

The long transition to environmental sustainability is already underway

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While the transition from today's service and brain-based economy to an environmentally sustainable economy will take decades to complete, the change has already begun. The time scale of the change is important to understand. I base my sense of the time scale on a change process that I, along with many residents of New York City, unknowingly lived

through. It was New York's painful evolution from a manufacturing city to a city with a radically different economic base.

In the years between the end of World War II and 1980, New York City lost over one million manufacturing jobs. In an [analysis of New York City's "apparel cluster,"](#) Harvard graduate students Cassie Collier, Helena Fruscio, Helen Lee & Janet Tan wrote that:

"Once a city producing 95% of the country's apparel, NYC—due to the high cost of doing business, space constraints, and availability of cheaper options overseas—now produces just 3% of the total clothing in the US."

The economic transformations during the 1960s and early 1970s were characterized by job loss and the near-bankruptcy of New York City in 1974. Through the 1980s and 1990s, we began to see the replacement of manufacturing by service businesses such as finance, media, information, health care, education, design, consulting, and insurance. In the 21st century, social media and e-commerce companies arrived along with a growing number of technology start-ups.

The forces behind the change included lower-priced labor elsewhere, but also technological change. The city's west side docks were too small for containerized shipping, and factories became more automated and required large one-story spaces for more automated assembly lines. Until the 1960s, New York manufactured clothing, bicycles, autos, and appliances. Today manufacturing is a small part of New York's economy. The change in the city's economy was unplanned and coincided with civil unrest, increased crime, and out-migration to the local suburbs and other states. The decline was seen at the time as a trend that would not be reversed. But abandoned loft factories in SoHo became artist studios and then luxury homes. Spaces that once housed factories found other uses and, by the first decade of the 21st century, New York City had been revived as America's most international city

and a gateway to the global economy. The city's population began to grow. In 1950 New York City had about 7.9 million people. By 1980 it had declined to a little more than 7 million. In the year 2000, it reached 8 million. In 2016 it peaked at 8.5 million dropping to about 8.3 million in 2021. Post COVID, I expect New York to resume growing in population as the city's economy continues to transition.

In fact, New York's role has changed from apparel manufacturer to a key center of the global fashion industry. This was noted by Cassie Collier, Helena Fruscio, Helen Lee & Janet Tan in their (Pre-COVID) study of New York's apparel business. According to their analysis:

"Though NYC no longer competes in large-lot apparel manufacturing, the city has a strong competitive advantage in sample-making and small-lot production, defined as production of less than 50 pieces ... Because the NYC apparel cluster is close to fashion consumers, industry players can test out new styles, get fast feedback, and quickly iterate on the design. This quick turnaround is possible thanks to NYC's highly-concentrated network of apparel experts that allows a designer, for example, to draw a sketch of a dress and walk it to the office across the street to a skilled sample-maker who can bring the design to life in a matter of days. The speed and flexibility that NYC offers in serving smaller markets of highly-differentiated and higher-priced fashion product is a key strength of the cluster... NYC stands out globally for its concentration of wholesale and showroom establishments. Each year, about 578,000 individual wholesale buyers and fashion event attendees visit NYC, with the wholesale market alone contributing \$16.2 billion in direct spending annually."

These changes in the city's economy did not go unnoticed by people who were losers and winners during the transition, but the degree of transformation was not well understood by the public or its elected leaders. I believe this evolution has continued as our service-dominated

economy takes its first steps toward environmental sustainability. New York City's sustainability initiatives are underway but relatively unnoticed. The growth of bike sharing and bike lanes is one initiative. Grading of large buildings by the New York City government for energy efficiency is another sustainability initiative. Other environmental sustainability initiatives include:

- A ban on natural gas hook-up in new buildings.
- An electric heat pilot project in two NYCHA developments.
- An effort to decarbonize the city's own buildings and vehicles.
- Major initiatives by our electric utilities with small businesses and homeowners to save electricity- funded by a state tax on electricity.
- A windfarm that will soon be constructed off the south shore of Long Island.

