As global environmental problems mount, the transition to sustainable economic development seems elusive. A major reason is that the world is facing a monumental challenge in overcoming policy, market and institutional failures. The most formidable barriers are institutional rigidities and transaction costs that replicate the same patterns of resource-based development, despite the rising costs associated with increasing environmental degradation. Vested interests reinforce this institutional intransigence. Reorienting economies to foster more sustainable development will only succeed if we overcome these institutional barriers and costs.

© 2011 Elsevier B.V. All rights reserved.

1. Introduction

Global environment problems are symptomatic of the diminishing returns from the way in which the world economy has been exploiting its remaining land and natural resources for the past 50 years, although this exploitation has deep historical roots in past eras as well (Barbier, 2011). In essence, the world's growing list of environmental problems – from the threat posed by global warming to freshwater scarcity and other declining ecological services to persistent energy and water poverty in developing economies – signify how current patterns of resource and land use are not only unsustainable but also increasingly costly. That is, resource-based development in the world economy is exhibiting diseconomies to scale; the costs associated with current resource use are rising faster than the increase in output or even economy-wide benefits, and meanwhile, the world's major ecosystems are disappearing (Millennium Ecosystem Assessment, 2005). In short, the world is facing a grow-
ing problem of ecological scarcity, which has been defined as the loss of myriad ecosystem benefits, or services, as these systems are exploited for human use and economic activity (Barbier, 1989, pp. 96–97).

One persistent difficulty is that the increasing costs associated with many environmental problems – global warming, freshwater scarcity, declining ecological services and increasing energy insecurity – are not routinely reflected in markets. Nor have adequate policies and institutions been developed to handle these costs. All too often, policy distortions and failures compound these problems by encouraging wasteful use of natural resources and environmental degradation.

Fig. 1 highlights the policy challenge for the transition to more environmentally sustainable development. At the core is the vicious cycle of unsustainable growth whereby the failure of environmental values to be reflected in markets and policy decisions leads to economic development with excessive environmental degradation. If environmental values are not reflected in market and policy actions, then any increasing ecological scarcity will also be ignored in decision making. The result is that the vicious cycle will be reinforced, and the current pattern of economic development will continue on its unsustainable path.

Reversing this process of unsustainable development requires transforming the vicious cycle displayed in Fig. 1 into a virtuous one. Three important steps are involved. First, improvements in environmental valuation and policy analysis are required to ensure that markets and policies incorporate the full costs and benefits of environmental impacts. Second, controlling excessive environmental degradation requires implementing effective and appropriate information, incentives, institutions, investments and infrastructure (the five i’s indicated in Fig. 1). Better information on the state of the environment is essential for both private and public decision-making that determines the allocation of natural capital for economic development. The use of market-based instruments, the creation of markets, and where appropriate, regulatory measures, have a role to play in internalizing this information in everyday allocation decisions in the economy. Such instruments are also important in correcting the market and policy failures that distort the economic incentives for improved environmental management. Overcoming institutional distortions and the lack of key institutions, such as property rights, is also critical. Reducing government inefficiency, corruption and poor accountabil-
ity are also important in reversing excessive environmental degradation. But there is also a positive role for government in providing an appropriate and effective infrastructure through public investment, fostering the economy-wide technologies and knowledge necessary to exploit specific resource endowments, and facilitating backward and forward linkages as well as knowledge spillovers. Finally, further progress in reversing unsustainable development calls for more widespread interdisciplinary collaboration across the existing fields of economics, ecology and other social and natural sciences in order to analyze complex problems of environmental degradation.

If it is relatively straightforward to articulate the necessary steps for overcoming the various market, policy and institutional failures that are contributing to ecological scarcity, why has it been so difficult to implement these steps?

