

PM WORLD TODAY – VIEWPOINT – NOVEMBER 2008

Energy crisis or “energy supply for development”  
management crisis?

*By Jose Machicao, PMP*

For years, we are witnessing how the energy system has matured, and from the basic usage of wood for heat, we, as a human society, managed to have energy markets and to discover electricity as an ineludible source for many of our main daily activities. Currently, we are reading a lot of opinions about a new energy crisis and many technical information analyses have been published in order to explain what is happening with energy in the World. We are currently living another energy crisis, with high oil prices, increasing forecast of consumption in the developing countries, low efficiency of consumption, and so on.

My perception is that most of the analyses of the current crisis and even some of the past energy crisis, are and were focused on the technical description of energy markets. I consider it useful to explore what other aspects of the crisis project management can help us to discover as well as to improve the ability to surpass the crisis.

During the maturing process, the energy markets created the need of managing those markets, together with many tools, and the “energy price” became one of the most important indicators of any diagnose of the system. In many ways, I think this happened because it was understood that the energy price represented how accessible energy is to the individual consumer, which was, in the majority of environments, true. But, if we pay attention to the majority of decisions during the history of the “energy markets”, the focus of them progressively shifted from the satisfaction of the need of the consumer (or potential consumer) to the diagnose and correction towards a better operation of the energy market, assuming that the concern about the operation of the energy market would cover the satisfaction of the consumer. At this point is when scope management (one of the areas of project management) helps us more. Just as an example, I was not able to find any analysis of the current energy crisis which tells me how the accessibility of humankind is threatened by this crisis. What I find a lot is the description of how the energy markets are changing and its main parameters are being affected.

Since 1990, the World Energy Council<sup>1</sup> is publishing papers analyzing the energy system in the World and suggested three main indicators to evaluate the energy situation:

- Accessibility to energy,
- Availability of energy and
- Acceptability of energy supply solutions.

This approach is much closer to what the consumers and potential consumers should receive from an energy system. In other words, if we still take care about the energy price (electricity price or oil price, whether this price goes up or down) we will never be sure if we are increasing the accessibility, availability and acceptability of energy to the consumers and potential consumers. Unfortunately, almost all energy policies from the majority of countries in the World are driven by the parameters of the energy markets and, as if that was not enough far away from the most concrete reality of the energy situation, most of them restrict the analysis to electricity. It is impossible to cover all the details of this confusion, but many of these deviations are covered by scope management (within the project management standards).

This fact becomes particularly critical when is analyzed in developing countries. Particularly, as an example in which diagnose I was working closely, the Rural Energization Program in Peru was recently called “Rural Electrification”, its main indicator is the national (not the rural) electricity supply national coverage, without any focus on rural electrification, some additional indicators are the quantity of electricity network connection points, the average cost of each connection, the amount of money invested in energy transmission and distribution infrastructure per capita, even when the population considered for this calculation is never the rural population but the national population. No reference was found to measure the actual population with energy needs uncovered classified by location and no finite goal appears to exist in written policies towards energy goals. In terms of project management, this represents a critical lack of scope definition.

In order to design a good scope, another useful project management tool is cost/benefit analysis. Basically, we need to identify scenarios, but focused on a coherent conceptual model out of the scope of this article. The scenarios suggested could be:

---

<sup>1</sup> [www.worldenergy.org](http://www.worldenergy.org). Extracted from: Deciding the Future: Energy Policy Scenarios to 2050 World Energy Council 2007.

- Scenario A: Oil prices are going to increase progressively, coming down sometimes but basically increasing its price until the majority of oil reserves are used, and then other forms of massive energy are going to emerge, and the main issue to design energy policies for the countries is going to be a highly qualified management of the energy markets, making the systems more perfect while problems of the markets are solved.
- Scenario B: The main parameter of the global energy system is going to be a mixed indicator of accessibility, availability and acceptability of energy supply in order to optimize sustainable development, particularly for those who today have low indicators, energy will be understood as a supply for sustainable development, and all energy systems (markets, exploration, conceptual models linking sustainable development to energy, global energy balancing) are going to be managed focused on increasing those three main parameters.

The clear difference between these two scenarios is that Scenario A is focused on energy market only, and Scenario B is focused on what energy is going to be useful for. This is the main need to be considered to design a cost/benefit analysis. Further explanation of how detailed appliance of these tools is going to be worked later. But the usage of these two project management tools, only drafted here, demonstrate very slightly some intuitions about how project management can be used in order to analyze complex systems during the first stages of further diagnose, and how this usage of project management can improve the conceptual approach with which research can gain effectiveness when more accurate data is processed. In this particular case, demonstrates the presence of an intuition that probably the energy crisis is more an scope and cost/benefit analysis management crisis more that a limited resource or energy model or policy crisis.

- In my opinion, the problem with energy is that most of the energy management systems (price markets, electricity generation, etc) are conceived to be massive.
- Today, the world needs to get energy from many sources, in many patterns, in many ways, for individual usage, also. Massive systems are going to be useful but not the most important any more.
- The so called “global energy crisis” (check The Economist) is then probably a “global energy management system crisis”.
- Again, we need to re-think as a planet: why we are going to use energy (scope management), how is better to use it (cost/benefit analysis), what services we have to

implement for the citizens according to their energy needs (stakeholders management) and how we can manage the information to get the efforts together for a well known global energy management vision (alignment management and communications management)

- If we make place for another vision of the global energy management systems, most of the problems we have today are going to be reorganized and probably reprioritized. For instance, high oil prices or the increase of the cost of the services for citizens due to the high oil prices are going to have new solutions turning the sight to the local solutions for energy management.
- High massive consumption oil prices (and in Latin America, some high electricity prices) are an open door for new experiences with more focused consumption energy sources and practices

## About the Author



### **José Carlos Machicao**

*Author*



**José Machicao**, PMP, is an Organizational Project Management consultant working in the public and private sectors in Perú and and International Correspondent for PMForum and *PM World Today*, based in Lima. Mr. Machicao has a Masters Degree in Energy from the University of Cardiff, Wales, UK, and a Mechanical Engineering degree from the Pontificia Universidad Católica del Perú. He is a member of the Colegio de Ingenieros (Peruvian Association of Professional Engineers), the World Energy Council, the Association of Energy Engineers, and the Project Management Institute (PMI®). He is currently Education Director for the PMI GovSIG®. Additional information about José can be seen at

<http://www.pmforum.org/pm%20forum%20team/index.htm#5>. José Machicao can be contacted at [jcmachicao@gmail.com](mailto:jcmachicao@gmail.com), and <http://blog.pucp.edu.pe/jcmachicao>.