

Identifying the Bottleneck of Tomorrow

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Summary:

In a world where disconcerting episodes like the *Food Crisis* and *Global Warming* have struck the world in a draconic fashion, we have no time for idealistic solutions: pragmatism should be the key word. Therefore, this essay proposed to look at present conundrums, identify the most pressing bottlenecks that hinder development, and tackle them at their roots. If we are to ensure the well being of future generations, we are not to move the masses; we are to move the bottleneck of tomorrow.

Essay:

The sun is the heart of our world. All energy we use is in essence of the sun's descent. Geological energy, solar rays, wind, tides, waterpower, and even biomass (which is quintessentially "canned sunlight" or "chemical energy") stem from the yellow fireball. The sun's clout is so powerful, that it needs to shine but thirty minutes upon the earth to match our world's annual energy needs. Accordingly, we can conclude that the conundrum is not so much the availability of energy, but rather the conversion and storage of it. If we would be able to stockpile only a fraction of the sun's energy reaches our planet – as nature does in compounds such as starch, glycogen and lipids – we could spend the rest of our time pondering how we are going to use all that energy. So, the following essay should be directed at exactly this discussion; *How to store the sun's energy?*

I, however, will not. I will not for one reason and one reason only. It is utopia, or downright idealistic to be talking about something which we are markedly not able to achieve within at least the coming decades. In disconcerting times like these - where global warming and food crises have struck global well-being in a draconic fashion – we should be looking at pragmatic solutions. For the sake of our well being, and that of future generations, we do not have the time to wait. We need to act, now.

Subsequently, rather than looking at the ideal situation that we are to be in, let us look at the roads that lie ahead of us, and seek the paths that can lead us to solve present problems. To do so, we are to indentify the main bottleneck(s) that hinder further development. For now, the storage of solar energy seems a distant walk. The conversion, however, is a different story. We have made considerable strides in all kinds of energy conversion. Wind power, in example, has gone from pet project to valid energy resource in a matter of decades.

Still, however, in 2009 we have yet to truly make *geological energy* (such as gas, oil and coal) redundant – even with the knowledge of its malevolent externalities. We have a tremendous stock of human capital, a vast amount of financial means and a huge sway towards "sustainable" and "green" energy sources – yet, we have not managed to make nor wind power, nor biomass a genuinely competitive product. That brings a pragmatic, and crucial question to the

table: *What are the main bottleneck(s) for green energy? And: How would we tackle these hurdles?*

Let me, for the sake of simplicity, look at two examples: *wind power* and *biomass energy* to depict my point. First, the world's fastest growing renewable energy source: wind energy. As a commercially viable generating technology, wind energy rapidly augmented, with \$25 billion new generating equipment installed worldwide in the fiscal year 2007. Unfortunately, two factors seem to hinder further development: red tape and global cooperation. While the latter can be tackled through the establishment of multilateral, or common, energy policies, the former can be achieved if the government simplified proceedings and assumed a facilitating role. A good example of such measures would be the recent exploits of the Dutch government. By making the elimination of red tape a top priority, they have managed to significantly simplify proceedings. Albeit with early setbacks, the Dutch government is currently making considerable strides in their plans for prospective wind power allocation. They identified the main bottleneck; and attacked it at its roots.

Second, the usage of biomass. This is especially relevant because of its significant impact upon global well being, with both the food crisis and the environment closely connected to the renewable energy source. The bottleneck can be derived from this interconnection, as biomass is not only required to have significantly lower co2 emissions; it is also not to compete with food products. First generation biomass, like corn for instance, was not only a weak competitor in terms of co2 emissions, it was also directly affecting food prices. Sugar cane from Brazil, conversely, does not fall within the category of primary food products, while still achieving a significant reduction of co2 emissions. So, in order for biomass to continue to develop as a viable energy source, a better understanding is necessary. Moreover, strict guidelines on the production and usage of biomass – like the Cramer Criteria – are to not only be constructed, but also accepted so as to ensure that global well being is not only improved, but also ensured.

While these exemplifications do not necessarily portray the genuine road towards a solution, they do portray a conceptual framework that attacks not the symptoms, but the rather root of the lack of development. When we look at the contemporary problems with respect to energy and food, and relate them to well being, it quickly becomes clear that we do not have time to wait. If, however, we would like to act now, we need to fight the battles we can win. And that leads us to the need to step away from idealism.

As an infamous headline of the Czech existentialist Franz Kafka asserted at the dawn of the First World War: "Germany has declared war on Russia; swimming in the afternoon". That axiom also holds (maybe even more so) in the contemporary crisis. We should not seek to push strong sustainable beliefs through the throats of the entire populace when that what is currently threatening us is – and will always be – a post-normal scientific phenomenon (where high uncertainty and high stakes go hand-in-hand). Times like these ask for pragmatism in favor of idealism. Let that be on the minds of all policymakers and NGOs in Copenhagen at the end of the year. Let that be our guiding principle towards an improvement of global well-being, as that is the fastest way to the (sustainable) light.