

Chapter 12

Going Beyond Growth: The Green Economy as a Sustainable Economic Development Strategy

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Introduction

Planners and policymakers in the urban context often face very difficult decisions around the development process. Namely, what should the future development of a city be and according to what metrics should this outcome be evaluated? Given the economic trajectory forward, planners and policymakers often must consider growth in terms of production, skills, wealth, and how the pursuit of progress improves or impedes the “true” quality of life on the ground. And, they often face trade-offs between policies that favor aggregate growth over equity considerations that evaluate the way in which this aggregate growth is distributed. They must often define the path forward based upon an evaluative metric that incorporates values of both efficiency and equity for any number of potential stakeholder groups in the pursuit of a better quality of life.

Traditionally, economic development strategies and estimations of economic success were largely concentrated on achievement of aggregate growth as reflected in expanded GDP within a certain geographical area. The goal of development was an aggregate increase in GDP and planners and policymakers could seek to engage in strategies that most effectively led to increased GDP. However, aggregate economic growth alone in terms of measures of productivity, skills, and wealth may be an oversimplification of true economic development. And, in fact, economic growth may sometimes be in conflict with measures that protect equity considerations and quality of life goods.

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Specifically, the definition of growth can be expanded and redefined in two predominant and related veins. First, there is the distributional question in terms of the distribution of both the benefits and costs of growth. This amounts to a question of growth for whom? Who in a city is given the opportunity to benefit from growth, who will benefit from the spoils from development, and who will suffer from the harms from development? Second, there is a widening of the very aims of growth to incorporate the notion of increasing the quality of life—how can different populations use their different economic resources differently in order to achieve varying amounts of success in bolstering quality of life. Increasing quality of life is a much broader estimation of growth than simply economic growth as measured by expanded GDP and one that significantly widens the metrics for evaluating the success of policies for growth including the negative externalities of development. This can be incorporated through the shift from simply growth or development, to the notion of “green” growth.

This chapter briefly discusses the role of growth as a critical value governing decision-making in the urban context and in the development of the ideal city. As a part of the broader paradigm, this chapter seeks to focus on the role of the “next economics” of green growth in fostering new approaches to economic growth and environmental preservation at the locally driven level. Section “[Introduction](#)” provides a traditional, growth-oriented, approach toward economics and toward economic development more specifically. First, I will examine some traditional approaches to understanding economic development as a focus on dimensions of a betterment of the quality of life through the pursuit of increased aggregate economic growth. Second, I examine the tensions between economic growth in aggregate and equity through an examination of several key contextual elements including economic restructuring, globalization, and the political/institutional dimension of growth discussions. What may define the “next economics”? In section “[Traditional Economics: Understanding Growth and Green](#)” of this chapter, sustainability is examined as a new approach to economic growth for communities. As a fundamental aspect of sustainability, the green jobs movement is discussed as a significant, relatively novel component of the discourse around economic development that addresses concepts of both quality of life increased through development and the role of equity in sharing the spoils of economic growth. This approach provides a unique application of this new paradigm to urban development decisions and locally driven policymaking at the nexus of economic and environmental concerns.

At the end of the day, the discussion around economic growth and development is fundamentally a discussion of progress—or the ideal path forward for urban development that may incorporate both considerations of growth and equity. A deepened discussion around economic development must include a broad swath of questions: Development may be a laudable end, but in what constellation should this be achieved? How should the outcome of development decisions be evaluated? And, equally importantly, how should the costs and benefits of development and growth be distributed? A true estimation of economic development will not define progress as “paving paradise to put up a parking lot,” and will come with an assurance that said paving is not merely benefiting a select few.

Traditional Economics: Understanding Growth and Green

The first section of this chapter provides an overview of traditional economic theory. The approach seeks to understand the role of economic development in cities and the way in which growth was privileged by economic thought. First, I discuss the role of traditional growth-driven economics through a brief overview of the literature. Second, I provide an overview of the way in which such growth was contrasted with other dynamic values, such as equity and environmental quality. In the end, traditional economics provides a definitive flavor of policy and planning mechanisms that focus on growth over broader quality of life considerations.

Development, Growth, and Progress: Traditional Economics

Understanding, evaluating, and spurring economic growth is a common theme in planning and policy literature generally and in economic development literature more specifically. In fact, growth has often been a favored end above all others in the decision-making process. How is a better quality of life in the ideal city achieved in this model? In the “classical sense,” economic development is hinged on economic growth. Often termed capital fundamentalism, economic growth and development was originally pinned to the investment in capital resources. Economists such as Sir Arthur Lewis assumed that economic growth was reliant on capital accumulation. In the 1950s, Robert Solow revisited notions of economic growth (Blakley and Leigh 2010). As noted by Easterly (2002), “his conclusion surprised many, and still surprises many today: investment in machinery cannot be a source of growth in the long run. Solow argued that the only possible source of growth in the long run is technological change.” Thus, economic growth and development is fueled by technological innovation including new products, development of human capital, and new production methods.

A wide array of economic development strategies were and continue to be used that aim to bolster levels of economic growth. For example, economic base theory asserts that economic growth is directly related to the external demand for its goods, services, and products. Economic growth, and thus job generation and a “better quality of life,” is created by utilizing local resources to produce exportable goods and services. In order to achieve this, economic developers must bolster growth through attracting businesses such as free-trade zones and tax relief. The economic development processes can be further strengthened by identifying opportunities for cooperative advantage and fostering entrepreneurialism (Blakley and Leigh 2010). Human capital development can also facilitate the process toward economic growth (Mather 1999). Taken together, these strategies will lead to economic growth and consequently to a better quality of life in the aggregate.

What about equity? The resultant growth in this vision has been connected to not only with an increase in the quality of life, but also with the eventual demise of inequality. When understanding the temporal relationship between equity and eco-

conomic development, the relationship between economy and inequity over time was famously elaborated by the Kuznets curve. According to this theory, the relationship between economic benefit and inequity varies along the temporal trajectory of development. Specifically, at early stages of development, investment in economic growth is primarily focused on investments in physical capital. Inequity is seen as fostering growth by allocating resources toward relatively higher resource holders. These individuals are most likely to invest these resources to their fullest capacity. At later stages of economic maturity, the game changes. Here, an estimate of future costs becomes a more important determinant than the accumulation of physical capital. Inequity at this stage in the game slows growth by lowering educational standards. Thus, when inequality is plotted along the y-axis and income per capita is plotted as the independent variable, an inverted u curve emerges. Thus, the Kuznets curve suggests that more inequitable results will be automatically reached as economic growth continues—equity in this vision becoming a by-product of a normal development trajectory. Given this argument, a focus on economic growth in terms of traditional measures will invariably lead to a decrease in inequality. Economic developers, according to this logic, should consequently focus on improving economic growth in aggregate at the national level and perhaps at smaller geographic scope and scales in the same vein (PERC Research 2003).

