

# Greening Human Development: Capturing Wins in Equity and Environmental Sustainability

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*Empowered lives.  
Resilient nations.*

The past 40 years have seen remarkable gains in human development across the world. Rapid economic growth in some of the most populous countries, including Brazil, China and India, has enabled a large number of people to be lifted out of poverty. In spite of significant gains in many countries, however, poverty remains a key challenge, affecting more than a billion people.<sup>1</sup> Other indicators of well-being such as nutrition; maternal and child health; women's empowerment; access to basic amenities like energy, water and sanitation; and increasing inequality in many parts of the world also remain matters of concern. The task of improving well-being along these multiple dimensions is only expected to become harder as environmental degradation and increasing inequality threaten to stall or reverse human progress.

For these reasons, the 2011 *Human Development Report* focused on the challenges of equitable and sustainable human progress. It integrated equity and sustainability within a single framework for evaluating human progress to gain a new perspective on the seeming trade-offs between the two, and called for evaluating human progress through the joint lens of both rather than one or the other. Equity and sustainability cannot be viewed as competing goals trading off well-being of current generations for those of future generations, but are inextricably linked. Sustainability is not tomorrow's problem—it is today's challenge, especially for those most affected by and least equipped to respond to the lack of it. The key message of the report is that promoting human development requires addressing sustainability, and this can and should be done in ways that are equitable and empowering.

In this paper, 'greening' human development is defined *as the simultaneous pursuit of enhancing human well-being and reducing inequalities, and minimizing the exposure of current and future generations to significant climate and environmental risks or environmental scarcities over the long run.*

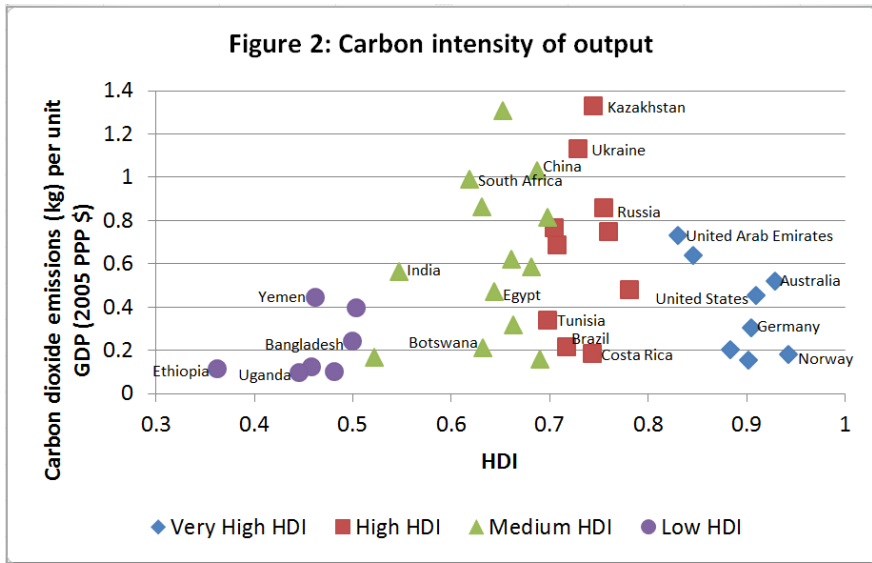
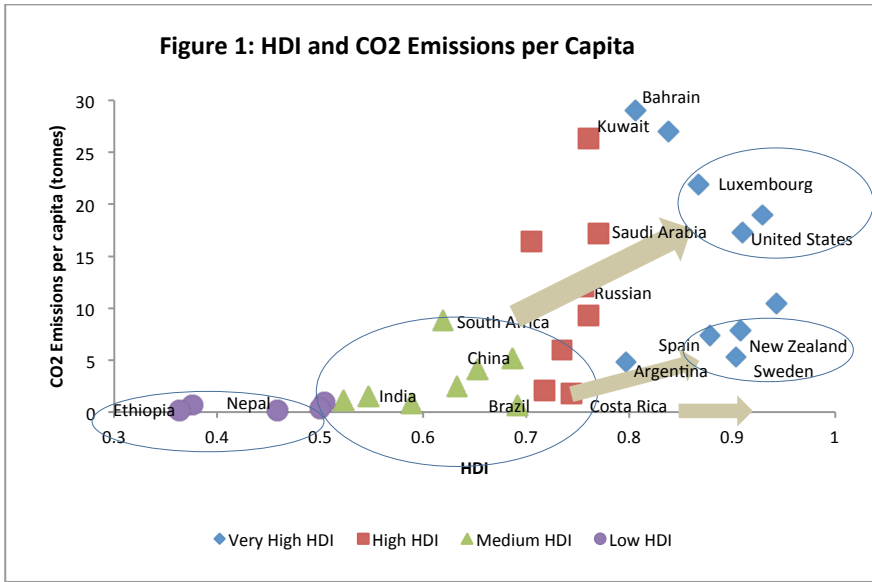
The 2011 report highlights two factors that call for urgency in taking policy action. First, the time-frame for responding to climate change has shrunk considerably. Climate change is already underway. Atmospheric concentration of carbon dioxide is currently at 393 parts per million (ppm), much above the safe limit of 350 ppm. The incidence of extreme weather events has surged worldwide, and current generations are likely to experience increased impacts of climate change within their lifetimes. Second, both natural disasters and non-catastrophic environmental degradation intensify inequality through adverse impacts on those who are already poor and heavily dependent on environmental resources for their livelihoods. Urgent policy actions to move towards lower carbon development pathways and improved environmental management are imperative.

