that find

Policy Options for a Resource-Efficient Economy

the rules too burdensome or unfair, or that result from unequal bargaining power (Oberthür & Pozraowska, 2013).

OPEC

The role of OPEC is to support host countries in the negotiation of contracts for extraction of fossil fuels, to counter the asymmetry of information between governments and international oil companies. However its reach is limited to member countries and to fossil fuels – oil producing countries outside of OPEC and mineral producing countries which suffer the same negative impacts from information asymmetry are not able to benefit (Hailu *et al.*, 2011). No explicit proposal to extend the remit of OPEC, or to create a sister organisation for other commodities has been found in the literature. As such, this is not carried through into the assessment, but instead is proposed as an area for further work and analysis.

Coalitions of the powerful

As detailed above, however, the ability of the WTO to broker international agreements has been called into question. New proposals have addressed this institutional issue with suggesting that proposals to address both price volatility and export restrictions come from the concept of coalitions of the powerful. Various terms “coalitions of the willing” or “winning coalitions” such groupings are seen as having potential to change the status quo where they include sufficiently powerful and influential actors (Oberthür & Pozarowska, 2013; Young, 2011) and hence the term “coalitions of the powerful” has been chosen here. Proponents point to the ability of smaller groups to reach consensus more quickly and thus facilitate change, adaptation and momentum, with some progress being better than none (Oberthür & Pozarowska, 2013; Swilling *pers comm*; Toulmin *pers comm*). The G20 is one of the institutions most commonly cited in this regard. Group composition however is the key to success. Participants must represent the majority of interests and must include developing country representation, and in this regard something akin to the G20 is considered significantly better than an approach led by the G8 for example (Swilling, *pers comm*; Toulmin *pers comm*). However as the group is by definition based on GDP, it is only the largest of the emerging economies that are included. This lack representativeness and accountability is seen as one of the major drawbacks not just of the G20 but also many of the existing institutions arising from the Bretton Woods conference (OHCHR, OHRLS, UNDESA, UNEP & UNFPA, 2013).

Based on a similar concept, Lee *et al.*, (2012) propose a grouping of the world’s largest producers and consumers, the Resource 30. It is proposed that this organisation will feed into the existing international institutions such as the IEA, G20 and WTO. This group differs from the G20 in that Argentina and South Africa are removed from the group and substituted with Chile, Iran, Malaysia, the Netherlands, Nigeria, Norway, Singapore, Spain, Switzerland, Thailand, the United Arab Emirates and Venezuela, however from a participation point of view the same issues apply.

Alternative suggestions for group composition include utilising representatives from regional organizations (African Union, EU, OECD, APEC, Mercosur) and/or broadening the group to include civil society and industry partners through the International Council for Metals and Mining, International Resource Panel and World Resources Forum (Kefferpütz & Mildner, 2013). It is possible even that a range of different coalitions develop in different ways (Toulmin, *pers comm*).

An example work stream for such a coalition, proposed Lee *et al.*, (2012), involves working towards guidelines on foregoing export restrictions to apply during times of commodity price crisis. They suggest that this agreement could be either an informal pledge or a plurilateral agreement at the WTO. This raises an important point that applies to all coalition approaches for this pathway: they are limited by the fact that to fully operationalize any proposals and make the requirements binding, they will have to channel recommendations through the WTO.

7.1.2. Institutions: assessment

Policy Options for a Resource-Efficient Economy

Source-based legitimacy

The WTO, has a long history, established in the aftermath of World War 2, and therefore encompassing high levels of tradition and also internal expertise. In contrast, in the coalitions based proposal the groupings are either relatively young (such as the G20) or have not yet been formed and therefore have little inherent “tradition”. In addition the G20 does not have a secretariat and therefore no formal measures to incorporate expertise although this could be addressed in new institutional arrangements. On the third component, of “discourse” to WTO however falls behind. With its reluctance to address environmental and resource sustainability issues it is not reflecting the strong discourse on the need to address sustainable development and stimulate the green economy. The coalitions proposal is a little harder to assess in this regard, although at best it is likely to be weak given the economic focus of the dominant base organisations and members countries proposed. An approach that utilises existing regional representatives may be more successful in this regard.