Understanding the Economic Reality: Further Theories of Economic Growth

An inherent conflict may exist between aggregate, narrow measures of economic growth and of economic equity. A dwindling degree of economic inequity from aggregate economic growth may in fact not be the case, as envisioned by an examination of the historical trajectory of economic growth. Many scholars assert that the role of economics, equality, and quality of life including environment preservation has changed since the turn of the last century as a part of the trajectory of economic growth. The following section contrasts the focus on growth as the desirable path of progress, through a very brief examination of several contextual elements of the discourse around economic growth: the transition from Fordism to post-Fordism, globalization, and the sociopolitical aspects of development through aggregate and largely inequitable growth.

First, many scholars have envisioned the trajectory of aggregate economic growth and the limitations on reaching equity, through examining the restructuring of industry and its impact on human capital needs and the benefits that result. On the ground, economic growth in the last two centuries and the tensions between equity and growth have been specifically depicted as a transition from the “Fordist” to the “post-Fordist” production era. The Fordist era beginning in the 1920s is the poster child of a policy-oriented focus on aggregate economic growth. It was characterized by economic gain through mass production strategies. Corporate production strategies operated along the maxim of the bigger the better. Products were undifferentiated and available in

mass quantities to the public at prices far cheaper than before (Soja 2000). Moreover, the employer/employee relationship was also standardized and was characterized by union-regulated full-time employment. This innovation in economic strategies profoundly influenced space through the resultant distribution of populations and the usage of space throughout the urban landscape. Products were now made available for mass consumption. Increased demand for newly affordable commodities led to economic gains and “economic development” (Soja 2000). And, at the same time, gains in profit margins also seemed to be correlated with increased environmental degradation as unbridled production fueled negative environmental externalities at a higher rate (Graham and Marvin 2001). And in fact, the cheap prices for consumer goods that result from the process further hurt the environment by creating perverse consumer incentives and magnifying the entire process (Soja 2000). Although aggregate growth may have increased, quality of life may not have.

By the 1970s, Edward Soja and other members of the “Los Angeles School” believed that the Fordist era began to wane and point to a major economic restructuring process that they term to be the transition to the post-Fordist state (Soja 2000). In the post-Fordist era, the rigidity of the production processes germane to the Fordist period did not allow for the flexibility of skills, human capital development, and production processes needed in the new globalized, high-tech, service-oriented economy. In contrast, companies in the postmodern era were now operating with smaller profit margins, increasing trade imbalances, raw material shortages, and stagflation. Widespread mass consumption was no longer available to effectively utilize the economies of agglomeration that were so fruitful in the Fordist era, and the environmental impacts were heightened (Soja 2000). The situation was epitomized in Los Angeles, with communities suffering from the environmental impacts of Fordist era production and a decline in manufacturing (see Arvinson 1999; Barbour 2001; Carney 1964; Soja 1986). Thus, economic growth arguably did not ultimately lead to the enhancement of a quality of life and increased equality as could be suggested by traditional approaches to economic growth. Adding this type of context may provide nuanced complexities to an analysis of whether or not a rising tide inevitably leads to a rising of all boats.

Focusing specifically on the new globalized economy and somewhat building on the above approach, many scholars focus on the role of globalization in impacting economic growth and other measures of quality of life. The changing aspect of economic growth along the temporal trajectory can be understood through Thomas Friedman’s three phases of globalization. According to Blakely and Leigh’s (2010) description of Friedman’s theory, he begins with his notion of Globalization 1.0 that “brought significant prosperity to many local economies making manufactured goods, growing crops, and producing services and entertainment.” This is followed by Globalization 2.0 where “assessing overseas markets and employing labor to other nations, U.S. local economies experienced plant closing on an accelerating scale. Local economies overly dependent on the industry sectors that found it most profitable to move their operations overseas experienced the greatest devastation. Many of the companies in these industry sectors simply were unable to compete with cheaper imports, and thus moved overseas to take advantage of lower labor and

other production costs.” Today, we sit within Friedman’s third stage of globalization or Globalization 3.0. This phase is characterized by a shift toward non-western nations as drivers for economic growth. In order to meet the demands of economic development in this period, we must adopt “an orientation away from traditional business development and recruitment toward ensuring all participants in a local economy have adequate preparation to make maximum contributions. Recovering from the global recession and creating a new path for prosperity clearly means a shift from business as usual. It also requires an economy focused on reinventing itself through new technologies, innovations, and renewed commitments to ethical leadership....” Perhaps most importantly, economic growth through changing needs for the development of human capital must be done in the context of skills sets demanded by economic forces at the international scale. This will increase the need for competitive advantage derived from specialization in a new economy where “it is no longer feasible for a firm located in one place to be unconcerned with the network of institutions and suppliers that can provide in materials and talent...” (Blakley and Leigh 2010).

Finally, providing further contextual meat to the analyses and perspectives above, the process of favoring growth through measures of productivity and wealth in terms of achieving an expanded quality of life, and reevaluation of its impacts on the equitable and contextual distribution of goods, has also been described by a wide array of urban theorists from the sociological, political perspective. Providing one of the more influential analyses of the role of growth and inequity in an urban setting, the process of favoring growth was described by Harvey Molotch and others as one that was fueled by the development of “growth coalitions.” In this vision of economic development at predominately the local scale, the most influential actors in fostering urban development were so-called place entrepreneurs who are defined as individuals who profit from renting out real estate.

Thus, according to Altshuler and Luberoff (2003) in *Mega-Projects: The Changing Urban Politics of Urban Public Investment*, “What most distinguishes place entrepreneurs from ordinary citizens is that they value land for its ‘exchange value’ (its capacity to generate profit) rather than its ‘use value’ (as a locus for social interaction, the enjoyment of nature, and ecological health). Their unswerving aim is growth—which, above all, means real estate development—regardless of the negative consequences it may entail for current land users, such as the ordinary residents of established neighborhoods. And they routinely seek government action to facilitate their endeavors. To secure such action they organize local “growth machines”—that is alliances of those in the community who stand to profit from development. These alliances include not just place entrepreneurs themselves but also their contractors, bankers, architects, engineers, and advertising firms; the employees of such enterprises and their labor unions; local media, utilities, and retailers who think that growth will bring them more business; and politicians who recognize that growth-oriented interests are the largest contributors to local campaigns.” Thus, through the development of an effective regime perhaps based on an understanding of regime theory (see Stone 2006), the growth coalition brings together a broad swath of powerful interest that were firmly entrenched in fostering the largest amount of growth possible in the urban setting.