This is the key question addressed in the following paper. As the next section argues, the core problem may lie in the intransigence of social institutions – the mechanisms and structures for ordering economic behavior and the means of production within society. To explain this intransigence, or *institutional inertia*, a transactions cost perspective on the difficulty of implementing the transition to sustainable development is offered. Section ‘Vested interests’ further explores how high transaction costs and institutional rigidities are reinforced by the political power of vested interests. Both the problems of transaction costs and vested interests are illustrated with the examples of water, fossil fuel energy and deforestation. Section ‘Lessons from the Great Recession’ examines how the multiple crises of the Great Recession may provide the impetus for overcoming the transaction costs, institutional rigidities and vested interests that are delaying the transition to environmentally sustainable development, but only if concerted action is taken globally to instigate and coordinate a “green recovery”. Finally, the paper concludes with some final observations on the need to overcome transaction costs, institutional rigidities and political interests if the transition to sustainable development is to succeed.

2. **Institutional inertia and transaction costs**

As indicated in the section ‘Introduction’, one reason why today’s mounting ecological scarcity problems seem so intractable is the numerous market, policy and institutional failures that prevent recognition of the economic significance of this scarcity. But why has it proven so difficult to overcome these failures? An explanation to this intransigence may be the result of what New Institutional Economists (NIE) view as the tendency of many important social institutions, broadly defined, to be highly invariant over long periods of time (e.g., see Dixit, 1996, 2003; Hodgson, 1998; McCann et al., 2005; North, 1990, 1991; Williamson, 2000). We can refer to this rigidity as *institutional inertia*, which is equivalent to what North (1990) referred to as *institutional path dependence*.

The NIE define institutions as all the mechanisms and structures for ordering the behavior and ensuring the cooperation of individuals within society. They are the formal and informal “rules” that govern and organize social behavior and relationships, including reinforcing the existing social order, which is a stable system of institutions and structure that characterizes society for a considerable period of time. Consequently, as societies develop, they become more complex, and their institutions are more difficult to change. Institutions help structure the means of production, and how goods and services are produced influence the development of certain institutions. This is a cumulative causative, or mutually reinforcing, process. One reason for this self-reinforcing process is that institutions and the social order become geared towards reducing the *transaction costs* – the costs other than the money price that are incurred in exchanging goods or services – of existing production and market relationships. For example, typical transaction costs include search and information costs, bargaining and decision costs, and policing and enforcement costs.

The role of such transaction costs in hindering the successful implementation of environmental policies has been well documented (e.g., see Gangadharan, 2000; Krutilla, 1999; Mettepenningen et al., 2009; Rousseau and Proost, 2005; Stavins, 1995). However, as noted by Krutilla (1999, p. 250), “transactions costs terminology has also been construed more broadly to refer to any costs associated with establishing, administrating, monitoring or enforcing a government policy or regulation.” It is
these broad transaction costs that are responsible for the institutional inertia, or path dependence, which is thwarting whole-scale policy change towards sustainable development.

According to Boettke et al. (2008, p. 332), “path dependence emphasizes the increasing returns to institutions, which ‘lock in’ particular institutional arrangements that have emerged in various places for unique historical reasons” (see also Arthur, 1994; North, 1990; Page, 2006; Pierson, 2000). Since the means of production include the endowment of natural resources, and the way in which an economy uses this endowment, it follows that the existing system of social institutions and structure – the “social order” – becomes fixed around a stable set of economic institutions, including how production is organized and all inputs are combined and used. This includes how certain natural resources are combined with other inputs, such as technology and knowledge, in production.

As natural resources become scarce, the search and information costs, bargaining and decision costs, and policing and enforcement costs of finding, using and developing completely different sources of natural resources, or novel ways of substituting other inputs for scarce natural resources, are extremely high. Our existing institutions and social order are oriented not towards reducing these new costs, but are instead built up around reducing the transaction costs of the existing production and exchange relationships. These relationships depend, in turn, on the same way in which we find, extract and use existing natural resources in combination with other inputs.

Thus, from a social perspective, it is more cost-effective to continue the same production patterns, including replicating the pattern of finding, exploiting and using the same set of natural resources. As a consequence, we may become more aware of the rising ecological scarcity associated with perpetuating the same pattern of resource-based development, including overreliance on fossil fuels and ecological degradation. But the high relative transaction costs involved in making the necessary corrections to the market, policy and institutional failures, compared to perpetuating the same pattern of production and natural resource use, seem prohibitive.