Policy actions to address climate change and environmental degradation need not compromise the development aspirations of developing countries. As shown by figures 1 and 2, some countries have achieved very high levels of human development with relatively low carbon emissions per capita and low emissions per unit output.

Countries with low and medium rankings on the human development index (HDI) could choose to follow one of several development pathways. They could pursue the high carbon development models of Australia, Luxembourg or the United States, or opt for lower carbon development pathways like those of New Zealand and Sweden. New technology may enable these countries to adopt even lower carbon pathways.

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<sup>1</sup> UNDP 2010.



This paper seeks to dig deeper into the policy implications of the integrated policy framework proposed by the 2011 *Human Development Report*, and to identify the policy domains where the greatest collective gains lie. It traces the policy space for national governments to move their countries to low-carbon, environmentally sound and equitable development trajectories within a short time, and maps select policy options towards that end. The challenges are complex, and this paper does not claim to have all the answers. Instead, it seeks to flag key issues and start a conversation on them.

The next section of the paper presents key linkages in greening human development, followed by a discussion of policy options with potential for large gains in equity and sustainability. The paper then considers the role of people as agents of equitable and sustainable human development along with policy options for governments to leverage people’s agency.

## Greening Human Development: Key Linkages

Human development is about expanding the freedoms and capabilities people have to lead lives that they value. The most basic capabilities are to live a long and healthy life, to acquire knowledge and to have resources for a decent standard of living. Income and productive employment are the primary means for ensuring a decent standard of living. Clean and safe living conditions and modern health care enhance the capability to live a long and healthy life. Basic education is the first step towards enabling an individual to acquire knowledge.

Greening human development requires expanding access to these basics while improving equity and sustainability. Evidence suggests that the essential conditions for equitable and sustainable progress on human development include:

- Economic growth, which is necessary but not sufficient for building human capabilities;<sup>2</sup> in particular, in sectors that provide employment, and productive and entrepreneurship opportunities to the poor. These include sectors where the poor are more likely to find their livelihoods, such as agriculture, fishing, forestry and other natural resources, and others where unskilled labour is important.
- Public spending, enabled by revenues from growth, on equitable, quality services (in health, education, water and sanitation, and others) that target the poor, and help improve their skills and productivity.
- Proactive inclusion and empowerment of the poor and marginalized, including women, excluded communities and hard-to-reach population groups who may need special help to gain access to employment and quality services. Assistance may have important multiplier effects positively affecting several dimensions of well-being—for example, educated mothers tend to have better nourished and educated children.
- Protection against shocks—including those arising from global crises such as high food prices—to avoid slowdowns or reversals in poverty reduction.

The links between ‘greening’ and human development have the following characteristics:

- Maintaining growth and reducing emissions for the economy as a whole, while promoting jobs and other economic opportunities in sectors that predominantly employ the poor;
- Generating adequate public revenues to enable investment in quality services with equitable access for the poor;
- Preserving biodiversity and ecosystem services, while seeking to sustainably maintain the livelihoods of people who are poor and dependent on them;
- Enhancing energy and resource efficiency, together with equitable access to energy for the poor; and
- Ensuring resilience to environmental (and other) risks through developing adaptive capacities.