Further defining the reality of the interface between growth quality of life, and the equitable enjoyment of progress, the process of favoring growth can likewise be understood and played out by Allan Schnaiberg's "treadmill of production." Corporations and individuals invest and reinvest capital to seek maximum economic returns on the treadmill of economic production. This behavior resultantly strains the ecosystem and social systems as a continual withdrawal of resources is fueled by economic growth. As described by David Pellow in *Garbage Wars* (2002), both private consumption and industrial production create a variety of negative by-products or externalities that range from "effluents, waste, and other forms of ecological disorganization." Moreover, the most profitable strategy for industries becomes capital intensification and a resulting gain in worker displacement and unemployment. In the end, Pellow (2002) asserts that, "these ecological and social strains place pressure on the state, communities, workers, and corporations and address these ills—often, ironically, through future pro-growth policies."

In conclusion, given the discussion above, then, we can understand how growth often became the singularly favored (and often incompatible with equity considerations) urban strategy for planners and policymakers. Growth then becomes a very convenient approach to conceptualizing the decision-making process. As noted by Altschuler and Lubertoff (2003), the emergence of the growth machine fosters the development of what they and Logan and Molotch term "value free development." They note that, "the essence of this ideology is that while people disagree about values, there is no serious reason to disagree about growth. Growth means prosperity, and with much more money everyone in the community can pursue his or her own values better." Thus, the notion of growth becomes a politically powerful force in mobilizing interests and in reaching development decisions moving forward. Equity may be left off the list of key considerations of development as a consequence. With growth increased further in aggregate and a simultaneous increase in wealth concentration in the hands of elite, the process of economic restructuring, of globalization, and of institutional and political realities of growth coalitions demonstrates the complex and often contradictory relationship between aggregate growth and the equitable distribution of development's benefits. It highlights the related tensions between economic growth and true progress through the "true" improvement of a quality of life.

Toward the Next Vision of Economics: The Green Economy as Sustainable Economic Development Strategy

The previous section sought to provide an overview of economic thinking in the context of development decisions and the broader pursuit of a better quality of life along traditional, neoclassical, institutional economics terms. Simply put, growth matters and defines the right path forward. As mentioned above, the pursuit of growth has guided thought throughout the twentieth century.

The "next" vision of economics may begin to reorient the discussion at the locally driven level through the rise of the concept of sustainability. This chapter's second

section, contrasting with the first, turns toward sustainable economic development as a new way of understanding the nexus of economic and environmental values as one which provides a textured and, at the same time, symbiotic pursuit of such goals. First, a brief overview of sustainability is provided. Second, the green economy movement is examined as an outcome of this new approach. Thinking and action around the green economy may be most indicative of a new and improve visioning of economic solutions at the local level.

Sustainability and Sustainable Development: Going Beyond Growth

As indicated in the discussion above, economic growth in aggregate may not actually fuel the optimum end we seek and/or may only do so for a small segment of the population. Growth may be inequitable and incomplete. Amartya Sen (1999) provides an in-depth analysis of the complexities inherent to the growth process through a consideration of quality of life factors and the ultimate benefits of development. He begins his text with the central thesis of his work—an expanded definition of growth and of development. He notes that, “Development can be seen, it is argued here, as a process of expanding the real freedoms that people enjoy. Focusing on human freedoms contrasts with narrower views of development, such as identifying development with the growth of gross national product, or with the rise of personal incomes, with industrialization, or with technological advance, or with modernization. Growth of the GNP or of individual incentives can, of course, be very important as the means to expanding the freedoms enjoyed by members of the society. But freedom depends also on other determinants, such as social and economic arrangements (for example, facilities for education and health care) as well as political and civil rights (for example the liberty to participate in public discussion and scrutiny).” In this way, Sen (1999) asserts that, “viewing development in terms of expanding freedoms directs attention to the ends that make development important, rather than merely to some of the means that inter alia, play a prominent part of the process.” Thus, Sen (1999) asserts that, “development requires the removal of major sources of unfreedom: poverty as well as tyranny, poor economic opportunities as well as systematic social deprivation, neglect of public facilities as well as intolerance or overactivity of repressive states.” Thus, aggregate growth is not everything. Sen’s plea is for a redefinition of growth and of development that fundamentally goes beyond the accumulation of resources (Sen 1999).

Further emphasized by Blakely and Leigh (2010), much like Sen (1999), the complexities in measuring and fostering economic growth are multiple. A variety of scholars envision a different approach to economic development that specifically focuses on rising economic inequity (or in Sen’s case capability). Blakely and Leigh note (2010) that, “There is nothing wrong with creating wealth and jobs and increasing the tax base. But it is a great mistake to equate economic growth with economic development. The blind pursuit of economic growth can destroy the foundation

of economic development. For example, if an economy's growth is based on an exhaustible natural resource supply (e.g., timber, seafood, coal), then it will eventually come to a halt. The workers will be unemployed and, without proper attention to the education and skill development of the labor force, or to the development of a more diversified industry structure, the community can enter a death spiral." This process, they argue, is similar in towns with singular industries that are vulnerable to global economic shifts. In this case, "The industry may move, or its owners may exit the industry and the town, taking their capital worth with them. These are the simplest of examples and it should be understood that a town with more than one industry, but with a narrow industrial base, can be just as vulnerable." And in fact, they assert that economic growth may in fact directly lead to increases in income equality and further marginalize already marginalized populations. Blakely and Leigh thus argue that an economic development approach should focus on raising the basic quality of life for everyone (Blakely and Leigh 2010).

As noted at the outset, the goals of economic development can be expanded by looking beyond the aggregate level of growth to incorporate measures of equity and then to a broader conception of growth in itself in terms of the desired ends of progress. Given the conflicts between growth and equity, how can progress be reframed through the infusion of extended quality of life and equity considerations into economic development. How can environmental considerations similarly be balanced through a revisioning of the relationship between the environment and the economy?