Process-based legitimacy

Neither the WTO nor the coalition-based proposals perform well across process-based legitimacy, but for different reasons. The WTO with its formal structure, wide membership and consensus decision-making approach in theory accommodates governmental partners in an equal way, however its lack of inclusion of other stakeholders is a major detractor. In addition its dispute mechanism provides an accountability function, albeit weakened due to limited access for those outside of member governments. The very definition of the coalitions approach, meanwhile, means that inclusiveness is limited, as they work on the principle of decision making through smaller groups of government representatives.

Outcome-based legitimacy

The first question of effectiveness is whether the institutions address the relevant issues. From the discussion above it can be seen that although the WTO is the primary organisation controlling movement of resources within this pathway, in its current form it does not address the issues of resource use sustainability. It does not address the environmental or socio-economic impacts of resource extraction and even in supply issues, which would traditionally be the main focus of the WTO, it has been unable to address the export restrictions issue and has been unable to prevent a period of high price volatility. Therefore whilst the potential of the organisation is high, its effectiveness to date is weak.

Looking now at the coalitions, their remit is yet to be set and therefore it is impossible to assess their alignment with the issues, particularly given the broad descriptions put forward to date in the literature. They have the potential to be active in these fields however with the G20 proposal in particular, there remains a concern that the economic basis of the original grouping will undermine its ability to deal with issues where there is no economic value. In addition, in the context of this pathway, their ability to drive change will be limited to a certain extent by their ability to instigate change in the WTO. Without this, at worst any proposals may be blocked by WTO based trading agreements and a best will have limited effect without the binding authority of the WTO.

7.1.3. Mechanisms: discussion

Extended Sustainable Commodity Agreements

Attempts to provide a level playing field for poorer countries with resource endowments through commodity agreements have failed; the only commodity agreement on metals ever negotiated was on tin, but it never became relevant because, amongst other things, it lacked the support of important producers like China and Brazil (Bleischwitz *et al.*, 2012).

Ekins & Vanner (2009) propose a new generation of sustainable commodity agreements (SCAs) that build on Kox’s earlier proposals of International Commodity-Related Environmental Agreements (ICREAs). They suggest a non discriminatory international agreement on standards for production that minimise environmental damage, with import levies applied to any imports that do not meet the requirements. The levies are then directed into an international fund to support technology transfer for others to meet the requirements

Policy Options for a Resource-Efficient Economy

over time. Widening the range of activities that can be financed from the levy fund also generates an opportunity to address some of the socio-economic impacts of commodity production alongside the environmental ones. Ekins & Vanner (2009) suggest that the existing certification schemes that have been developed from the non-governmental and industry sectors could provide a useful starting point, with compliance for exemption from the import levy analogous to compliance with the certification standards already established.

This process of formalising existing voluntary agreements has been used in other instances and brings with it significant advantage with regard to learning on both the administrative and compliance sides. Other examples include the increasing instances of mandatory requirements for reporting of greenhouse gas emissions, following successful voluntary systems of corporate reporting established by the Carbon Disclosure Project and the Global Reporting Initiative. Companies that chose to voluntarily comply will have an advantage in meeting the new requirements which has a positive feedback on participation in voluntary schemes in the future.

Subsidies and Taxation

Other proposals seek to address resource use externalities through taxation and elimination of environmentally harmful subsidies. There is indeed also a vital debate about resource taxation in general (Bleischwitz *et al.*, 2012; WTO, 2012, Daniel *et al.* 2010). The case of Ghana, where mining revenues for the state could quadruple from 2010 to 2011 demonstrates potential achievements if all partners agree. Such a revised fiscal system therefore can be applied in extraction countries where revenues could be used to finance public expenditures. A concern however is the volatility of commodity prices leading to volatile revenues. Another option is the taxation of resources in countries such as EU member states (similar to gasoline taxes). Both options would drive prices upwards and would give incentives to resource efficiency downstream. In earlier years, Hinterberger, Oman *et al.* have proposed a Material Input Tax (MIT), a concept that has, *inter alia*, been used for economic modelling purposes. The potential for these models to be introduced and expand globally should be considered in future work. The need to understand the global impacts of resource tax regimes is key, and in particular where the revenues from taxation accrue, both in terms of which countries and through what mechanisms (e.g. Sovereign Wealth Funds) to ensure appropriate capture of resource rents for beneficial social economic effects.

