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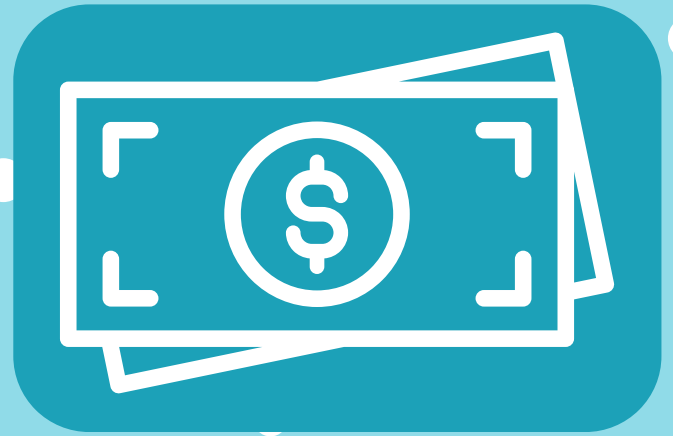
**SUSTAINABLE**



**LEADERS IN ACTION**

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# VERTICAL FARMING

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In the evolving landscape of agriculture, a silent revolution is taking root—literally. The ascent of vertical farming has captured the imagination of businesses worldwide, offering a novel approach to sustainable and efficient food production. However, as the industry sprouts and stretches towards the skies, businesses find themselves navigating uncharted territories fraught with unprecedented risks in a developing market.

Vertical farming, which involves growing crops in stacked layers or inclined surfaces, has emerged as an alternative to traditional agriculture. It offers the promise of yields, reduced land usage and the ability to farm throughout the year. In a world grappling with climate uncertainties and a growing population, businesses have eagerly embraced this groundbreaking approach to meet an increasing demand for food. At the heart of the vertical farming revolution lies a reliance on cutting-edge technologies such as hydroponics and artificial intelligence.

While these technologies hold the key to unlocking unprecedented levels of efficiency and productivity, their implementation demands significant financial investments and a skilled workforce. Businesses must not only acquire these technologies but also master their intricacies to stay competitive.


Nicknamed the “vertical farming bubble”, companies like AeroFarms, Fifth Season, and AppHarvest have shut down after merely years of operating—why? The vertical farming market is still in its infancy, akin to a seed just breaking through the soil. This immaturity renders it susceptible to fluctuations in demand, regulatory changes, and evolving consumer preferences. Businesses must remain agile, adapting to these uncertainties to thrive in an environment that is still finding its roots.



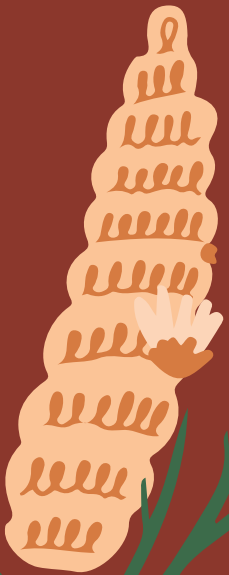
Vertical farms, often reliant on artificial lighting and climate control systems, face significant energy costs. While the initial promise revolves around sustainability, finding the delicate balance between productivity and environmental responsibility remains a challenge. The industry must innovate to mitigate its ecological footprint, ensuring long-term viability.

As businesses delve into the unexplored realms of vertical farming, success hinges on meticulous planning and strategic foresight. The risks are palpable, but so too are the rewards for those who navigate this budding industry with resilience and innovation.

The path ahead may be uncertain, but it's in these uncharted territories that businesses can sow the seeds of a greener, more sustainable future. There is still optimism to be had, with established companies like Gotham Greens thriving and profiting.



The growth of vertical farming represents a compelling chapter in the story of agriculture—a tale where risks and rewards dance in harmony. As businesses face the unprecedented challenges of this developing market, they also stand on the brink of redefining how we cultivate and sustain ourselves in a changing world.







# The Economic Impact Of Environmental Organizations



By Nicolo Dolge



Since America became interested in the environmental crisis, there has been a constant and ever-increasing push for businesses to preserve the health of the environment. You've probably seen the impact of environmental regulations every time you want to fill up your car; the average price of gas has steadily increased since the year 2000, in no small part due to taxes created by environmentally-conscious laws. Just in California, the taxes on gas in 2023 total 58 cents per gallon. Fueled by public pressure, regulation agencies such as the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) impose many standards and rules restricting the ability of businesses to generate pollution without cleaning it up. In the 1970's, the EPA was founded specifically because of public demands for the Nixon Administration to do something about city air, which was causing adverse health effects to many citizens. This led to the creation of the Clean Air Act in 1970, which has since been amended, but continues to be one of the longest standing and most impactful environmental regulations in America. These regulations often experience severe pushback from companies who experience high production costs and narrower profit





margins because of them. Since January of 2013, the EPA has received 504 letters of intent to sue them based on their environmental regulations, both from groups who find their practices restrictive, and from those who think they aren't doing enough. Despite this, many have argued that environmental regulations from the EPA, NRC, and other government organizations like them, can create benefits for both the environment and the economy when properly implemented and supported.