The emergence of sustainability has most significantly reenvisioned the balancing of growth with these other competing values. Sustainable development seeks to unite these disparate interests and to overcome these difficult contradictions between competing values in the urban context. Sustainability is defined by the integration of economic and environmental goals in economic development decisions. Higgens (1996) refined the definition and notes that: "Sustainable development is a concept which encourages both economic growth and a healthy environment. It recognizes the desirability of economic growth and change and acknowledges the right of individuals and organizations to pursue economic goals, including sales and profits." Although the complexity of the topic makes defining and then realizing the ultimate end goal of sustainability difficult, scholars have nonetheless continued to redefine "sustainable economic development," including the operationalization of the concept through sustainability programs, plans, and evaluative metrics. Roberts (2004), for example, notes that, "Sustainable economic development strategies promote mutually beneficial environmental, social and economic processes....Sustainable economic development are ideas related to: The effective and efficient use and management of natural resources; The promotion of a hierarchy of waste solutions that places the avoidance of waste at the top of the list and the disposal of unsorted waste at the bottom of the list of options; The introduction of new methods and techniques for design, production, distribution and end-of-life management, which emphasize the avoidance or minimization of waste and environmental damage; The establishment of new economic activities based on opportunities for the production of environmental goods and services and for the distribution, maintenance and eventual disposal of such products; The promotion of high standards of environmental

management and performance in all aspect of economic development and in all aspects of economic development and in all business activities, including energy conservation environmental sound construction, green transport and a wide range of other occupational areas; The establishment of new and collective and collaborative institutional structures that can assist in the introduction and management of sustainable economic development.” Similarly, as noted by Reinhardt (2000), “macroeconomic definitions of sustainability focus on the need to maintain aggregate stocks of natural and manufactured capital constant over time so that future generations have consumption possibilities similar to those of the current generation.” Thus, sustainable economic development provides a descriptive, albeit elusive, conception of a true balancing of the multifaceted three “Es.”

Green Economy as the “Next Economics”: Revising and Revising the Idea of Growth and Equity Through Sustainable Economic Development

Sustainability can become a new aim for planners, as well as more broadly among policymakers who aim to improve conditions in their community. This may represent a fundamental shift in addressing development conflicts and forging decisions aimed at fostering improved quality of life. And, as some scholars assert, the purported “new green economy” or a new “environmental epoch” (Mazmanian and Kraft 2009) may provide a nexus between environmental preservation and economic development through the creation of a new “paradigm” of sustainable economic growth (Roberts 2004). The green economy movement seeks to change the way that development is viewed by reenvisioning two primary conflicts inherent to discussions around progress—economic development through a better quality of life and then a more equitable distribution of this quality of life.

Green jobs, as the outcome of this movement, are a critical vehicle of achieving the sustainability ideals as described above. Simply put, green jobs provide employment opportunities that will lead to the environmental preservation dictated in the sustainability vision described above. A green economy includes a wide spectrum of products that do not adversely affect the environment while providing economic benefits in the form of revenue and job creation (OCED 1999). The Organization of Economic Cooperation and Development provided the first conception of the green economy as an economic development strategy by defining the green economy in terms of the environmental goods and service industry consisting of: “... activities which produce goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This includes cleaner technologies, products and services that reduce environmental risk and minimize pollution and resource use.” Although definitions of specific industries vary, the green economy can be conceptually seen as the overall framework in which economy activity can occur. In practice, for example, the Occupational Information Network (Rivkin et al. 2010) defines the

green economy as follows: “The green economy encompasses the economic activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy.” New classes of “environmentally friendly” businesses are now considering sustainability in their corporate choices as the cost of pollution is increasing while the marginal cost of pollution reduction is dropping and the consumer demand for green products is increasing. Government procurement policies around green products are also fueling niche markets and altering corporate behavior (Nijaki and Worrel 2012). And perhaps offering the starkest example, environmental regulations are creating business opportunities in a subset of innovation-driven, new green industries. New efficiencies, regulatory opportunities, and consumer responses are making sustainable development an economic possibility for some communities (Wasik 1996; Roberts 2004; Lopez et al. 2007).

The “new green economy” may provide a new way of envisioning economic growth that is more along the lines of development as proposed by Sen (1999) and others. The green economy aims to widen the view of economic growth or progress through an integration of environmental considerations in the development process. It reframes growth as “green growth” and thus limits development by taking into account quality of life considerations that are hinged on environmental quality today and into the future. In this way, the metrics for evaluating development choices and their successes is changed to one that seeks to reference the long-run environmental effects of economic action and inaction.

And, in fact, this metric seeks to completely change the equations from which these discussions are judged. Traditionally, the differentiation was seen as a zero sum game between the environment and the economy (Andrews 1999). In the green economy literature, the key difference here is that there is a stated attempt to mediate the gap between the environment and economic development. And, the starkest example may be in deriving economic development opportunities directly from environmental preservation and environmental cleanup. A recent University of California Study (Chapple et al. 2009), for example, posits that “at its most basic level, the green economy consists of economic activity that reduces energy use and/or improves environmental quality...The green economy is not just about the ability to produce clean energy, but also the growing market for products that consume less energy, from fluorescent light bulbs to organic and locally produced food. It also encompasses economic sectors that improve the environment, for instance, through remediation of toxic signs or the design of a more compact city.” Although not all economic activity in the “new green economy” is imagined to be environmentally beneficial, the overriding conception of environmental growth is that there will be a net increase in economic opportunities that are not generally harmful to the environment and that may provide sources of environmental remediation as a viable business case leading to aggregate growth.

Measuring and analyzing the green economy has remained a complex task. Although sustainability and related concepts around green jobs growth are increasingly used, there is not a widely accepted definition of the green economy across regions and states domestically and internationally. Figure 12.1 summarizes a few

<p>Apollo Alliance</p>	<ul style="list-style-type: none"> • "Green collared jobs, as we define them are well-paid, career track jobs that contribute directly to preserving or enhancing environmental quality. Like traditional blue collared jobs, green collar jobs range from low-skilled, entry-level positions to high-skill, higher-paid jobs, and include opportunities for advancement in both skills and wages."
<p>Cleanedge</p>	<ul style="list-style-type: none"> • "Cleantech jobs..are a direct result of the development of development, production, and/or deployment of technologies, that harness renewable materials and energy sources, reduce the use of natural resources by using them more efficiently and productive, and cut or eliminate pollution and toxic waste."
<p>US Council of Mayors</p>	<ul style="list-style-type: none"> • "Any activity that generates electricity using renewable or nuclear fuels, agriculture jobs, supplying corn or soy for transportation fuel, manufacturing jobs producing goods used in renewable power generation, equipment dealers and wholesalers specializing in renewable energy, or energy efficiency products, construction and installation of energy and pollution management system, government administration of environmental programs, and supporting jobs in the engineering, legal, and consulting fields".
<p>Brookings Institution</p>	<ul style="list-style-type: none"> • "Defined as the sector of the economy that produces goods and services with an environmental benefit."