7.1.4. Mechanisms: assessment

Source-based legitimacy

The proposal mechanism seeks to build on both the existing trade agreements process and existing bottom-up certification schemes and therefore brings with it high levels of expertise and tradition contributing to source-based legitimacy, moderated to some extent however by the fact that operation of the scheme will require a new institutional arrangement that does not yet exist. The third element of source-based legitimacy, that of discourse, is also satisfied as the proposed new commodity agreements reflect the increasing levels of concern regarding the sustainability of commodity extraction.

Process-based legitimacy

The integration of the proposal within the WTO framework delivers both strengths and weaknesses in process-based legitimacy. The strong governmental role and the accountability through the dispute mechanism are strong features of the WTO, which are passed on to this mechanism. Non-governmental participation and transparency however are weak features of the WTO; in this proposal they are improved to some extent by the proposed use of bottom-up initiatives on certification as a basis for the agreements which will ensure better participation and transparency in the design of the schemes and potentially opens the door for improvements in the operation of the WTO in this regard.

Outcome-based legitimacy

Of the four issues identified, the extended sustainable commodity agreement proposal has the potential to address two: physical supply and environmental degradation, and socio-

Policy Options for a Resource-Efficient Economy

economic impacts. Looking more deeply into the other potential indicators of good resources governance established in Section 6.4.1, the proposal performs well. The use of existing bottom-up initiatives as a starting point ensure that implementation capacity is already building, it contains a financial system to support capacity building elsewhere and by addressing commodity flows rather than specific resources, and marrying the trade system with environmental protection and socio-economic development, it is multidisciplinary in nature. Only on flexibility does the proposal fall down, due primarily to the large multilateral institutional framework in which it sits.

7.1.5. Summary assessments

The tables below presents a summary of the assessments made for the institutions and mechanisms discussed for the trade in commodities pathway. These are subjective judgements made by the author aimed to summarise the discussion above and should not be considered out of this context.

Input legitimacy

Dark shading indicates strong performance, light shading moderate performance and no shading weak performance.

Table 2: Trade in commodities pathway - input legitimacy summary assessment

Governance approach (institutions in normal type; mechanisms in italics)	Source-based legitimacy			Process-based legitimacy			
	Expertise	Tradition	Discourse	Governmental participation	Non-governmental participation	Accountability	Transparency
World Trade Organisation							
Coalitions of the powerful					?		?
<i>Enhanced Sustainable Commodity Agreements</i>							

Output legitimacy

Table 3: Trade in commodities pathway - output legitimacy summary assessment

Governance approach (institutions in normal type; mechanisms in italics)	Issues				Resources			
	Physical supply and environmental degradation	Access to supply and price volatility	Socio-economic issues	Demand reduction	Commodities	Embedded resources	Global utility resources	Commons
World Trade Organisation		(✓)			✓			
Coalitions of the powerful	?	?	?	?	?	?	?	?
<i>Enhanced Sustainable Commodity Agreements</i>	✓	?	✓		✓			

Note: The parentheses for the World Trade Organisation and “Access to supply and price volatility” reflect the inability of the WTO to deal with these issues although they could potential be within its remit.

Policy Options for a Resource-Efficient Economy

7.2. Legitimacy of governance in the “global supply chains and transnational companies” pathway

This pathway is characterised more by specific initiatives and bottom-up mechanisms rather than dedicated overarching institutions. Where initiatives are top down they are primarily led by the environmental institutions discussed in the preceding section and are not assessed separately here. It goes without saying though that the stronger and more effective the overarching environmental institutions, the more able they will be to support initiatives relevant to this pathway. Other actors are smaller issue-focused NGOs and collaborations that are too numerous to assess here. The analysis for this pathway therefore focuses on the mechanisms.

7.2.1. Mechanisms: discussion

This pathway epitomises the recent phenomenon of a move from top-down binding approaches to governance to a more action based, bottom-up led approach, which is complemented by top-down soft law. The analysis focuses on key characteristics of the initiatives that form part of this pathway rather than on individual mechanisms. The reason for this is two-fold: firstly given the analytical framework it is unlikely that significant differences between the mechanisms will be revealed; secondly, due to the evolving nature of this area of governance and the propensity for new initiatives to be established, the literature analysing their effectiveness is not always able to keep pace and therefore studies of effectiveness are not uniformly available across all mechanisms.