Fig. 2 illustrates the magnitude of the problem often confronted with instigating policies to correct market, institutional and policy failures contributing to environmental problems. When a new policy is implemented, such as a tax on pollution, removal of perverse subsidies that are environmentally damaging, implementing licenses for resource harvest or establishing a new protected area, additional search and information costs, bargaining and decision costs, and policing and enforcement costs are bound to occur (Area A). However, establishing some market-based instruments and trading mechanisms, such as taxes, tradable permit systems and new resource markets, will also require the establishment or reallocation of property rights to facilitate these instruments, and the setting up of new public agencies and administrative procedures to record, monitor and enforce trades. Thus the full transaction costs of the policies will be areas A and B in the figure. Finally, if additional changes in the institutional environment and legal system are required, the transaction costs will be larger still, including areas A, B and C.

All three types of transactions costs have proven to be barriers to implementing a wide range of environmental policies. They may be especially relevant for policies to combat global warming and
Table 1
Transaction cost barriers to establishing water markets and trading.

<table>
<thead>
<tr>
<th>Barrier Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water rights or water usage rights are not well established, quantified and separated from the land</td>
</tr>
<tr>
<td>Water rights are not registered, and people are not well informed about water trading</td>
</tr>
<tr>
<td>Organizational or management mechanisms are not in place to ensure that the traded water reaches the owner or owners</td>
</tr>
<tr>
<td>The infrastructure for conveying water is insufficiently flexible for water to be rerouted to the new owner</td>
</tr>
<tr>
<td>Mechanisms are not in place to provide “reasonable” protection against damages caused by water sale for parties not directly involved in the sale</td>
</tr>
<tr>
<td>Mechanisms are not in place to resolve conflicts over water rights and changes in water use</td>
</tr>
</tbody>
</table>

Source: Based on Easter and Archibald (2002).

promote the long-run transition to a low-carbon economy. As several studies have shown, transaction costs are attributed to delaying or inhibiting the implementation of carbon taxes or tradable permits, adding to the costs of technological change and greenhouse gas (GHG) abatement, and reducing the effectiveness of the Clean Development Mechanism (Grubb et al., 1995; Micahaelowa and Jotzo, 2005; Schwoon and Tol, 2006). Without the successful implementation of policies to control GHG emissions, spur research and development into clean energy technologies, and disseminate these technologies globally, economies will remain fundamentally dependent on fossil fuel energy for some time to come.

Transaction costs have been especially problematic for ameliorating freshwater scarcity. Most policy recommendations for tackling water scarcity emphasize the need for more efficient water allocation and trading to conserve supplies and moderate demand (Easter and Archibald, 2002; Hellegers and Perry, 2006; McCann and Easter, 2004; McCann et al., 2005). The use of water markets and market-based reforms for a wide range of water sector applications is growing globally. Active markets are emerging in Australia, Canada and the United States, but also in Brazil, Chile, China, Mexico, Morocco, South Africa and Turkey, as well as in many other countries and regions. But as listed in Table 1, the magnitude and incidence of the transaction costs associated with such allocation mechanisms are often significant. Establishing and enforcing water rights and trading schemes, as well as putting in place mechanisms to resolve conflicts over water rights and use, are some of the more prohibitive costs to effective water markets and trading.

For example, as Hellegers and Perry (2006) found, one reason why establishing irrigation water pricing in Egypt, India and Indonesia has proved less successful than in Morocco is that the irrigation system in the former countries is not designed for the use of volumetric charges and tradable water rights whereas the system in Morocco is. There are also no legally defined groundwater rights in Egypt and India. In the Ukraine, there are problems with the smaller scale of privatized farms relative to the larger “block” supply of irrigation water. Finally, in many countries, farmers are resistant to switching to water markets when the predominant method of allocation has been the rationing of irrigation water, which does not involve charges to recover costs.