Fig. 12.1 Defining green jobs differently

varying approaches. It is difficult to determine what types of sustainable practices, and at what threshold, define an environmentally friendly business. Moreover, there is no agreed upon metric to determine what sectors of industry qualify as a green goods and service.

Just as rigor is important in developing this definition, so is flexibility. Green jobs are designed around environmental preservation. Understanding the green economy is challenging because of the diverse and disparate spectrum of products produced and used. Although the green economy is sometimes coined the "green sector," this conception is not an accurate portrayal of the sweeping constellation of firms within the green economy. The green economy is not a traditional industry sector. It includes a wide array of industry sectors and subsectors. Potential candidates include anything from large-scale producers of solar panels, to small-medium environmental consulting firms. Both a manufacturing and a service economy can be potentially expanded and refashioned in the new green view. The common uniting force between disparate industries is the environmental benefit of the product that is being consumed or produced. A variety of new industries, and the greening of existing ones, consequently fit the bill—all united under the notion of environmental sustainability.

A useful conceptual framework can be constructed in order to facilitate an understanding of the patchwork of activities around sustainable economic development. Specifically, green jobs analysis can occur at several different levels: the green economy, the green industry, the green firm, and the green job or occupation.

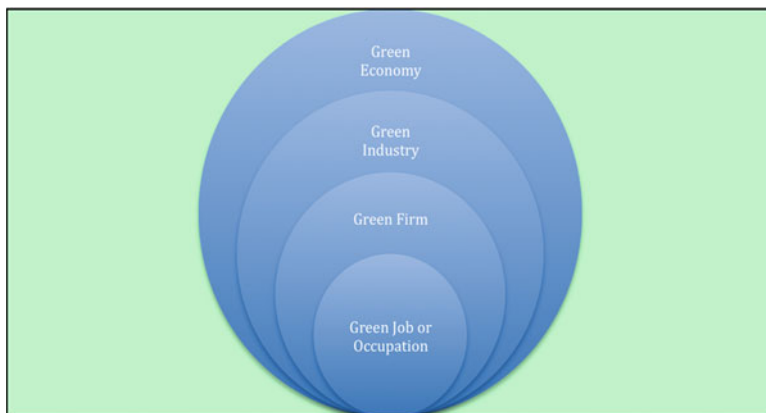


Fig. 12.2 Defining the green economy

As summarized by the component parts of corresponding Fig. 12.2 above, we can drill down through these different layers of analysis in order to understand the opportunities and obstacles around green jobs development and proliferation.

1. First, the *green economy* is the overall framework in which economic activity can occur. ONET (see Rivkin et al. 2010), a national agency in the United States, defines the green economy as follows: “The green economy encompasses the economic activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy.” Again, although not all economic activity may be environmentally beneficial in the “new green economy,” the overriding idea is that there will be a net increase in economic opportunities that are not generally harmful to the environment. And, it is the overriding commitment to the ideas of sustainability and sustainable economic development as indicated above.
2. Second, the green economy consists of *green firms*. These are the businesses that make up the green economy. According to ONET, again, “A green firm is an organization that provides products and/or services that are aimed at utilizing resources more efficiently providing renewable sources of energy, lowering greenhouse gas emissions, or otherwise minimizing environmental impact. Green firms with similar activities, production value chains and/or products can form a green industry, sub-sector or sector.” These firms run the gamut in terms of potential products and services used and consumed. Examples include broad classifications such as the following: renewable energy, energy generation, systems installation and storage, green building and energy efficiency, biofuels production and farming, transportation and alternative fuels, water, wastewater and waste management, environmental compliance, and sustainability planning.

Green firms can be “green” at a variety of different levels as summarized by the Fig. 12.3 below. First, firms can be identified as “green” because of their end



Fig. 12.3 Defining a green firm

product or service. These are the firms that are most clearly identified as green producers because their products or services are directly aimed at some aspect of environmental remediation or promotion. Second, and in a related vein, firms can be “green” in terms of the life cycle of their product. Although the particular good or service is not directly being utilized for environmental remediation or promotion, it may be sustainable over the lifetime of the good and therefore may be a green product. The firm is green by this definition, then, because it is a producer of sustainable products that indirectly benefit the environment throughout their life cycle. Third, a firm can be “green” according to the environmental effects of its supply chain. Fourth and finally, a firm can be “green” according to its everyday business practices including its use of green practices, services, and products (i.e., the use of alternative fuel vehicles, energy efficiency/conservation, sustainable farming, recycled products or recycling, water conservation, or pollution reduction). These green practices can be implemented across most industry categories and likewise spans a multitude of potential occupational categories. More broadly, in terms of these firms within the green economy, green firms can be understood as falling into two broad areas: the consumers or producers of green technology.

- (a) *Green producers*—include any company that directly produces green goods and services. This includes both the manufacturers and service providers of green goods and services. Examples of green producers include solar panel manufacturers and manufacturers of diesel particulate filters and heavy-duty vehicles.

- (b) *Green consumers*—include any company that integrates sustainability practices within their business practices. A range of sources and certification programs define businesses as “green.” For example, the study by Chapple et al. (2009) defined green practices as “activities that reduce energy consumption and/or improve environmental quality into their operations.” Thus, these companies can be categorized as “environmentally friendly companies.” Examples include green restaurant owners, workers who utilized recycle products, or installers of particulate filters and owners of the trucks on which these devices are installed.

These two groups are interconnected to one another. Green producers can, and perhaps are more likely to, also be categorized as green consumers. However, the connection between green goods consumer and producers are conceptually and practically linked at another level. Namely, green consumers become the source of demand for the green producers. Thus, “environmentally friendly” companies are directly using environmental products. For example, in the diesel truck example briefly alluded to above, the green consumer that is putting diesel particulate filters on their truck *may* qualify as a part of the green economy. The green producer here is the company that produces diesel particulate filters—an employment function that directly reduces the environmental hazards of diesel truck operations. Thus, the green consumer (the diesel truck operators or owners) is consuming the environmental product (the DPF technology) from the green producer. The green consumer in this example is an important part of the green economy because the truck owner/operator is a necessary component of the green producer or DPF technology’s demand. It is important to note that production processes are complex and multilayered. The demarcation between consumers and producers is not mutually exclusive. A producer, thus, can be a consumer of green goods and services as components within a layer of their wider production processes.