The only exception is the proposal for a global extended producer responsibility regime. As a definitive proposal, and one that is quite distinct from the existing suite of mechanisms, it is considered separately.

A final group of mechanisms that deserve a mention here are those aimed at leveraging finance for sustainable resource management including an international aviation and shipping levy, a transaction fee on international emissions trading and a financial transaction tax (Bleischwitz *et al.*, 2012). Their primary focus is on generating capital to support capacity building and other initiatives and therefore they are not considered in the analysis that follows, which focuses purely on addressing the resource use sustainability issues. Although not solely a resource related issue, corporate tax evasion has also gained some prominence recently and Hailu *et al.* (2011) point to the potential for international tax regulation to address commercial capital flight. However, as the need for strong financing mechanisms has been established, they are likely to need to be re-visited at a later date.

Existing mechanisms***Ambition***

In analysing the **UN Guiding Principles on business and human rights**, some have pointed out to the lack of ambition in avoiding attributing legal duties to corporations, in favour of a merely State-focused approach. While this approach is consistent with a traditional international law doctrine, it has been considered as a ‘rather minimalist take on the issue of corporate responsibility for human rights’ (Jägers, 2011). The large focus on the role of States was, to a certain extent, considered to be ‘a step backwards as it actually weakens existing human rights obligations’ (Jägers, 2011).

Similarly, **corporate social responsibility** systems have been criticised as a way of companies avoiding mandatory regulation, and developing systems of self-regulation instead. The expectation is that regulatory systems will be tougher and also more conducive to monitoring and verification of outcomes (Lund-Thomsen, 2005). However, relying on government led approaches for standards in corporate activities requires governments to have an in-depth understanding of how corporations work, which is often lacking, and for which they are likely to seek advice from corporations anyway (Toulmin, *pers comm*).

Looking at the **investment community**, whilst a study of socially responsible investment (SRI) funds across Europe identifies a growing market it still remains a small part of the

Policy Options for a Resource-Efficient Economy

overall investment landscape, with KPMG estimating that in Europe in 2010 they accounted for only 2.3% of the total number of funds and 1.6% of the assets under management (KPMG, 2012). In many cases investors are engaging with the bottom of the barrel, trying to drive minimum standards of disclosure, which is unlikely to bring about the scale of change needed. That said, a coalition of 70 investors from across the world, in response to Carbon Tracker Initiative reports on unburnable carbon, sent letters requesting fossil fuel companies to examine and disclose their exposure to the risks associated with current and probable future policies for reducing greenhouse gas emissions by 80% by 2050¹¹.

Monitoring

The **Global Compact** has also been highly criticised as lacking ability to monitor (or limited self-monitoring) and measure the performance of companies affiliated with it (Jerbi, 2009).

Driving change

With regard to **corporate social responsibility**, evidence of positive change in environmental management, product development and pollution reduction has been seen to derive from corporate led initiatives (Lund-Thomsen, 2005). **Corporate accountability** has also had some high profile successes, particularly through NGO led high profile campaigns. Most prominent are Greenpeace, whose 2008 report “Burning up Borneo” highlighted the deforestation activities of Unilever’s palm oil suppliers, their 2009 “Slaughtering the Amazon” reported on deforestation associated with leather use and their 2011 “Dirty Laundry” reports looked at toxic chemicals associated with clothing manufacturing overseas. Protecting brand image is a key driver in such successes (Walker, *pers comm*), and this factor will be more important for some companies than others (Tienhaara, Orsini & Falkner, 2012).

However more formal system of redress, e.g. through the legal system are often subject to the bias of the most well-informed and well-funded NGOs and rely on capacity from community groups to access the opportunity (Lund-Thomsen, 2005).

Scope

Regardless of ambition, however, basic industry practices in the supply chain can limit the ability of companies to drive change individually. For example, it is not always possible to achieve full traceability where intermediates are used, as is commonplace with agricultural products. With perishable goods transported by ship it doesn’t pay to separate, and therefore a trader has a decision whether to get any goods, or all sustainable; under such circumstances industry coalitions are needed to generate sufficient buying power (Walker, *pers comm*).