3. Vested interests

Vested interests and political lobbying reinforce institutional intransigence and help delay the transition to sustainable development. As suggested by North (1995, p. 19), “institutional path dependence exists because of the network externalities, economies of scope, and complementarities that exist with a given institutional matrix. In everyday language the individuals and organizations with bargaining power as a result of the institutional framework have a crucial stake in perpetuating the system.”

Such powerful interest groups therefore influence governments to block policy reforms that redistribute costs and benefits against their interest. In effect, the role of vested interests, political lobbying, and in some cases outright corruption and bribery, is to “expand” each of the transaction cost “bubbles” A, B and C of Fig. 2. The result is that it becomes even more difficult to implement a new environmental policy. Fig. 3 illustrates how this economic incentive against reforms might work in the case of removing perverse subsidies that are environmentally damaging or imposing a tax on pollution.

The removal of a perverse subsidy causes a shift in market supply from S to S’ (see Fig. 3A). The quantity sold may decline from Q’ to Q, and the market price rises from P’ to P. The government
A  Removal of a perverse subsidy

Marginal environmental damages

B  Environmental tax

Marginal environmental damages

Fig. 3. The political cost of environmental policy.

may save \((P'' - P') \times Q'\), and environmental damages are reduced by Area d. Although there is a loss in producer and consumer surplus, as consumers are taxpayers and may also gain from the environmental improvement, they may feel compensated by the policy change. However, as a special interest group profiting from the subsidy, producers might feel differently. As indicated in the diagram, they have a
strong economic incentive to block the policy change, as they experience a high relative political cost from the subsidy removal, which amounts to \((a + b)/(c + d)\).

The imposition of an environmental tax on pollution also has political cost implications (see Fig. 3B). The tax shifts the supply curve from \(S\) to \(S'\). As a result, \(Q\) declines to \(Q'\), and market price rises from \(P\) to \(P'\). The government gains tax revenue equal to \((P' - P'') \times Q'\), but there is still an efficiency loss equal to \(c + d\). The environmental improvement, which is \(e\), may compensate for this loss; however, producers will still be worse off by \(a + b + c\). Thus, the political cost of the environmental tax is \((a + b + c)/e - (c + d)\).

The incentive of vested interests to lobby against policy change is therefore strong. In economics, a growing literature is examining the role of such lobbying in influencing environmental policy outcomes (e.g., see Aidt, 1998; Barbier et al., 2005; Fredriksson, 2003; López and Mitra, 2000; Wilson and Damania, 2005). In all cases, the influence of lobbying by powerful vested interests fosters outcomes that work against the greater social interest and perpetuate environmental damages. The greater the political bargaining power of special interests, the more difficult it is to implement reform. Yet there are many examples where such reforms could yield improvements in both environmental outcomes and economic efficiency.

For example, globally, fossil fuel consumption subsidies amounted to $557 billion in 2008 (IEA/OPEC/OECD/World Bank, 2010). Production subsidies accounted for an additional $100 billion. Together, these subsidies account for roughly 1% of world GDP. Such fossil fuel consumption and production subsidies are an additional market failure preventing improved energy efficiency in economies. By artificially lowering the cost of using fossil fuels, such subsidies deter consumers and firms from adopting energy efficiency measures that would otherwise be cost-effective in the absence of any subsidies. Removal of such perverse incentives would therefore boost energy savings substantially. Phasing out all fossil fuel consumption and production subsidies by 2020 could result in a 5.8% reduction in global primary energy demand and a 6.9% fall in greenhouse gas emissions.