3. Third and finally, green firms are made up of *green jobs or green occupations*. According to ONET, for example, “the greening of occupations refers to the extent to which green economy activities and technologies increase the demand for existing occupations, shape the work and workers requirements needed for occupational performance, or generate unique work or worker requirements needed for occupational performance, or generate unique work and worker requirements.” Moreover, according to ONET, a green job is an application that (1) directly works with policies, information, materials, and/or technologies that contribute to minimizing environmental impact and (2) requires specialized knowledge, skills, training, and experience. They thus provide an individual-level of green economic opportunities.

New categories of goods and services related to environmental protection are emerging and are therefore creating opportunities for jobs and economic development in communities. Once the green economy is defined, implementing governance strategies is the next step toward realizing the paradigm. Green jobs have

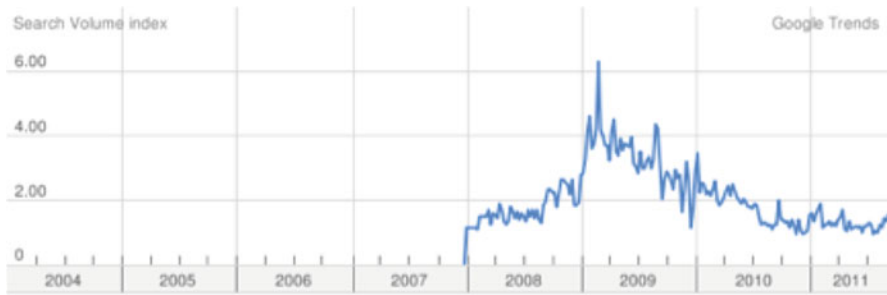


Fig. 12.4 Green economy references by Google search volume

become increasingly popularized in policy circles and in the mainstream media. This has operated concurrently with the increasing impetus to redress environmental pollution. Google trends, as a rudimentary manner to pick up trends in key terms across search data, clearly illuminates an uptick in this focus. As summarized in the Fig. 12.4 below, the term was increasingly utilized since the end of 2007, with a significant peak in 2009. The results are similarly corroborated through Proquest searches of the term “green jobs.” From 2000 to 2005, the term was referenced 26 times. From 2000 to 2010, the term appeared with a frequency of 1,074. A search in the date range of 2008–2010 yields 1,066 references. Thus, “green jobs” may be an increasingly utilized rhetorical hook for both economic development planning and environmental preservation efforts domestically. States, regions, and cities have increasingly taken prominent roles in this discussion and have provided leadership beyond nation-state action.

The interest is there. The political reality in developing such strategies is likewise complex. The complexity in terms of integrating multiple objectives can be called new in the sense that it will likely necessitate institutional changes. Such changes will necessitate economic development strategies that include an integration of environmental expertise in economic development planning and policy efforts. The specific economic development strategies that are used to cultivate economic growth in green industries may not be all that much different, particularly in terms of operationalizing the concept through traditional business attraction and innovation-driven industry strategies, once the desired green industries are selected.

In fact, much of the focus in terms of aggregate job growth and economic development has been focused in the green jobs realm on higher-skilled, higher-wage employment. This has been done through a focus on innovation. Drawing back to theories of growth toggled to innovation from Solow onward, this strategy toward a green economy has sought to focus on opportunities engendering from technological advancement in green technology. Economic growth through these strategies will occur through the innovation-driven process of coming up with new technological fixes to environmental problems. Additionally, market opportunities may increasingly exist in marketing companies’ practices through the new move toward corporate social responsibility (see Hardjono and de Klein 2005). Thus, in evaluating green jobs as a novel economic development strategy, it is important to keep in

mind that much of the implementation of green economy strategies can be seen as not dramatically different than any other economic development strategy in the actual implementation, once the desirable list of green industries are targeted for growth. A better quality of life may be fostered through these efforts, expanding the values and aims of aggregate environmental growth, with little attention to equity in terms of distributional considerations.

How can a green jobs strategy address distributional issues and thus expand the vision of growth and progress beyond aggregate growth? Distributional equity considerations can directly be addressed through a green economy strategy. As explained above, the green economy movement seeks to integrate economic and environmental goals. However, who should benefit from the economic gains of cleaning up environmental blight, for example? As noted by Bullard (1980), "Industrial flight from central cities has left behind a deteriorating urban infrastructure, poverty, and pollution. What kind of replacement industry can these communities attract? Economically depressed communities do not have a lot of choices available to them. Some workers have become so desperate that they see even a low-paying job as better than no job at all. These workers are forced to choose between unemployment and a job that may result in risks to their health, their family's health, and the health of their community. This practice amounts to 'economic blackmail'." If green jobs create economic development opportunities, the next question to ask is who will benefit from environmentally preservative growth? Will the same narrow groups of individuals who historically benefited from the production that led to environmental externalities suffered in environmental justice communities now benefit economically once more in finding the next best way to clean up said externalities?

In fact, no part of the movement may epitomize the tensions between equity and growth, given the green economy lens and the reality of urban development as described by Bullard, than the differentiation between the green jobs movement generally and the emergence of the green-collared jobs movement in particular. Green-collared jobs seek to directly give economic opportunities to those populations that fit this description (Apollo Alliance 2007; Bowen et al. 2007). Green-collared jobs, at the operational level, seek to specifically target employment opportunities to populations that are most in need, perhaps using Rawlsian (1971) logic. The green-collared job movement seeks to remake the movement toward a green economy through the integration of growth and equity that is specifically targeted at those individuals that are blue collared and that are widely identified as often "left out" of the economic opportunities along the historical trajectory toward greater levels of economic growth. The pursuit of quality of life improvements and the degree of equity that is added along with the merging of environmental and economic desires will alter the types of industries that may be targeted and the types of companies that may be courted. Jobs in this sector may be specifically targeted at cleaning up the disproportionate environmental blight in poorer communities and thus can increase both the equity of economic opportunities and the closely related environmental blight attributable to production. Thus, rather than the situation of "economic blackmail" described by Bullard, the green-collared jobs movement can focus on the pursuit of opportunities targeted to those communities that have disproportionately suffered from past environmental blight.