In addition, whether a company is owned by the state, publicly listed, owned privately or one of a large number of small, medium sized or artisanal operators, may affect its willingness and, perhaps more importantly, its ability to adopt approaches that are less focused on short-term profit maximisation (Tienhaara, Orsini & Falkner, 2012; Buckley, *pers comm*). Whilst publicly listed companies have a duty to provide financial return for their investors, they are also subject to their influence which, as detailed in Section 5.4.5 can be used as a lever for change. Indeed the stock exchanges themselves have become influential in setting standards, although again this varies by exchange. In emerging economies such as Brazil and China, state ownership is particularly significant in the mining, oil and gas sector (Buckley, *pers comm*).

Another limiting factor for many initiatives is their reach, particularly where they rely on **investor pressure** as this does not encompass privately owned companies or state run enterprises, which in some sectors and geographies comprises a significant proportion of the business actors (Buckley, *pers comm*).

¹¹ Carbon Asset Risk initiative press release: available at <http://www.carbontracker.org/carbon-asset-risk-press-release>

Policy Options for a Resource-Efficient Economy

Potentially scalable

As noted in Section 5.5, the potential for bottom-up mechanisms to create norms that are then adopted at the top-down level is established. Whilst in some cases this is just principles based, in others there is the potential for the mechanisms to be directly scalable and move from voluntary to mandatory. Potential for direct scalability has been noted for the **Extractive Industries Transparency Initiative** (Bleischwitz *et al.*, 2012).

Corporate reporting on carbon, an amalgamation of the **transparency** and **corporate social responsibility** approaches, has also had success in this regard and some see the potential to branch into all areas of natural capital. The direct transferability of approach however it not necessarily a simple issue. Carbon lends itself to reporting initiatives (which then drive management and reductions) well due to the fact it has a financial value and the impact of the emissions associated with it act at a global level. As such it supports meaningful aggregation to the company level and some (although not without its complexities) ability to compare. Moving into other areas of natural capital such as water, biodiversity etc. require one to consider the local context in which activities are occurring, therefore presenting challenges for aggregation and interpretation and suggesting more of a stewardship approach. Information transparency can certainly be used to drive change but it is important that actors using the information understand how to interpret it (Faria, *pers comm*).

A new proposal: International covenants as a means of implementing Extended Producer Responsibility globally

The OECD (2004) define Extended Producer Responsibility (EPR) as “an environmental policy approach in which a producer’s responsibility, of both physical and/or financial nature, for a product is extended to the post-consumer stage of a product’s life cycle”. The application of this approach has only been at a national level to date and has not been successful (Wilts *et al.*, 2011). There are two key criticisms associated with the EPR approach: firstly that the “producer” is not a single actor and therefore attribution and incentive problems exist; secondly, that when applied in a regulatory way, it does not have global reach and therefore the responsibility ends with export (Wilts *et al.*, 2011).

International covenants take the form of private law contracts between a number of stakeholders and Wilts *et al.*, (2011) propose this solution as a mean of addressing the metal leakage issues associated with Extended Producer Responsibility (EPR) arrangements. They describe industrial sector commitments to long-term goals negotiated with public sector authorities, who in turn commit to omitting further direct regulatory measures for the predefined period. Key components for successful covenant agreements are proposed by Wilts *et al.* (2011) as commitments to recovery of materials including in exported products, standards for the recycling industry globally, enhanced monitoring and reporting, and sanctions.

7.2.2. Mechanisms: assessment

Source-based legitimacy

The numerous business-focused initiatives arising from the soft law and bottom-up arena by definition bring in the expertise of practitioners, with an aim to create practical, workable solutions that take into account the opportunities and limitations of their given industry. Rather than necessarily scientific knowledge about world resources, this expertise comes from experience. The global extended producer responsibility also encompasses this expertise in life cycle flows, although this is less of a defining feature.

Tradition in the business-focused initiatives is typically low. It is a dynamic field, adapting to new information and best practice all the time. Rather than a limitation, in the context of these initiatives it is seen as a positive feature. The global extended producer responsibility proposal brings in some tradition from the more national approach to extended producer responsibility that operates for some products in some jurisdictions.

Policy Options for a Resource-Efficient Economy

Both proposals have been assessed as moderate for “discourse”. For the business focused initiatives, they are often strongly led by businesses whose fundamental goals are not necessarily aligned with the wider public interest which can lead to some misalignment. The global extended producer responsibility proposal can also be considered to be fairly niche and therefore unable to address all aspects of the current discourse.