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<sup>2</sup> For example, a joint report on MDG progress by the African Development Bank, African Union Commission and United Nations Economic Commission for Africa (2010) finds that despite recent strong and persistent economic growth in the region, the ‘joblessness’ of growth remains a major impediment to reducing poverty. Cross-country studies confirm that, on average, growth tends to be positively correlated with improvements in the incomes of poor people overall (World Bank 2005). Growth also tends to be positively correlated with improvements in food supply and protein and calorie intake (Haddad 2003). Averages, however, conceal the fact that the poor often gain proportionally less.

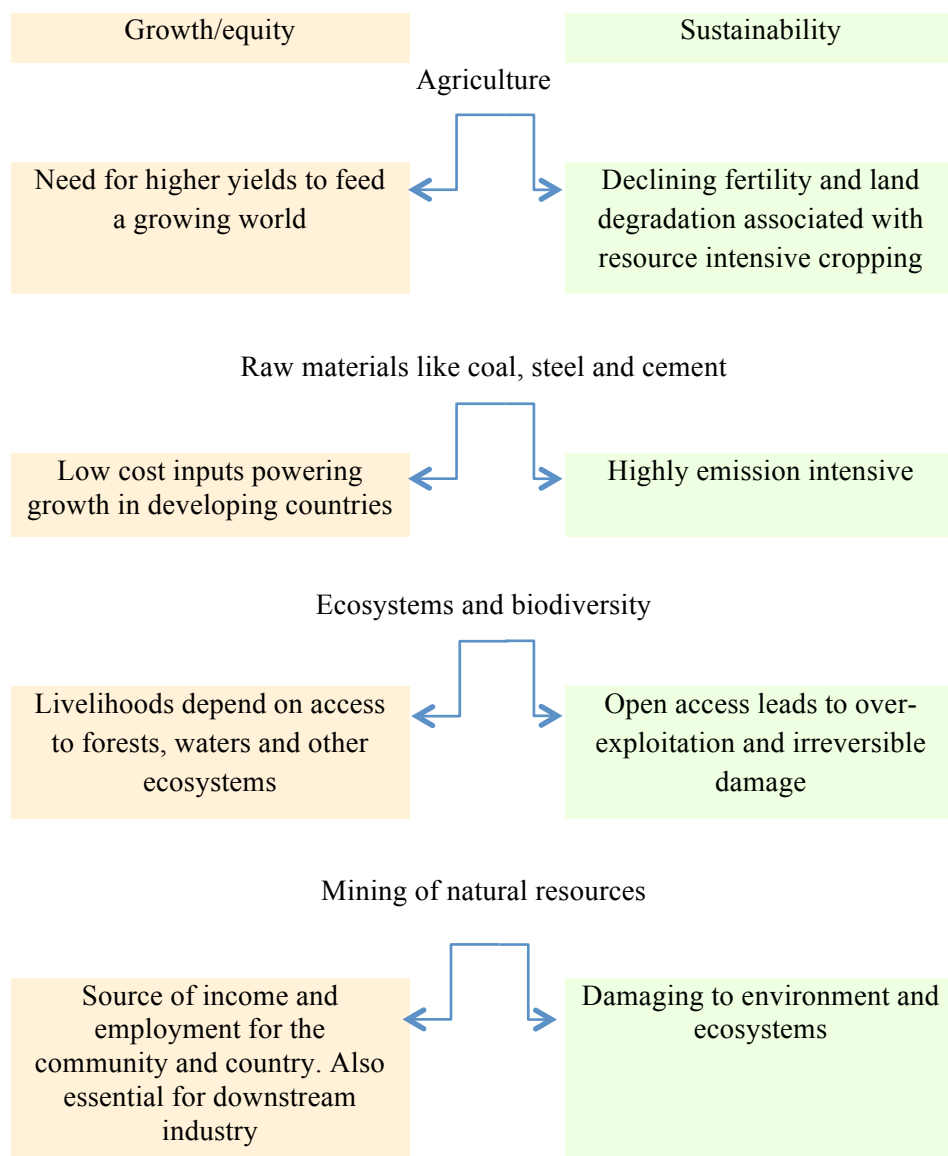
The 2011 *Human Development Report* recognized that not all policy measures will promote both equity and sustainability. In some cases, there will be trade-offs. Achieving the above objectives will require governments to actively weigh these trade-offs and identify alternative policy options. For example, preserving biodiversity and ecosystems might in the short run limit access to marine and forest ecosystems, thus affecting livelihoods. This will require the provision of other economic opportunities for people who are poor and dependent on these resources.