Will the green jobs movement provide a harmonic integration of economic growth and equity considerations? If the green economy is about finding employment opportunities in environmental remediation, then environmental justice communities will assuredly have their share of economic opportunities. As an example, Agyeman and Evans (2003) describe the process by which the primary tools of land use planning via zoning have purportedly resulted in widespread geographic segregation of people and land utility within the urban context. And, as a result, this land use policy created the overburdening of cumulative effects from environmental hazards in low-income minority communities. Planners can resultantly utilize both the views of sustainability and of environmental justice to identify the historical flaws in such land use planning. These flaws can include the separation of uses and low-density development and thus can fuel urban sprawl and auto-dependent transportation. As a result, things are beginning to progress with recent changes in urban planning and in public policy aimed at accommodating the green economy through “more efficient land development, mixed-use and mixed-income developments, and the reuse of former industrial sites.” Through the reenvisioning of economic development, green jobs development around the reuse of this land and may provide fruitful ground to operationalize environmental justice and sustainability at the same time—really amounting to a economic development strategy that is preservative of current and future environmental considerations and thus looping together components of inter- and intragenerational equity and justice. In a perfect theoretical world, environmental blight can provide economic opportunities for those who have disproportionately suffered from the externalities attributable to production in an environmentally preservative economic development strategy drawing together the three “E”s.

Although it is possible in theory, mixed results will likely persist in practice, with particular difficulty in addressing equity issues. As noted above, the implementation process is a specifically important area in terms of targeting growth versus equity. Whether or not it is important to see growth in aggregate, or more important to focus on areas where the distribution of economic spoils from green jobs programs could be distributed, may dictate the path of green jobs economic development strategies. A strategy that targets employment in high-technology industries that require highly skilled, specialized human capital will incorporate a different vision of progress than a green-collared job strategy aimed specifically at workforce development at the lower-skilled end of the spectrum.

Keeping the discussion around green-collared jobs in mind, it seems to follow that, at the end of the day, the devil is in the details in terms of whether or not equity plays as a guiding role or will just remain another aggregate-focused economic development strategy leaving issues of equity and justice by the wayside. Political dynamics will likely be a critical factor determining the actual implementation and achievements of green jobs strategies as opposed to traditional economic development approaches. Time will only tell whether or not the green jobs movement and the green-collared jobs movement will actually increase equity in practice, or just remain a utopian effort to draw together economic growth and equity in a new approach to merging environmental and economic goals.

Conclusion: Toward the Next Economy of Green Growth and Green Jobs

The “next economics” may in fact be green economics! This chapter sought to examine sustainability and green jobs at the localized level as a new aspect of both economic development and economic thought in general. First, traditional growth-centric theories as a focus of economics and of economic development were covered. Second, this chapter pointed toward the “next economics” of sustainable economic development. The green economy can provide a unique extension of such reenvisioning of economic principals and the pursuit of progress through economic growth *through* environmental preservation. Rather than environmental externalities from economic growth, economic growth can occur through mitigating previous environmental externalities.

This provides a useful contrast, but how can traditional and the “next,” “green” economics be weaved together into a coherent conceptualization? How can the new paradigm grow from the old, to reform economic thought to reach beyond growth alone in an incorporation of richer sustainability principles? In the end, traditional economic thought and the “next economic” thought around green growth can be drawn together into a coherent, complex story. Although future research is needed in order to define a path forward, the picture liking traditional economics to “next economics” can be preliminary painted in two ways—first through theory and then through practice.

Traditional to the “Next Economics” of Green Growth: In Theory

Sustainability, or a lack of sustainable economic development focused on green jobs, can be understood in traditional economic, institutionally driven terms. Environmental problems offer a plethora of economic and political challenges. A brief retreat into the institutional economics perspective can aid in understanding the concept of “eco-efficiency” as a critical related concept. This thereby provides new and often controversial assumptions around the nexus of environmental and economic concerns and outcomes. In the neoclassical, institutional perspective, environmental goods are often underprovided in the marketplace relative to their pareto-optimal level or equilibrium level. This leads to market failures (Perloff 2004). Most natural resources are club goods or commons goods. This, according to neoclassical economists, is because most natural resources are both non-exclusionary (the cost of excluding individuals from use is high), and rivalrous (the use of the good precludes others use of it). It is unrealistic or too costly to limit the enjoyment of these goods. Moreover, each person’s enjoyment depletes the resources and consequently depletes the potential utility that can be obtained through other individual’s enjoyment of the good (Perloff 2004).

This often fuels a market failure, or the tragedy of the commons as identified by Hardin (1998). Much of the problem is also attributable to an inability to appropriately gauge the market value of environmental resources, in the first place, and the social marginal costs to the environment generated from industrial production. When polluters pollute, for example, they do not fully take into account the cost that they are exerting on other individuals. The social marginal cost of resource depletion is not fully considered, and their activity is guided by comparisons of their marginal costs and benefits. The social marginal costs are greater than the private marginal costs of their action, or lack thereof, and the resource is consequently depleted and underprovided in the market (Hardin 1998).

However, the institutional argument may be changing. The nexus between the environment and economics, cast from distinctive assumptions about a burgeoning economic epoch, has been reenvisioned. Using environmental indicators, analysts can now determine how efficiently wealth is generated in environmental terms. Several empirically based studies have extrapolated on the notion of eco-efficiency. Results have indicated that industrial economies are increasing efficiency when measured by resource use per dollar earned in a country's GDP. Thus, the pursuit of economic goals can also preserve the environment at some level of general development within a country. As often depicted by the Kuznets curve, the relationship between environmental degradation and environmental preservation is curved whereby at some level of economic growth, environmental preservation can be mutually preserved. Sustainable development is bolstered, moreover, by an overall restructuring of the world's economy to service industry domination and the mostly abandonment of many of the Fordist mass production tendencies (Bleischwitz and Henricke 2004).

Many manufacturers are adopting sustainability concerns within their operations due to the reduction in energy, and materials reduce production costs. At some point, some researchers nevertheless have indicated that countries may achieve a level of eco-efficiency. Sustainability and eco-efficiency can be realized when efficiency gains are reached through actions that will not limit the overall prosperity in our society. Raimund Bleischwitz and Peter Henricke (ibid. 2004) argue in *Eco-Efficiency, Regulation and Sustainable Business: Towards a Governance Structure for Sustainable Development*. "...Thus there is a so-called double efficiency built into the triple bottom line of sustainability theory. Societies can produce wealth from nature more, or less, efficiently and can produce well-being from prosperity more, or less, effectively...." Thus, in countries that have achieved eco-efficiency, both an increasing level of economic development (often measured in GDP per capita or in more complicated indexes of development) and an increasing level of sustainability will result. In addition, corporations may be voluntarily adopting sustainability standards. Increasing economic freedom correlated with an increasing level of sustainability may be exhibited within a country or region (ibid., 2004). Eco-efficiency is predicated on the notion of developing what has been termed a "green economy." Specifically, new categories of goods and services related to environmental protection are emerging—creating opportunities for employment specifically and economic development generally, in a cornucopia of communities.