There are several different ways that the government and its agencies can use regulations to protect the environment from businesses. The two most popular systems are Carbon Taxes and Cap and Trade systems. A carbon tax is a set percentage value that the government requires companies to pay for every unit of pollution, like carbon dioxide, they produce. Cap and Trade is a bit more complex: the government puts a total cap over a pollutant's emissions in the country, and polluting companies can receive licenses to produce a maximum amount of it, facing fines if they exceed their license. These licenses can be sold and traded between companies, which encourages them to lower their pollution output so they can sell their licenses. Both methods have their downsides, however. Carbon taxes allow companies to produce as much pollution as they want, provided they are willing to pay the tax for it, and in Cap and Trade, companies can create pollution licenses through falsely "carbon negative" actions. In these two methods, and many others that regulating agencies could try, there are ways for businesses to skirt environmental protections and continue destroying our environment.



Any way our government tries to regulate businesses will have loopholes and experience pushback. Companies often make claims that restrictive environmental regulations hurt them too much to be profitable, and harm jobs and livelihoods an unreasonable amount. However, according to the London School of Economics and Political Science, "the benefits of environmental regulations often vastly outweigh the costs" for everyone. While it is true that companies, especially smaller ones, may experience reduced employment and productivity due to environmental regulations, these effects are small, and often felt only briefly as a country's whole economy becomes more sustainable. From an objective economic perspective, job losses at polluting companies are of little consequence when compared to the incredible public health benefits, and the money that a healthier environment saves the entire nation. The fact is, environmental regulations have been found to increase economic growth in the long term, and arguments saying the opposite simply carry no weight. Beyond the immediate economic impacts, regulations have the ability to guide the future decisions of business, often towards investing in sustainable technology and improvements. Study after study has shown that environmental regulations have the effect of fostering innovation and challenging companies to come up with greener ways to operate to avoid green taxes and negative consumer sentiment.

Companies will always operate with varying degrees of moral integrity, especially when compliance with environmental regulations threatens their bottom line. Not every company who claims they are 100% sustainable or carbon neutral actually is; some of the biggest ones buy unreliable "carbon offsets" from unreliable registries, where that money rarely actually benefits the environment in any way. John Oliver, host of Last Week Tonight, ran an expose on the carbon offset industry.

where he cited JP Morgan, which spent \$1 million buying carbon offsets from the Hawk Mountain Preserve, claiming that their money had helped store more carbon and fight climate change. In reality, the trees JP Morgan paid to "protect" were never in danger in the first place. Their claim that they were "carbon neutral" in 2020 is completely fraudulent!

Ever since the general public has concluded that sustainable businesses should get more customers, there have been many disingenuous attempts to mislead them. Greenwashing, the practice of using deceptive marketing to fool customers into believing a business is using sustainable practices, has been a controversial issue involving some of the largest companies in the world. More and more, businesses are tricking consumers with pseudo-sustainable solutions, dodging the regulations of important government agencies, and generally taking the easiest way out on solving climate change.

As an American citizen, you have tools at your disposal to solve this problem. The most effective one you possess is money: using your purchasing power and making informed shopping choices will influence businesses who, in the end, rely on selling to you and others like you. Consumers have the power to choose where their money goes, and whether it supports companies that destroy the environment, or those that protect it. And in order to use your money correctly, the single most important thing you can do is keep yourself informed. The EPA requires companies in certain industries to report on their emissions and pollution, which can be accessed by the public through the 1966 Freedom of Information Act. Additionally, in no small part due to consumer pressure, an increasing number of companies in the US are publishing annual sustainability reports, detailing their energy usage, greenhouse gas



emissions, and water consumption, as well as their environmental, social, and governance (ESG) goals. Paying close attention to news coverage of these reports, and understanding which companies are actively working to reduce global warming, and which ones are just faking it for the good PR, can drastically change your own environmental impact just by associating with them.

Make no mistake: sustainability reports are being published in order to attract the business of environmentally conscious consumers like you so that companies can keep a healthy bottom line. This fact is disillusioning, but not necessarily bad. What it means is that these businesses no longer have any choice but to care about their environmental impacts. The days of CEOs keeping their heads buried in the sand while their wallets get fatter and their mansions grow larger are over. In today's America, the only way to make real money is to keep the environment safe while doing it. Let's keep the pressure on.



# Guide to Sustainable Shopping

By Nina Damiano

For many shoppers, it's hard to resist an impulse buy. Whether you see a clothing item in your style or a half-off sale, it can be tempting to spend money before thinking a decision all the way through. However, slowing down and being a more deliberate shopper can have numerous positive impacts on not only your wallet, but the environment as well. Check out these useful questions to ask yourself to help transform your shopping habits:



## Is it local?

Shopping local is one of the most important ways to cut back on the environmental harm that comes with shipping products long distances. For example, buying your week's food from a local farmers market saves that food from having to travel long-distance from a mass-produced farm. And instead of shopping online, buying the things you need at physical stores will prevent the harm that comes with online shipping and plastic packaging.



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## Do I need it?

Asking yourself this question will prevent you from making any unnecessary or impulsive purchases. When you are considering buying an item, make sure that you don't already have a similar item at home that could be used instead. For example, using leftover jars is a great substitution to buying new tupperwares from the store!

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## How was it made?

It's important to be aware of how an item was created in order to make an ethical consideration on whether you should buy it or not. Websites like the [Environmental Working Group](#) are good places to look if you want to determine if your product was made from an eco-conscious company with a small environmental impact. Companies that offset their carbon production or that are carbon neutral altogether are great options to consider buying from.



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