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What Does the Future of Sustainability Look Like?

Daphne Stanford · Thursday, July 13th, 2017

From new developments in the auto industry to advancements in home-based utilities and airline travel, the future is looking more sustainable than ever. Air travel is currently estimated to comprise approximately 3 percent of all global emissions, at the moment, but it's also projected to grow as demand for international and domestic flights continues to increase. As consumers learn of advancements in fuel efficiency, the call for more sustainable and economically viable options also grows louder. And advancements in energy efficiency are making net-zero emission homes a more tangible possibility. Read on to learn about the latest developments in doing no harm to the environment and the world around us, through tapping into as few fossil fuels as possible.

Air Travel

You may be wondering, "Are biofuels for aviation use more or less expensive to produce than regular fuel?" Considering the fact that most commercially-produced biofuels utilize used cooking oil, I would predict costs to be minimal. But according to Christian Science Monitor, corn-based fuel recently cost Alaska Airlines six times more than regular jet fuel, for the purposes of recent test flights. Part of the reason for this is that regular fuel is at a very low cost right now—a factor that is likely to change in the future, as availability decreases for fossil fuels, in general. The sustainability factor is a complicated one, as well, since biofuel may reduce harmful emissions from flight, but the crops used to produce some biofuels aren't sustainable—for example, palm oil, which is tied to destructive deforestation in Indonesia and Malaysia.

Much of the problem seems to simply boil down to politics: according to GeekWire, "Biofuels do not have the government subsidies and tax breaks enjoyed by the oil industry… Big Oil also has much greater political clout than the biofuels industry, including in Washington state, to keep that advantage." Considering the additional pressure on many legacy airlines to keep prices as low as possible, in order to effectively compete with low-cost carriers (LCCs), airlines may be nervous about adopting what they might consider a high-risk product like biofuel.

However, airlines might want to consider asking their customers how they feel about being given the option to adopt more sustainable fuel; they may be surprised at the results. Surprisingly, the biggest call for fuel sustainability, when it comes to the business of flying, comes from the aviation industry itself. Therefore, the rest is now in the hands of politicians and consumers to demand more sustainable fuel options. One example of successful planning efforts for implementing more sustainable aviation fuel is the negotiations currently underway between Seattle-Tacoma International Airport (Sea-Tac) and Rocky Mountain Institute to evaluate funding mechanisms to

help cover the difference in initial fuel costs.

Automotive Technology

From the use of biofuel for semi-trucks and cross-country transport of nationally-produced goods to the developing implementation of electricity-powered vehicles for personal use, sustainability is making leaps and bounds for both private company usage and personal consumption purposes. It's important to be aware of the politics involved in the various industries: change can be painfully slow at an industry-wide or societal level; however, it needn't be slow on our ends, as consumers and citizens are free to voice opinions relevant to both business and politics. So much in the financial market is tied to not only cost efficiency, but also routine, habit, and tradition. For example, Scientific American reports that a number of cars produced in the U.S. are projected to double their current fuel efficiency standards, but that trucks and SUVs are not keeping pace—due in part to the currently-low prices of oil and gas.

Despite the political infighting that continues to be an obstacle to faster progress on the biofuel front, statewide initiatives like Oregon's Clean Fuels Program stand as beacons of hope. A lot stands to be gained through the use of biofuels by the trucking industry. Namely, there is tremendous potential for job growth: according to the Green Truck Association, "The National Biodiesel Board (NBB) estimates that for every 100 million gallons of biodiesel produced from algae, 16,455 jobs will be created." Oh, you've never heard of algae oil? Well, I hadn't either, but apparently it allows for up to 200 times greater yields than those of soybean oil, per acre.

On the commercial vehicle front, IEEE Spectrum predicts hydrogen fuel cell technology will power the cars of the future and be consumers' vehicles of choice, once they're more widely available. However, many fuel cell electric vehicles (FCEVs) are only available in California, for the moment—rendering them effectively unavailable, nationwide. Still, the number of highly fuel-efficient vehicles is increasing, reducing the ultimate amount of gas required for purchase—though not completely eliminating it, as would be ideal.

That said, the options are opening up in an exciting way. Keep an eye out for new standouts like the Hyundai Ioniq and the Chevy Bolt, both of which blow previous standards and records out of the proverbial water—the original Prius, notwithstanding. It will take consumer demand and political influence to change the status quo for electric vehicle availability, but it's possible. It simply requires the will to make widespread changes happen, on a greater scale.

Home Energy

Sustainable design for the home has evolved beyond LED light bulbs and including solar panels for electricity—which incidentally have come down quite a bit in price as well as improved in quality. A number of specific elements contribute to efficient and sustainable design: good insulation and ventilation, solar water heating, double glazed or low-e glass windows, rainwater tanks, drip irrigation, low-flow or composting toilets, low-flow shower heads, energy-efficient appliances, and sustainable landscaping. Imagine owing nothing for your energy bill or building up a surplus of solar energy, which you can then utilize via solar batteries!

Another trend that's becoming increasingly popular is the use of repurposed building materials, so

as to avoid purchasing brand new products. It’s always preferable to work with what you have or can find used, as opposed to contributing to the ever increasing rates of industrial production. This philosophy can apply to landscaping, as well, as it’s entirely possible to repurpose old furniture to help design and decorate your garden or create unique looking planters or flower beds.

And, of course, the ultimate repurposing of materials is building one’s own house out of lumber scraps, used tires, and so on. Another obvious move is to ditch the traditional front lawn model and go with xeriscaping and vegetable gardens, so as to maximize self-sufficiency and the amount of water used, as well as energy expended on transported bought produce from the store shipped in from New Zealand, Mexico, and Canada—not to mention from all over the continental United States!

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What aspects of sustainable living are you most excited to adapt, now or in the near future? Share your plans in the comments section below, and remember: a sustainable world is within reach, if we all want it badly enough. We just need to exercise our voices and mobilize our collective will to demand greater efficiency for all parts of life, and we’ll get there.

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