Many private companies have started the process of examining their production processes supply chains for waste, toxics, energy use, water use and greenhouse gas emissions. Many businesses are seeing the opportunities in the green economy. New technologies, new services, new knowledge, and new jobs are emerging. The old, clunky, pollution-belching smokestack once represented economic might in the 20th century. The 21st-century version is a passive solar designed building with a park view, housing companies that develop smartphone applications, marketing strategies, health care facilities and ride-sharing services.

While the transition to a renewable resource-based economy is well underway, there remain plenty of unsustainable practices and businesses in the world. The transition to a sustainable, renewable resource-based economy will take decades to complete. The change we need will be given operational meaning by the organizations we work for. Just as our organizations learned to incorporate occupational safety, financial

reporting, performance measurement, customer relations, employment law, social media marketing and many other elements into their standard operating procedures, so too will they need to incorporate a concern for the physical dimensions of sustainability. They will pay more attention to their use of energy, water, and other materials. They will think about recycling and designed reuse of finite materials, and staff will devote significant effort to reduce the environmental impact of organizational outputs. These changes will take place in service industries like universities and hospitality as well as in manufacturing. Change will be slow and steady and, like the tortoise, may not attract much attention until the hare is finally passed.

Many companies are moving forward with environmental sustainability initiatives. Of the hundreds I might select, I want to mention Walmart because it is a company based in the heartland of America. Walmart is the world's largest physical retailer and came to environmental sustainability because they saw the potential for financial gain from renewable energy, waste reduction and other environmental sustainability practices. Walmart has long used its vast influence in the marketplace to push suppliers toward environmental sustainability. Their experience resulted in operational involvement in the sustainability issues faced by its suppliers. In December 2021, it began a program with the HSBC bank to provide low-cost capital to its suppliers to facilitate supplier sustainability initiatives. According to Walmart's website:

"Walmart today raised the bar on [climate action](#) by creating a supply chain finance program that not only enables greenhouse gas (GHG) emissions reductions, but for the first time, uses science-based targets to do so in a way that aims for a 1.5-degree Celsius pathway... Eligible suppliers can approach HSBC for early payment on their invoices approved by Walmart with pricing on the financing linked to the supplier's CDP scores, targets set and impact reported. Suppliers setting the highest ambition would be able to take advantage of receiving the

lowest pricing."

This deep dive into the supply chain and the financial issues that might limit environmental sustainability is an indicator of the company's leadership in this area. Its approach to waste reduction and climate change is impressive and appears to be an integral part of its corporate culture. It is becoming increasingly common to see the roofs of Walmart's huge retail outlets covered with solar arrays. Walmart's company's corporate website notes that:

"According to the Solar Energy Industries Association, in 2019, Walmart added the most solar of any company in the U.S., increasing our solar use by more than 35%... In 2020, renewable sources supplied an estimated 36% of our electricity needs globally."

Cost savings due to the adoption of renewable energy is non-controversial and does not require acknowledgment of the reality of climate change. And so, Walmart could simply focus on utilizing lower-cost energy and not address climate change. Nevertheless, the company is very direct and explicit about its understanding of climate change and the company's goal of reducing its carbon footprint. According to Walmart's corporate website:

"As a retailer with operations in more than two dozen countries and sourcing that spans the globe, Walmart is deeply committed to addressing climate change. We're focused on strengthening business resilience, advocating for climate action and targeting zero emissions across our global operations by 2040, without relying on carbon offsets... Because most emissions in the retail sector lie in product supply chains rather than in stores and distribution centers, we're also working with suppliers ... More than 3,100 suppliers have signed on."

What is particularly important about Walmart's engagement with

environmental sustainability is that it is not something that is expected by many of its customers and staff. There are likely a large number of Walmart customers who are climate deniers who do not "believe in" climate change. Nevertheless, in Walmart's case, [environmental sustainability](#) is an integral part of its business strategy. It is a sound business practice that transcends political ideology.

The path to a circular, renewable resource-based economy will be long and difficult. But I am optimistic that the seeds of change have been planted, and the generation-long process has begun.

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