

## Skills and Materials for Post-Petroleum Economies

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Margot McDowell is a sail maker and seamstress in Anacortes, Washington. She has a counterpart here and there in the region, such as a woman in Port Townsend and a woman in Bellingham. Considering the number of sailboats and ongoing demand for more sails and sail repair, these sail makers barely comprise a local industry. This is because the great majority of sails are made in Taiwan -- made out of Dacron, a petroleum product.

Margot is anticipating retirement in a few years, but she works alone, in a large sail loft that formerly was a church. She has no apprentice or assistant. When she leaves the business, her customer base will have to look to other islands and towns, possibly encountering less experience or higher prices. For corporate globalists, obtaining all sails and even sail repairs from across the Pacific is fine and dandy. Tradition, local talent and community resilience have almost no value in Free Market ideology.

When the few who think about the energy-poor tomorrow to come -- after the last spasms of petroleum-fed gluttony -- wonder about maintaining a modicum of trade, substitutes for petroleum are discussed. Many practices will be ending abruptly. The illogical shipping of raw logs from the Pacific Northwest to Asia, where wood is finished and shipped back to the U.S. at value-added consumer prices, is a prime example. But there is good reason to keep using certain petroleum-based products well into the future even when they are no longer manufactured:

Dacron sails have three advantages over natural-cloth sails: Dacron is stronger, longer lasting and cheaper. Similarly, fiberglass boat hulls and decks are the prevalent material, when wood, steel, and ferro-cement are more costly and scarcer. Even masts, spreaders and booms are of petroleum, in a sense, when the massive energy going into aluminum is still cheaper than wooden spars, for example, made from increasingly rare old, large trees.

The Sail Transport Network, a small movement active since 2007, has entertained debate on the advantages and disadvantages of wood and more modern materials. Another topic is industrial hemp for rope, anticipated to become quite common in the relatively near future. But to assume the same for hemp sails is another matter. This is where the great quantity of Dacron already in existence for tomorrow's sail transport fleet means that yesteryear's sails of cotton and hemp may be many decades away from returning.

Margot McDowell says that one problem with natural-fiber sail material is that singeing the edges to partially melt the Dacron means not having to have extra seams and stitches, and thus having to use more material, if cotton or hemp are involved. Also, these latter materials stretch far more than Dacron, and are far heavier too. Nevertheless, these issues will have to be surmounted one day, just as the sewing machines will again be pedal-powered by seamstresses' legs.

Let us look into another conundrum for future versus present-potential trade that, like Dacron sails, involves current impediments thanks to subsidized petroleum. David Reid is the proprietor of Sail Transport Company, based in Seattle. It turns out that the only way sail transport can compete broadly with oil for transporting goods via trucks is for sail power to also be subsidized (as oil is): differently, mainly with volunteers, donations, and tax deductions. Niche markets or regular subscription-arrangements (Community Supported Agriculture) can be viable for sail transport today, if the topography is favorable. To give oil-free transport and commerce a leg up, perhaps ecotourism can be added.

For large-scale sail transport cargoes, the price of oil will have to get very high and remain there, followed by the permanent unavailability of petroleum fuels. When this happens, suddenly the many boats of fiberglass hulls with Dacron sails will be pressed into service, along with the few remaining clipper ships that are currently used mostly for sailing schools and "Sunset Margarita Cruises."

The future of trade and transport is going to be subject to the same contradictions and stumbling blocks that are plaguing the return of many traditional activities. Paramount are such things as the preserving of foods in the cellar, education of the young by their grandparents, cobbling together not just shoes but bicycle carts and trailers -- the list is endless. So many skills have been lost by consumer culture that their return will be painstaking and inadequate for the challenge. But the rewards are great, even if they are delayed for now. It is sad that so few people are interested or able to follow important trends, when the system we live under forces almost everyone to live for the short-term.

Upcoming Culture Change reports on saving skills for the post-fossil fuel future will revisit energy, food, transport, and materials. Promoting permaculture farming and other positive steps do not comprise a comprehensive approach for dealing with the out of control, ecocidal culture. For the great majority of modernized people on Earth are soon going to hit a wall at high speed; its name is Resource Limits, or Overpopulation. So is there something we can do?

Neither does a comprehensive approach lie in appreciating traditional skills and crafts, or even in studying them diligently. For sustainable, community living, the existing dominating system has to be discarded. When one buys corporate products, an opposite effect to the desired one is achieved. The challenge is to communicate the need for action to those who hide from it, whether at the top of the pyramid or seemingly helpless at the bottom. But as long as buying a new car is possible, little may change.

Regardless of our best efforts, rapid and massive change is inevitable -- akin to a house of cards coming down -- for modernized, non-traditional, urban people. The collapse will happen partly because of our dependence on complex technology for so many daily functions, coinciding with recent decades' loss of many skills along with the minimizing of close collaboration within the community. These factors, apart from climate disaster, will speed petrocollapse-induced wipe out of the present economy. In the process the oil industry will lose the ability to serve, relegating it to history (thankfully, except for its food-system failure). Enter the new age now.

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David Reid's  
Sail Transport Company

The Sail Transport Network