Since the 1990s, powerful vested interest in terms of large-scale plantations, farms, ranches timber and mining operations, and agribusiness enterprises, have become the dominant cause of much of the world’s deforestation (Chomitz et al., 2007; FAO, 2001, 2003; Rudel, 2005, 2007). According to Rudel (2007, p. 40), “to facilitate their plans for expansion, large landowners lobbied for the construction of improved and expanded networks of roads. Local politicians and bankers joined the landowners to form ‘growth coalitions’ that lobbied federal and provincial governments for improved infrastructure.” These governments were soon “won over by powerful interest groups of landowners whose agendas involved agricultural expansion at the expense of forests.” Across the tropics, the principal activity responsible for deforestation appears to be the direct conversion of forests to permanent agriculture (Chomitz et al., 2007; FAO, 2001, 2003). However, there are important regional differences. In Africa, the major process of deforestation (around 60%) is due to the conversion of forest for the establishment of small-scale permanent agriculture, whereas direct conversion of forest cover to large-scale agriculture, including raising livestock, predominates in Latin America and Asia (48% and 30%, respectively).

Investors in these large-scale commercial activities are attracted to frontier areas because of the lack of government controls and property rights in these remote areas mean that resource rents are easily captured, and thus frontier resource-extractive activities are particularly prone to rent-seeking behavior (Ascher, 1999; Barbier, 2005; Bulte et al., 2007; Wassenaar et al., 2007; Wunder, 2005, 2003). Small-scale farmers usually follow because forest and other land is now readily available for conversion, and open access conditions facilitate the conversion. In some regions, large-scale plantation development is initiating the “opening” of forested areas to subsequent smaller scale cropland expansion; in other regions, it may be timber, mining or energy developments that begin this process. For instance, Wassenaar et al. (2007, p. 101) note that “Amazonian cropland expansion hot spots in Brazil and Bolivia for example are adjacent to current large soybean production zones, the creation of which, largely driven by increasing animal feed needs, has caused large scale deforestation in the recent past. Bulte et al. (2007) confirm the self-reinforcing effects of rent-seeking behavior, lobbying and corruption, and low land productivity and deforestation throughout Latin America.
4. Lessons from the Great Recession

Given the entrenched vested interest and the high transaction costs of overcoming institutional inertia, perhaps only cataclysmic change, or at least the threat of such a catastrophe, to facilitate the necessary steps for breaking the vicious cycle of unsustainable development (see Fig. 1). Since 2007, the combination of a fuel and commodity crisis, followed by a financial crisis, and then the worst recession since the Great Depression, offered the promise of one such “turning a crisis into an opportunity”.

Initially, the 2008–2009 “Great Recession” appeared to foster such a turning point. A unique feature of the global policy response to the 2008–2009 recession is that, as part of their efforts to boost aggregate demand and growth, some governments adopted expansionary policies that also incorporated a sizable “green fiscal” component. Such measures were wide ranging, including support for renewable energy, carbon capture and sequestration, energy efficiency, public transport and rail, and improving electrical grid transmission, as well as other public investments and incentives aimed at environmental protection.

Of the $3.3 trillion allocated worldwide to fiscal stimulus over 2008–2009, $522 billion was devoted to such green expenditures or tax breaks (Barbier, 2010; Robins et al., 2009, 2010). Almost the entire global green stimulus was by the Group of 20 (G20), which comprise the world’s twenty largest and richest countries. The United States and China accounted for over two thirds of the global expenditure on green fiscal stimulus during 2008–2009. The world’s largest economy, the European Union, contributed substantially less to the global total. Total green spending by all of Europe totaled only $57 billion; in contrast, the Asia Pacific region spent $342 billion. The governments of key European economies, such France, Germany, and the United Kingdom, spent much less on clean energy and other environmental investments than the major Asia-Pacific economies, Japan and South Korea.

However, several G20 governments did not commit any, or very little, funds to green stimulus, including the large emerging market economies of Brazil, India and Russia. Perhaps most revealing was the share of green stimulus measures in gross domestic product (GDP). Very few governments spent 1% or more of GDP on green investments during the recession. With the exception of Sweden, all these countries were from the Asia Pacific region. Large-scale green stimulus programs, such as the 5% of GDP planned by South Korea and the 3% of China, were the exception rather than the norm. The United States spent 0.9% of GDP on green stimulus, more than the global average, but the European Union spent only 0.2% of GDP (Barbier, 2010; Robins et al., 2009, 2010).

However, relying on green stimulus alone is not enough to instigate a global “green” recovery that will ultimately lead to a more sustainable global economy.

