

Schools of Appropriate technology

Written by Mitra Ardron
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Over a long breakfast with [Chris Watkins](#) of [Appropedia](#) recently, I realised that there are several distinct schools of Clean/Appropriate technology where different sets of assumptions drive optimisation for different outcomes. I found it helpful to think these through in the table below. I believe that if we understand the different ways of thinking then it helps to look at how to build on each other's work without expecting that "improvements" we need will necessarily translate back to a different set of assumptions.

In the table below I've tried to capture the essence of each "school" and list a few people I know who work in that way. Obviously its more of a continuum than a set of seperate schools, so I admit up-front that there is some gross over-generalisation in the comments and critiques below. Comments and discussion are welcome.

School	People	Notes, Challenges & Critiques
Collapse		
Peak Oil (usually Western)		
Marcin		
Post Carbon Institute		
Some transitioners		* Based on idea that oil will run out, and civilisation collapse and we need to be
		* Graceful collapse is unlikely unless all your neighbour are also thriving
		* Makes things more difficult than need be, because won't rely on external oil, or other resources
		* Might be good for developing world, except may not be designed for price
Customise and Adapt		
(Developing World & Hobbyists)	Styve Lee (x AIDG)	
Catapult		
Most hobbyists		
Mouhsine Serrar & most		* Based on the idea that technology has to be customized and adapted to culture
		* Tends to rely on a high level of (western) expertise - often voluntary.
		* Doesn't scale to large populations because of shortage of above
		* Doesn't get cost benefits of large volumes because each customised
		* Most effective when focuses on training & enterprise development in developing countries
Base of the Pyramid	Paul Polak	
IDE		
Martin Fisher - Kickstart		* Work with the absolute poorest (<\$3/day)
		* Solutions optimised for low cost of labor, higher cost of capital
		* Very hard to find solutions that the market can afford, so often rely on subsidies of each unit.
		* Very hard to source investment as hard to make a profit
Scale	Mitra - Natural Innovation	
		* Focus on innovations that can scale

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- * May be open-source or proprietary but must scale without per-unit subsidy.
- * Focus on developing world (low capital cost, higher labor)
- * Look to balance local input with mass production to get costs down
- * Difficult to justify customising each installation
- * May not work in a post-collapse economy.

Western cleantech

Cleantech Forum

* Use VC for large scale solutions for developed world

- * Western technology often doesn't translate well to low capital / high-labor
- * Relies on large government subsidies to balance those given to fossil fuels and nuclear
- * Tends to support large centralised rather than decentralised
- * Decentralised tend to have a high cost of ownership and be based on personal commitment to environment

Within these schools there are also two approaches to licensing which I find are also important. I'm working on a third option (Humanitarian Licenses) which I will write up on another occasion

Open Source

Marcin, Chris Watkins (Appropedia)

Makes it easier for people to build for themselves

- * Allows for people to build on each other's design
- * Almost impossible to raise investment, as hard to generate a return.
- * Improvement is incremental because of above
- * Often designs aren't finished to the point where others less technical can use them.

Proprietary

UES

* Raise investment to develop large improvements to technology

- * Don't allow others to build and adapt on the technology.

Humanitarian

Natural Innovation's Humanitarian License in the west, but free license in developing world