Governments spend nearly \$1 trillion annually on environmentally unsustainable subsidies, such as for fossil fuel production. Curtailing these would promote environmental sustainability while freeing up budgetary resources. Possible social side effects of these cuts, including higher energy prices for vulnerable households, would need to be addressed by targeted subsidies, which would claim only small shares of the resultant budgetary savings.

In some cases, trade-offs cannot be optimally addressed by countervailing policy measures alone, but will require technological advances to enhance productivity or mitigate environmental impacts. Massive increases in food output will be required in the coming decades to feed a growing world populace, for instance This will have to be achieved with limited land and water. Yet intensive-farming practises have been associated with declining soil fertility, land degradation and water pollution. The use of low-cost, high-emissions raw materials, such as coal, cement and steel, to drive rapid industrial growth poses another dilemma. Large-scale technological advances will be required to optimally address these trade-offs. Figure 3 presents some policy dilemmas that governments may face in promoting sustainable and equitable human development.

The movement to a green economy will take place against a backdrop of other longer term transitions, such as demographic shifts and structural changes. Such transitions can present both challenges and opportunities. Policies that promote green human development with lower levels of poverty may need to recognize and respond to these.

**Figure 3: Select Policy Trade-offs**



### **Policy Options with Large Potential Gains**

There are a range of policies that can bring significant gains in environmental outcomes and equity. This section discusses some options likely to produce clear results by leveraging synergies between equity and sustainability.

#### ***Universal access to sustainable modern energy***

The energy sector embodies both synergies and trade-offs between equity and sustainability. Reliable access to energy services is essential to the realization of basic human rights to food, housing, health and education. Around 1.5 billion people lack reliable electricity services, however; another 2.5 billion to 3 billion have no

access to modern cooking and heating facilities. On the sustainability side, over 61 percent of global carbon emissions come from the energy sector,<sup>3</sup> and over 50 percent of emissions come from burning fossil fuels.

The implied trade-off between equity and sustainability in this case is much smaller than one would expect. The 2011 *Human Development Report* estimated that providing basic modern energy services to the 1.5 billion people without electricity would raise global carbon dioxide emissions by a mere 0.8 percent. Further, the large fraction of emissions associated with the energy sector implies that sustainable energy has a significant potential for lowering carbon emissions and controlling air pollution.

Investment in large-scale production of low-cost renewable energy is one area where significant gains can be reaped in both sustainability and equity. Benefits can come from: (1) ending energy poverty through the use of low-cost off-grid options (as in Bangladesh and Nepal); (2) savings on the cost of importing fossil fuels (as in Iceland); (3) new employment opportunities (as in the manufacture of solar panels and wind turbines in China); (4) better health outcomes on account of lower air pollution and (5) better time use and schooling outcomes associated with access to modern cooking fuel and electricity, respectively (as in Bangladesh, Nepal and Viet Nam).

There is a legitimate concern that renewable energy is still expensive vis-à-vis traditional sources. But access to modern energy services by 2030 is an achievable goal; proven, affordable solutions exist. The adoption of solar panels by over one million low-income households in Bangladesh, for instance, shows that with the right financing schemes, renewable energy could be affordable and certainly more accessible than other energy sources.

Other successes include the Programme for the Development and Promotion of Biogas in Rural China, which built 30 million biogas systems, benefitting around 105 million people, from 2001 to 2010. The Rural Electrification Programme in Fiji increased the proportion of the rural population with access to electricity from 31 to 81 percent from 1986 to 2007. In India, the Rajiv Gandhi Grameen Vidutikaran Yojana rural electrification programme extended electricity to nearly 12 million households from 2005 to 2010.