Fossil fuel subsidies and other market distortions, as well as the lack of effective environmental pricing policies and regulations, will diminish the impacts of G20 green stimulus investments on long-term investment and job creation in green sectors. Without correcting existing market and policy distortions that under-price the use of natural resources, contribute to environmental degradation and worsen carbon dependency, public investments to stimulate clean energy and other green sectors in the economy will be short lived. The failure to implement and coordinate green stimulus measures across all G20 economies also limits their effectiveness in “greening” the global economy.

Finally, the G20 has devoted less effort to assisting developing economies that have faced worsening poverty and environmental degradation as a result of the global recession. Nor has the G20 taken a leadership role in facilitating negotiations towards a new global climate change agreement to replace the Kyoto Treaty that will expire in 2012.

Instead, a coordinated, global strategy is required to instigate a green recovery from the Great Recession, if the transition to a more sustainable world economy is ever to be attained (Barbier, 2010). There are several reasons why such a worldwide policy initiative is urgent.

First, the global recession will not diminish the costs of climate change and energy insecurity. The 2008–2009 recession was preceded by a surge in global energy prices, with the price of oil reaching $150 a day in July 2008. Due to rising energy costs, prices for food traded internationally increased almost 60% during the first half of 2008, with basic staples such as grains and oilseeds showing the largest increases. The International Energy Agency (2008) estimates that, once growth resumes, fossil fuel demand will rise by 45%, and the oil price could reach $180 per barrel. The remaining oil reserves will be concentrated in fewer countries, the risk of oil supply disruptions will rise and oil supply
capacity will fall short of demand growth. Greenhouse gas (GHG) emissions are likely to increase by 45% to 41 gigatonnes (Gt) in 2030. If atmospheric concentrations of GHG lead to 5–6 °C warming, GDP could fall by 5–10% globally, and by more than 10% in developing economies (Stern, 2007).

Second, the right mix of investments and policies today could not only reduce carbon dependency and improve the environment, but also create jobs and stimulate innovation and growth in key economic sectors. For example, with the right policies supporting it, green spending can be effective. It has been estimated that every $1 billion invested in energy efficiency and clean energy in the US could eventually generate energy savings of $450 million per year, reduce annual GHG emissions by 592,600 tons by 2020, and lead to approximately 30,000 job-years—a 20% increase in job creation over more traditional fiscal stimulus measures such as income tax cuts or road building (Houser et al., 2009). In China, every $14 billion of public green investment is expected to increase household consumption by $8.6 billion and tax revenues by $143 million, with 600,000 new jobs created (UNEP, 2009).

In developing economies, every $1 invested in improving the energy efficiency of electricity generation saves more than $3 in operating costs (ESCAP, 2008). Small hydropower, biomass and solar photovoltaics (PV) already provide electricity, heat, water pumping and other power for tens of millions of people in many rural areas. Developing economies currently account for 40% of existing global renewable resource capacity, 70% of solar water heating capacity and 45% of biofuels production (REN21, 2008). Expansion of these sectors may be critical for increasing the availability of affordable and sustainable energy services for the billions of poor households in these economies currently without access to these services.

G20 economies should therefore follow the lead of South Korea and China and turn their green stimulus investments into a serious long-term commitment. If the G20 economies coordinated the timing and implementation of these investments and policies, the cumulative impact on increasing economic growth and employment, while saving carbon, would have a significant impact globally. Together these economies account for almost 80% of the world’s population, 90% of global gross domestic product (GDP), and at least three quarters of global greenhouse gas emissions. In addition, with the right policies supporting them, existing green stimulus packages already adopted by G20 governments could increase G20 GDP from 0.7% to 2.2%. But, coordination of these stimulation packages and policies would increase G20 GDP even further, from 1.1% to 3.2% (Barbier, 2010).