Process-based legitimacy

The grouping of business-focused initiatives are characterised by their strong non-governmental participation, and although they involve governments to some extent, this is not a defining feature compared with other proposals assessed in this report. The global extended producer responsibility proposal reflects a more even partnership between government and non-governmental bodies but this will occur on an individual basis.

One of the key criticisms in the discussion on the business-focused initiatives was their lack of monitoring, verification and ultimately accountability. Transparency however is high, with most initiatives driving towards greater industry transparency of one form or another either as an end in itself or as a means to drive further action. Both aspects are considered to be strong for the global extended producer responsibility proposal and can be considered to be defining features of the approach.

Outcome-based legitimacy

Whilst the individual initiatives are predominantly single issue focused, as a group they cover all issues of resource use sustainability with the potential exception of price volatility in commodities, although it could be argued that more sustainable supply chain practices can assist in this regard as part of the wider system. They also have the potential to address the key success factors discussed in Section 6.4.1. Due to the need to accommodate different business models, sectors and geographical operations they are developed with flexibility in mind, embodying the flexibility within a common framework concept. Implementation is a key focus of these initiatives, with business actors able to cascade changes through their supply chain and to work with their peers to support implementation across the sector. The ability to leverage finance is also evident in this approach, not just from the financial sector actors, but from all industries. The final aspect of multidisciplinary approach again is evident and is common in many business practices and therefore has the potential to be easily transferred into the governance approaches that arise from this source.

Finally, the global extended producer responsibility proposal is more focused in its remit on addressing demand reduction, which is likely to have indirect impacts on the other aspects of resource use sustainability but does not address them directly.

7.2.3. Summary assessments

The table below presents a summary of the assessment made for the business focused initiative as a group, and the global extended produce responsibility proposal. These are subjective judgements made by the author aimed to summarise the discussion above and should not be considered out of this context.

Input legitimacy

Dark shading indicates strong performance, light shading moderate performance and no shading weak performance.

Policy Options for a Resource-Efficient Economy

Table 4: Global supply chains and transnational companies pathway - input legitimacy summary assessment

Governance approach (institutions in normal type; mechanisms in italics)	Source-based legitimacy			Process-based legitimacy			
	Expertise	Tradition	Discourse	Governmental participation	Non-governmental participation	Accountability	Transparency
<i>Business-focused initiatives</i>							
<i>Global extended producer responsibility</i>							

Output legitimacy

Table 5: Global supply chains and transnational companies pathway - output legitimacy summary assessment

Governance approach (institutions in normal type; mechanisms in italics)	Issues				Resources			
	Physical supply and environmental degradation	Access to supply and price volatility	Socio-economic issues	Demand reduction	Commodities	Embedded resources	Global utility resources	Commons
<i>Business-focused initiatives</i>	✓		✓	✓	✓	✓	✓	(✓)
<i>Global extended producer responsibility</i>				✓	✓			

Note: The parentheses for Business-focussed initiatives in the “Commons” category reflects the potential for greater involvement of businesses in deep sea mining in the future.

Policy Options for a Resource-Efficient Economy

7.3. Legitimacy of governance in the “international concern” pathway

7.3.1. Institutions: discussion

It could be argued that nearly all of the institutions described in Section 5.2.1 are relevant to this pathway. This section however concentrates on those whose role is centred on international concern issues of the global utility resources and embedded resources with international relevance. As such it addresses the UNEP and the various proposals to amend, replace and augment it. The new High Level Forum on Sustainable Development is also of potential relevance to this discussion, however as yet it is not sufficiently defined to allow for assessment.

A group of institutions that could also be considered under this pathway are the Multilateral Development Banks. Due to the differences in operating procedures between the banks and their different geographical foci they have not been included in an attempt to limit complexity. This is however acknowledged as a gap in the resource governance picture and one that deserves attention in future work.

UNEP

Of the international institutions identified at the beginning of this report, the one with the most explicit role for the protection of the environment is the UNEP. UNEP has a clear mandate to perform the anchor role for the global environment, but has done so with only partial success. It has been relatively effective in two key areas – monitoring and assessment and launching policy processes for environmental agreements. It has also often served as the only international partner of frequently marginalized environment ministries in many countries and provided a critical forum where they can meet their counterparts. However, UNEP has largely fallen short in managing policy processes in a coherent and coordinated fashion. It has failed to establish itself as the institutional home for the numerous international environmental conventions. Without a centre of gravity, the system of international environmental governance has grown increasingly complex and fragmented.