### ***Energy and resource efficiency***

Increasing energy efficiency has potential for yielded massive savings in energy costs and carbon emissions—win-win in terms of equity and sustainability. The potential for savings arises from inefficiencies in energy usage, even in developed countries. As one case, the current system of electricity generation and delivery in the United States results in the actual usage of only 32 percent of the electricity generated, a level of efficiency unchanged since 1960.<sup>4</sup> The wasted electricity exceeds the total power requirements of Japan. With technologies to improve energy efficiency, the United States could reap an estimated US \$1.2 trillion in potential savings by 2020, from an up-front investment of US \$520 billion.<sup>5</sup> This amounts to an over 10 percent rate of return even by conservative estimates.

In China, the Green Lights programme seeks to replace traditional energy-intensive incandescent bulbs with energy-saving lamps for household, commercial and industrial lighting. Lighting accounted for 19 percent of energy consumption in China in 2009. The programme, costing US \$84 million, and jointly funded by the Global Environment Facility, the Government of China and others, has the potential to reduce energy

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<sup>3</sup> <http://maps.grida.no/go/graphic/world-greenhouse-gas-emissions-by-sector>

<sup>4</sup> <http://grist.org/energy-efficiency/2011-02-23-rebounding-to-a-smarter-energy-efficiency-perspective/>

<sup>5</sup> <http://green.blogs.nytimes.com/2009/07/29/mckinsey-report-cites-12-trillion-in-potential-savings-from-energy-efficiency/>

consumption for lighting by a third or more. Generating that amount of additional electricity would cost much more. The project could also cut carbon dioxide emissions by 4.4 million metric tonnes annually, another reason it is a smart investment.

### **Urbanization**

As discussed in the 2011 *Human Development Report*, cities are large sources of pollution, but can also be the means of fostering sustainability. Environmentally conscious city planning enables the highly efficient use of resources, while high population density enables economies of scale and spatially restricts the impact of human activity.

Economies of scale make the provision of infrastructure and basic necessities like water, sanitation and public transportation more cost efficient. Economies of scope provide more options for material reuse and recycling. Sustainable material and waste management practices can impact urban poverty by both creating job opportunities<sup>6</sup> and preventing environmental degradation. In the United States, it has been estimated that per capita carbon footprints in metro areas are 14 percent lower than the national average.<sup>7</sup> Carbon emissions in metro areas have risen more slowly than emissions in the rest of the country.

In recent years, ideas of strict zoning and extended suburban living have given way to greater support for the organic growth of cities. There is growing appreciation for the commingling of business and residential units, which precludes the need for long-distance transportation from homes to places of work. When undertaken in a planned manner, urbanization can present a range of opportunities for managing pollution, preventing environmental degradation and providing public goods. High population density means that even small declines in per capita pollution, water use and energy use can bring major improvements in absolute terms.

Progressive urbanization is an inevitable part of the development process. Large collective gains can be reaped from anticipating its pace and volume and planning ahead to manage the process. Policy makers in China managed their rural urban migration by building new modern cities in anticipation of migration. At present, 40 percent of the Chinese population lives in cities, a proportion set to increase to 50 percent in the next 20 years as another 300 million people migrate out of rural areas.

### **Green jobs**

One of the complementarities between equity and sustainability arises from the potential to create jobs that align poverty reduction and employment creation with investments in ecosystems conservation and rehabilitation, including to preserve biodiversity, restore degraded land, combat erosion, remove invasive species, and recycle and manage waste in urban areas.<sup>8</sup> There is also tremendous potential to generate jobs for the poor through developing climate-resilient infrastructure and adaptation investments to sustain growth. In most cases, the assets created or refurbished through these jobs continue to deliver benefits that can be harnessed by the poor for continued improvements in well-being. Successes can be found in many public employment initiatives, such as South Africa's Working for Water initiative and India's National Rural Employment Guarantee Scheme. The creation of green micro-enterprises, such as for ecotourism in Kenya, offers another example.

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<sup>6</sup> The World Bank estimates that at least 15 million individuals worldwide are employed in the informal waste management sector.

<sup>7</sup> Brown et al. (2008)

<sup>8</sup> UNDP 2009.