To support the public green investments, the G20 should adopt environmental pricing policies, whether through cap and trade or taxes, that would ensure that carbon and other pollutants, as well as water and scarce ecological resources, are no longer ‘free’ to use by their economies. They should also instigate pricing and regulatory reforms for reducing carbon dependency, including removing perverse subsidies and other distortions in energy, transport and similar markets. For example the original blueprint for the US green stimulus plan called for a comprehensive cap-and-trade system to limit CO2 emissions and the removal of fossil fuel subsidies to finance and improve the effectiveness of green sector investments (Podesta et al., 2007). So far, these additional policies have failed to materialize, and without them, the current stimulus to private investment and job creation in green sectors may be largely temporary.

Unfortunately, this outcome could be the norm. Without additional policy measures, some of the recent upsurge in global green spending by the G20, including its Asia-Pacific members, will ultimately go to waste: its impact on long-term investment and job creation in green sectors will be restricted by ongoing fossil fuel subsidies and other market distortions, as well as the lack of effective environmental pricing policies and regulations. For example, many clean energy investments are still too costly compared to conventional energy sources. Fossil fuel subsidies further distort this cost competitiveness. The lack of policies and regulations to include the costs of carbon emissions and pollution also artificially lowers the market price of using conventional energy. Evidence from the United States suggests that such “direct emission” policies are critical for spurring private investment and induced technological change in clean energy sectors (Goulder, 2004).

Finally, coordinated and concerted long-term actions by the G20 towards instigating a global green recovery may be the only hope of overcoming the institutional inertia and vested interests that are inhibiting the transition to a more sustainable world economy. The economic and environmental crises that precipitated the Great Recession, and which will ultimately return if the transition to sustainable development does not occur, should be the warning signs that such a transition is needed.
The hard work of converting institutional inertia into change and formulating the long-term policies for a transition to sustainable development still remain.

5. Conclusions

To summarize, institutions help structure the means of production, and in turn, how goods and services are produced influence the development of certain institutions. The result is that these institutions become “locked in”, and institutional inertia, or path dependency, ensues. One reason for this self-reinforcing process is that institutions become geared towards reducing the transaction costs, such as search and information costs, bargaining and decision costs, and policing and enforcement costs, of existing production and market relationships. The outcome is a replication of the same patterns of resource-based development, even though we may be aware of the rising ecological scarcity associated with overreliance on fossil fuels and ecological degradation. The transaction costs required to making the necessary corrections to the market, policy and institutional failures are high compared to perpetuating the same pattern of production and natural resource use. Powerful vested interest groups also coalesce to block policy reforms that change existing institutional and production patterns, as such actions will inevitably redistribute costs and benefits.

Overcoming these institutional rigidities and vested interests will be necessary if progress towards more environmentally sustainable development is to be realized. Although the transition will be costly, as outlined in the previous section, the economic advantages could be considerable, especially if the result is to increase economic, employment and green sector opportunities simultaneously.

Economic historians, such as David and Wright (1997), have argued that it is wrong to consider natural resources as “fixed” endowments that are unaffected by the process of economic development and technological change. This has particularly been the case since the Industrial Revolution, as economies that have engaged successfully in resource-based development have adapted and applied technologies and knowledge spillovers to exploit specific resource endowments and create backward and forward linkages between these economic activities and the rest of the economy, thus transforming their land and resource endowments into endogenous components of the development process and thus subject to constant, if not increasing, returns (Barbier, 2011).

But as argued in this paper, instigating economic policy and technological change, especially with regard to how we use the environment, is unlikely to occur as long as institutional inertia and vested interests are perpetuated rather than transformed. Such an approach necessarily requires developing, coordinating and implementing a long-term global strategy for economic development. Undoubtedly, the additional transaction costs involved, including search and information costs, bargaining and decision costs, and policing and enforcement costs, will weigh heavily against such a strategy ever being realized. Powerful vested interests will also resist change. However, reorienting economies to avoid ecological scarcity and foster more sustainable development will have a chance to succeed if, in the short term, more effort is made to rethink how the world economy should recover from the current global economic crisis, and over the longer term, these recovery efforts are broadened into a comprehensive strategy to overcome ecological scarcity in the world economy (Barbier, 2010).

References