

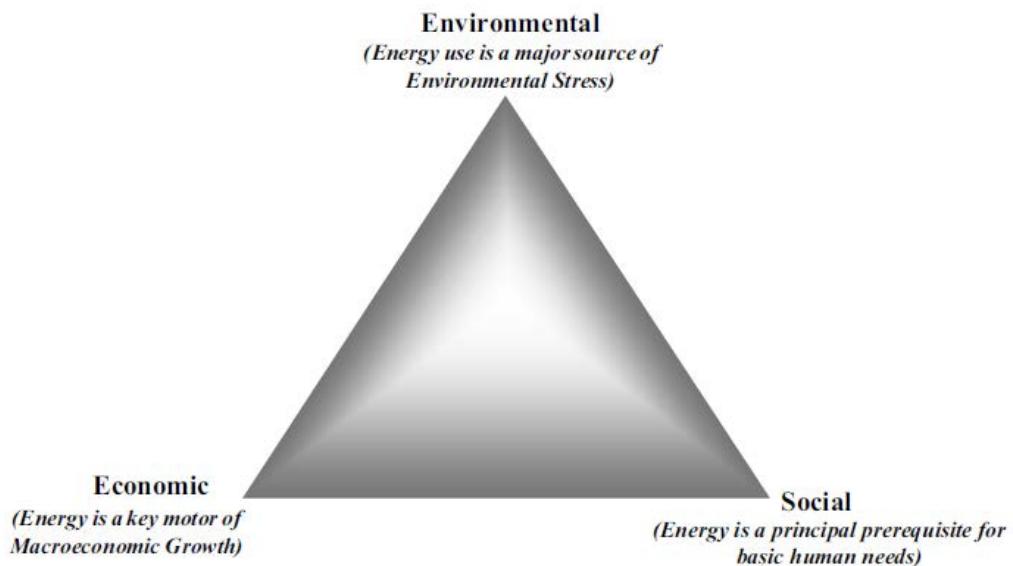


Dear readers,

Thank you for your responses. This is the 3rd post on "**educating for sustainability**". Please email me with your questions, suggestions and responses at mona@greenschool.org.

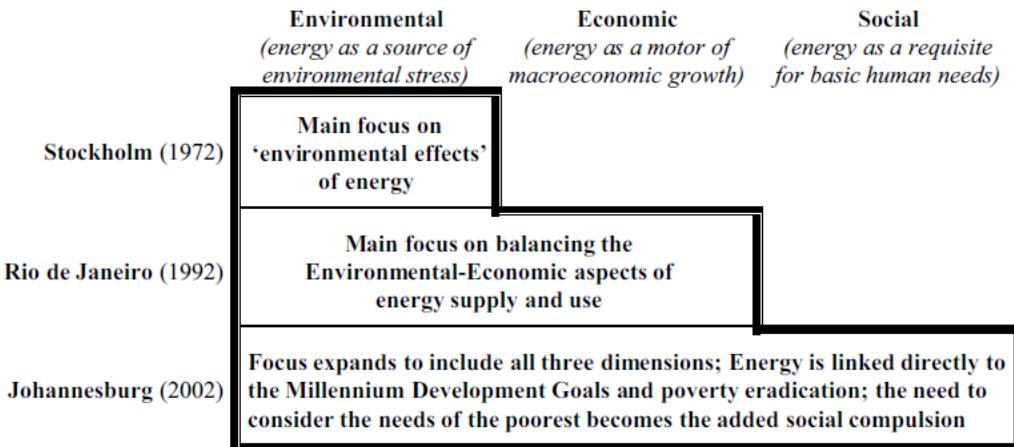
Since "Sustainability" is such an important topic, let's talk about it from various perspectives over the next few weeks. This week I am touching the topic of Sustainable Development and Energy as it provides the basis for the activity posted last week.

Smil (1994) has argued convincingly that a direct correlation between changes in energy use – both source and converters – and advances in human well-being is one of the dominant features of human history. Although perennial debates linger about precise definitions of sustainable development, there is increasing agreement amongst scholars and practitioners that sustainable development policy relates to three critical elements that need to be treated together: economic, social and environmental.



Energy is central to any discussion of sustainable development because it is central to all three dimensions. In terms of the economic dimension of sustainable development, energy is clearly an important motor of macroeconomic growth. In terms of the environmental dimension, conventional energy sources are major sources of environmental stress at global as well as local levels. In terms of the social dimension, energy is a prerequisite for the fulfillment of many basic human needs and services, and inequities in energy provision and quality often manifest themselves as issues of social justice.

Successive environmental summits at Stockholm (1972), Rio de Janeiro (1992) and Johannesburg (2002) show an evolving agenda, depicted in the diagram below, where energy has received increasing prominence at these meetings and become more firmly rooted in the framework of sustainable development



Consider this: A story of The Crying Engineer

Janine Benyus tells a poignant story illustrating how schools have focused on what humans can do with technology while ignoring how to learn *from* nature's technology.

I had gone to the Galapagos. One of the perks of this job as a biologist is that we do our workshops in amazing places where there are lots and lots of habitat types to expose architects, designers, engineers—the people who make everything that you're sitting on—who make our world...

I had taken this group of waste-water engineers to the Galapagos.

They said, "Why are we here?"

I asked them, "What do you do?" and they said, "We filter." And I said let's go snorkelling because everything in the ocean basically is filtering salt out of the water. Everything lives on freshwater. *Everything* [in ocean] lives in salt water but has fresh water within it including plants like mangroves. They're filtering; they're filtering mechanisms.

So one day I came upon this guy Paul, this engineer, this very reserved guy and he was crying. He was looking at a mangrove plant crying, standing there, the tears coming down his eyes.

And I said, "What's going on?" And he said, "Why have I never learned in all of my education about mangroves? Why don't I know or have ever considered that these guys are a solar-powered desalination plant? They have their roots in salt water and are living on freshwater."

He said, "We use 900 pounds per square inch to force water against a membrane to get salt out of it and we wonder why it clogs. And this is silent, solar powered, desalination."

Engineers are trying to make tools for living—technology. Nature has technologies too!

Reference

Cleveland, C.J., Najam, A.: 2003, ENERGY AND SUSTAINABLE DEVELOPMENT AT GLOBAL ENVIRONMENTAL SUMMITS: AN EVOLVING AGENDA