### ***Enabling private sector innovation, adoption and dissemination of green technology***

The private sector is the driving force in most national economies, and plays an important role in developing sustainable production and consumption patterns. With their capacity to invest and innovate, private companies are uniquely positioned to reduce emissions and resource use, while generating growth and employment opportunities. In Ghana, for instance, Toyola Energy Limited produces cooking stoves and lanterns that target rural dwellers who largely depend on firewood and charcoal for their domestic cooking and on kerosene for lighting. Toyola provides cleaner, healthier and more cost-effective means to meet energy needs. It has expanded product output, generated new jobs and offset carbon emissions.<sup>9</sup>

### **People: The Cornerstone of Green Human Development**

People are both the beneficiaries and agents of human development. Any initiative seeking to promote equitable and sustainable human development over the long term must leverage human agency. Governments can do so by incentivizing, informing and empowering people to make more equitable and sustainable choices. Incentives would include instruments such as taxes and subsidies, or other market-based mechanisms. Providing information about the consequences of consumption and lifestyle choices, and about alternative options can help change tastes and preferences towards a more sustainable culture of consumption, and generate popular support for expenditure on environmental protection.

The power of an environmentally aware populace to affect the environmental performance of an economy cannot be overstated. The 2011 *Human Development Report* discusses the success of Sweden as a high performer in terms of environment, equity and human development. One of the reasons for Sweden's achievements is a high degree of environmental awareness. A survey in 1969 indicated that two-thirds of Swedes consumed news about the environment at least once a month, and 54 percent were in favour of lower growth in gross national product if it would prevent environmental deterioration.

#### ***A culture of green consumption***

Environmentally beneficial changes in consumption patterns could take many forms. For instance, replacing private goods with public goods<sup>11</sup> in the consumption basket can have a positive impact on total carbon emissions as well as pollution, because the amount of goods that must be produced to support per capita consumption declines. Public transportation is an example. Policies that provide for and encourage the use of public goods such as these will likely improve both quality of life and the environment.

Lowering the consumption of meat can lead to substantial declines in greenhouse gas emissions. At present, meat accounts for 14 to 22 percent of annual global greenhouse gas emissions—more than transport or industry.<sup>12</sup> To give an idea of scale, a patty of beef the size of two decks of cards accounts for the same emissions as driving a 3,000-pound car for nearly 10 miles.<sup>13</sup> Further, the mass consumption of meat "... is a primary reason why humans are hungry, fat, or sick and is a leading cause of the depletion and pollution of

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<sup>9</sup> UNDP, forthcoming

<sup>11</sup> Public goods are non-rival and non-excludable, i.e., they can be consumed by more than one person at the same time. Examples include parks, hiking trails, the air we breathe, online websites and videos that are freely available.

<sup>12</sup> FAO 2006.

<sup>13</sup> Fiala 2009.

waterways, the degradation and deforestation of the land, the extinction of species, ...”<sup>14</sup> Policies that help lower the consumption of meat can bring gains in both health and environmental outcomes.

Policies encouraging the use of environmental resources for recreational purposes can set in motion a virtuous circle where demand makes it easier to allocate funds for preservation, which in turn enhances welfare. The 2011 *Human Development Report* cites the cases of Sweden and Namibia, where environmental amenities are being used to promote equity and sustainability in very different contexts. Sweden has a culture of outdoor recreation and the right to common access resources. This translates into popular support for policies to preserve them. In Namibia, ecotourism is enabling the government to protect areas rich in biodiversity and create jobs that increase incomes.

### ***Empowering people***

The 2011 report calls for an inclusive policy approach based on participation and reasoned debate. Participation requires providing people with certain basic rights and enabling mechanisms. For instance, many countries have enacted the right to a clean and safe environment in constitutions and laws. While enforcing this right may involve numerous difficulties, just the act of viewing a clean and safe environment as a right rather than a privilege changes the nature of the discourse surrounding the issue. It also provides legal support for mainstreaming environmental concerns in economic policy.

The right to information is another legislative tool to empower people, enacted in several countries with varying degrees of success. In some, prevailing institutions and norms can make it difficult to enforce the right. During the process of creating institutions and setting precedents for enforcement, the government can move towards greater transparency through enhanced disclosure norms for itself and the corporate sector.

### **Conclusion**

The 2011 *Human Development Report* recognized that not all policies that promote equity will promote sustainability and vice versa. There may be policies that advance one at the cost of the other. Much scope for policy action exists in the intersection of equity and environmental sustainability, however, with a number of policy options that can promote substantial gains in both. It is for governments to take advantage of these options, adapting them to their specific needs and contexts.

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<sup>14</sup> Henning 2011.

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