The argument follows that businesses are increasingly demanding these green goods and services as a part of their operations. Theoretically, strategies for sustainable business are becoming more prominent at both the international and national level. Businesses themselves can get a bigger bang for their buck by engaging in environmentally friendly practices and utilizing green purchasing strategies. According to Bleischwitz and Hennicke (*ibid.*, 2004):

In this context, proactive strategies for sustainable business development are of increasing relevance for companies and markets, and for future business opportunities, as with, for example, the adoption of environmental management (sustainability) objectives and even though there is no apparent attempt by governments to regulate the issues under consideration. A company may act proactively because, for example, it wishes to position itself as environmentally friendly or more broadly sustainable on the market, or because it has realized that achieving environmental objectives is linked to economic gains (a win-win solution).

A company's green procurement policies can be widely varied. They commonly amount to the purchasing of eco-labeled products or services, in-house or third-party evaluations of the product, or supply chain initiatives that improve efficiency along the supply chain (Young 1994). Green purchasing then not only provides savings for the company itself but also may improve profit margins for the consumer (Bleischwitz and Hennicke 2004). And the entire system loops around to create demand for the green goods and services employed by these green companies. Intuitively and grounded on these assumptions, this will create increased numbers of sustainable businesses and a heightened overall level of sustainability within a country, state, or city.

Moreover, this framework asserts that changing technology is enabling business to clean up in a cost-effective manner. The cost of pollution prevention, in board averages, has decreased in recent years. This has helped to give businesses further incentives to clean up and tighten the differential between private marginal cost and social marginal costs of production activities. Sustainability, for this reason, has been seen as a technological fix. According to the assumptions, eco-efficiency may now be possible, and even profitable, in the new economy (Bleischwitz and Hennicke 2004).

Thus, through the eco-efficiency lens and the wider institutional perspective, the set of incentives have been restructured within the institutional framework in the networked, service economy in such a way so that entrepreneurs can pursue sustainable operations within their corporate model. It is not about the "warm and fuzzies" but also about profits and possibilities. This will help to ensure the sustainability of the sustainability movement because it means that, once again, sustainability will not be categorized as a luxury good. Even in harder economic times, corporations will still be motivated to pursue sustainable objectives. The resultant producers of green goods and services (theoretically, at least) will remain a viable part of the market. Thus, eco-efficiency is established as a possible forgoing goal of the wider ontological framework of the sustainability discourse and of the "next economics" of green economic growth. Simply put, the "next economics" of sustainability is guided by eco-efficiency goals.

Traditional to the “Next Economics” of Green Growth: In Practice

One key aim that underlies much of the analysis and theoretical work around sustainable economic development is how to appropriately move forward with workforce and economic development for the green economy. Thus, what does the “next economics” of green growth look like in practice? This question is governed by the basic, yet difficult, question: How is workforce development or economic development different for green jobs and green firms? Although when reduced to specific green industries, a variety of traditional strategies remain viable, several key differences that build upon traditional economic strategies are critical to keep in mind. Areas of difference between the “next economics” of green economy-focused growth and traditional economic development strategies seeking industry and occupational growth include:

1. *Diversity in sectors.* We can think of green business as divided between the larger green economy, the potential green industries that lead to green producers or green practicers, green firms that make up the green economy, and the green jobs or occupations that fall within these larger firms. We should understand these green occupations and firms in the context of the larger green economy. A vast array of industries, in fact almost all, can potentially fall within the green economy as green practices (environmentally friendly companies). Although much fewer in number, a wide diversity of different industries are direct producers or service providers. Therefore, there is no one green industry or green sector within which it is appropriate to train a workforce within. Local or regional governments cannot pursue an overall “green sector” or singular “green cluster” strategy. Sector strategies within the “green” portions in identified industries can be effectively pursued from both the economic development and workforce development perspective. However, sector strategies can only deal with one sector of the green economy at a time. They will likely not address the full diversity of green firms within the green economy.
2. *“Practicers” versus “producers.”* Developing a green economy can be bolstered by strategic consideration beyond simply the green product or service production. Across many industry categories, firms are thinking about ways to green up production processes and to integrate sustainability principles into their everyday business practices. This shift is arguably often fueled by two principal factors. First, increased consumer demand for green goods and services may lead to business opportunities for environmentally friendly companies. And, second, companies often must change operations in order to meet current or pending environmental regulations. Training and job opportunities are located beyond the green producers to the need for a workforce that is knowledgeable about everything from chemical reduction to energy efficiency.
3. *Regulation centric.* In understanding and unlocking needs and opportunities around the green economy, it is important to consider the role of environmental regulations in the equation because green jobs are often in response to current or pending regulations. Many new products and market opportunities, subsequently

leading to new market needs, are incentivized in response to regulations. For example, Chapple et al. found that such a case applied to recent climate change regulation at the statewide level. They note that, “firms whose operations are affected by California Assembly Bill 32 (AB 32), which establishes the first comprehensive program of regulatory and market mechanisms to reduce green house gasses, also are more likely to innovate new processes.” Thus, future economics-driven research should seek to consider environmental remediation and associated regulations in order to locate potential opportunities and needs for green workforce development.

4. *Small and start-ups*. May green producers are thought to be small and/or start-up companies. Much of the industry is new and reactive to changing environmental conditions and regulations. Innovation is central in the development of opportunities in the green jobs sector. This may provide significant growth opportunities—this may provide opportunities in the “next economics” of green growth. But, at the same time, this also presents challenges in terms of understanding future trends and opportunities in the context of this theorized, and increasingly realized, next economies of green growth. It may be particularly important to understand venture capital trends in unlocking the future potential of green jobs.

In the end, not all growth will be green growth; not all jobs will be green jobs per se. But, some economic opportunities can be generated in the new economy, and the new direction of economics must include considerations of green economic opportunities and sustainability more broadly in order to offer a comprehensive pursuit of greater quality of life and a multifaceted pursuit of progress for local communities. Local and regional governments can play a key role in fostering sustainable economic development opportunities. The institutional structure will play a key role moving forward, and future research will seek to apply academic rigor to an understanding of the purported paradigm shift around sustainable economic development domestically and internationally.

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