

Summary

The food and fuel crises are largely a question of energy security and development which are essential for both human and societal progress. By shifting our vision of energy from scarcity to assets with multiple forms, we can uncover ways in which existing institutional capacities can increase societal well-being despite growing concerns over economic and resource constraints. This requires acknowledging the differing demands in the developed and developing world with a focus on small-scale infrastructure reform. Thus, by enhancing household resilience tied to an agenda of industry growth, societal development progresses in tandem with increasing awareness of accounting environmental assets.

"Faced with a food and energy crisis, how can society improve its well-being?"

The food and fuel crises are largely a question of energy security and development, essential for both human and societal progress. Though we currently hold voluminous scientific evidence on our destructive causes and its potential consequence, very little to date has been uncovered on what can be done in the local scale to tackle this global phenomena. What we need to develop are more knowledge and understanding of the ways in which current institutional and individual mechanisms in our economies can be engineered for the benefit of our environment, society and individual well-being.

As we begin to rethink the processes of our everyday lives, one words feature prominently: energy. As we look into the problems beneath the concerns over climate change, its effect on water levels, air quality and temperature are the main concern; all of which are sources of energy essential for societal and human growth. Furthermore, it is a growing acknowledgement that consumption of energy from the first world must be altered substantially to reach a reduction of greenhouse gases to levels during 1990 by 2050. The contraction in industrial capacity hampered by an economy needing a reason to stimulate presents our current conundrum. How do we consider these factors and find ways in which the global economy can still survive within existing institutional capacities?

The mechanisms in our international system are interconnected enough to spread standards easily as the problems over the environment have made world leaders feel like neighbors from across the street. International cooperation is growing. Moreover, the problems of the developed and the developing world must be tackled separately with the question of energy security as the main concept. Again energy must be retained as a multifaceted entity that is not restricted to oil but to include essential resources such as heat and water.

First, take the United Kingdom as an example of a developed country that requires re-education on ways to conserve energy. The building stocks in the UK waste enough heat due to thinning structures that any marginal improvement on them can vastly improve the amount of money consumers save, and of available energy on the grid. Various academics have published literature calling for such improvements while stimulating the infrastructure trade. An industry that is predicted to decrease amidst a global recession infrastructure however can expand provided it shifts focus away from large scale and into improving small-scale projects. In a country that experiences cold winters for majority parts of the year like the UK, countries in Western Europe, in the emerging economies of Eastern Europe, and in the states along the United States' north eastern seaboard, can benefit from increased insulation in the building stock in order to decrease energy consumption. Meanwhile, as re-education over conserving heat in the homes is occurring in an individual-level, simultaneously behavioral concepts can be alerted of how that same energy which requires more insulation for homes can be turned into an energy asset.

Very recently, famed UK chef, Jamie Oliver demonstrated to the British public ways in which vegetables can be stored for the long term without refrigeration by utilizing the cold energy outdoors to preserve food provided sufficient container material can be used to preserve its texture. The same can be said for any beverage (preferably non-carbonated) to be stored outdoors. In this way, cold weather has never tasted so good.

Here, flat and apartments can be re-designed to harness the energy cold from the outdoors. As such, this remedy is not restricted to a suburban but also incorporates the urban setting. Through these slight individual changes, energy and money can be saved through winters by decreased refrigeration and heating costs. From here, every day appliances can also consume lesser energy on the grid through installation of panels and an aggressive roll-out of appliances to be sourced from solar. Simultaneously, recognizing the energy beneath the soil of these same structures can be harnessed for coolness where energy sits unfazed despite a hot season. Through these individual small-scale projects, much can be achieved in energy sustainability.

Meanwhile, same small-scale projects are desperately needed to secure water and sanitation services for those in the developing world in order for nations to meet their Millennium Development Goals by 2015. Here, a conservation of energy requires recognizing the different ways in which water can be harnessed for those living at or below the poverty line in rural areas. Traditionally local patterns have existed for centuries that display the types of norms and behaviors handled by their cultural groups based on ways to share access to common resources, like water. Understanding how cultural relations react to changes in water levels and then providing small-scale projects to enhance storage and transmit can increase efficiency and reduce loss. The same technique can be used from listening to tales of farmers who for years have witnessed the slow devastation of climate change wrought on their river and agricultural patterns, like in Nepal. From these stories, devising proper structures to reduce farmers' vulnerability will require tools from the infrastructure trade to reduce vulnerability. Furthermore, categorizing for different types of water will be necessary when dividing for human consumption versus sanitation services where efficiency management requires affordable ways for pipes and containers. Finally, there is also the need to value different levels of water that are prone to loss due to lack of proper infrastructure for storage, such as rain and surface water. Effective harness and transmit into a centralized area prevents loss, increases efficiency for the community and reduces dependency on groundwater mitigating vulnerability and conflict.

Yet these are merely recommendations and challenges will remain. Accreditation and metering will be required within developed countries to monitor progress while resilience of design in infrastructure will be the challenge faced in developing countries. But as we replace our vision of energy from scarcity to assets with multiple forms, so can challenges present opportunities with benefits to all. For now, by reducing energy consumption and increasing access to water, marginally increasing societal well-being will be achieved.