Currently, environmental issues are governed internationally by various different institutions spread across the UN. There are more than 40 different UN agencies with environmental programmes. During the last five years the 18 major MEAs have produced over 5000 decisions that countries are supposed to act upon through national efforts (UNEP Website).

The system has become increasingly complicated and virtually impossible for developing countries to participate in meaningfully. The only countries that cope with the system are the richest countries of the world while the poor developing nations are becoming disenfranchised (Prof. Abdul Hamid, Prime Minister of Malaysia, on UNEP Website 2012).

UNEP's inability to fulfil its leadership role is compounded by short-sighted budget considerations, attractive offers by countries eager to host new treaty secretariats, and by indifference at the highest political levels to the structure of global environmental governance (Ivanova, 2005).

At the core of this dynamic, however, lies a key set of structural decisions. Contrary to popular belief among environmental professionals, UNEP was not deliberately set up as a weak and ineffective institution, but rather was expected to grow into its mandate as it proved its effectiveness. Four structural choices, while considered right at the time of UNEP's creation, have inhibited UNEP's performance and growth (Ivanova 2005; Calarne, 2008).

First, UNEP's authority has been severely constrained by its status as a Programme rather than Specialized Agency within the UN system. Second, UNEP's governance structure had led to more attention to the needs and demands of member states than to the mission of the organization. Third, UNEP's financing structure has enabled countries to pursue their own interests through UNEP rather than the common good. Fourth, UNEP's physical distance from the centres of political activity has affected its capacity to coordinate numerous environment-related agencies as well as, most importantly, its ability to attract top-tier policy staff (Ivanova, 2005).

Policy Options for a Resource-Efficient Economy

Due to UNEP's status within the UN system as a Programme rather than a Specialized Agency, it lacks universal membership and policy and budgetary autonomy. Thus, decisions must be referred to the UN General Assembly and are not binding. It is also chronically under-resourced, with an annual, often unmet, budget of just \$220m.

Nevertheless, UNEP offers a potentially strong comparative advantage in environmental monitoring, scientific assessment, and information sharing that should be developed and utilized fully. UNEP has access to excellent scientific advice not filtered through nation-states. Given the nature of UNEP's constitution, its achievements are substantial, but it is not an adequate international organization for protecting the world's environment (Palmer, 1992).

“In truth, the United Nations lacks any coherent institutional mechanism for dealing effectively with environmental issues” (Palmer, 1992). “UNEP can push states, probe their policies and plead with them; it cannot coerce them. UNEP lacks teeth” (Ivanova, 2005). Hence, scholars, expert commissioners, politicians and representatives from civil society around the world have all come to the conclusion that something better must be found if the environmental challenges the world faces are to be dealt with successfully.

Various suggestions have been made to either strengthen the role of UNEP as an anchor institution or substantially reform the system of international environmental institutions. While part of the debate is centred on proposals to establish a new international environmental organization, another stream is arguing for working within existing institutions rather than attempting bold new designs. Both of these arguments are elaborated below.

A new institution for the environment

The recognition that for global environmental policy, no central anchoring point exists that could compare to the World Health Organization (WHO), International Labour Organisation (ILO), or World Trade Organisation (WTO) in their respective fields and an international centre with a clear strategy to ensure global sustainable development was urgently needed, sparked the German and French governments to launch an initiative for creating a “United Nations Environment Organization” (UNEO), at the end of the 1990's. In 1999 Renato Ruggiero, then executive director of the WTO, created additional attention when he advanced the idea of a world environment organization as a counterweight to WTO (Biermann, 2000). Reform proposals of the new international environmental organization aim at addressing the four structural problems outlined above, regarding the formal status, governance, financing, and location.

The debate surrounding the establishment of a new international environmental organization is still rather blurry and characterized by misunderstandings about the different political options in institutional and legal terms. Hence, Biermann (2000) has tried to move onward and bring structure to the debate by outlining three basic models of a new international environmental organization. They are differentiated by their legal status, their degree of infringement on national sovereignty and – because of that – possibility of implementation. A summary of the three different political options is provided in the table below.