

WEEKS 4-6 ENERGY AND CRITICAL INFRASTRUCTURE

LESS for LENT's publication schedule has been affected by the Covid-19 pandemic. We apologise for this.

If you have not already done so, it's important you read the introductory blog here.

No aspect of our lives has gone unaffected by Covid-19, and LESS for LENT is no exception. We hope you will understand the disruption to the weekly learnings we intended to circulate. The current situation has meant that as we enter the end of Lent it seems, as the Polish poet Anna Kamieńska wrote, "the grace of meaning deserts the pages of days and the leaves even of wise books". We offer this LESS for LENT reading in a spirit of sharing some possible tools for your consideration.

We are in a time where it seems more relevant to unlearn than to learn, to let go of things rather than achieve them. For those of us taking part in LESS for LENT, the circumstances make it difficult to minimise our use of digital devices. As society reorders itself around meeting our fundamental human needs, we are noticing how brittle and unsustainable the arteries that support our society are- and how dependent they are on labour, goodwill, co-operation and mutual aid. Let's take a look at energy, infrastructure and how to design regenerative systems, at a time when they are under more strain than ever before.

The warnings by British energy companies for households to prepare for blackouts by keeping torches and warm clothes to hand is a reminder of how vulnerable the National Grid is to systemic shock. While in this case the predicted blackouts are due to a potential shortage of engineers caused by staff sickness and self-isolation, the illusion of perpetual growth in countries such as ours is predicated on an extractivist economy based on ongoing depletion of finite resources that provided 'cheap' energy. The question is not if this will come to an end, but when.

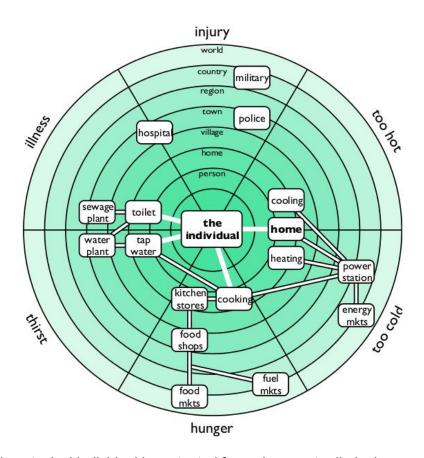
Today, humans burned about 100,000,000 barrels of crude oil, 21,000,000 tons of coal, and 9,000,000,000 cubic metres of natural gas. These non-renewable fuels supply about 80% of the world's energy. In Scotland, corporate extraction of North Sea oil remains a substantial part of the economy: the rest of the economy is mostly powered by such. Increases in solar cell efficiency and breakthroughs in wind, hydro and other technologies are promising, but cannot meet current or projected usage.

The surge in demand for energy due to policy lockdown due to Coronovirus is putting increased strain on the system. But even before the pandemic, it was clear that the lack of decentralisation of infrastructure, and the provision of essential services as for-profit capitalist accumulation was unsustainable. As Enough!'s Mlke Small has written "Degrowth and post-growth economists, once derided as utopians, are now suddenly mainstream. The anarchist concept of mutual aid is now an everyday organising tool."

Moving from crisis response to creating health and the conditions for health should be our medium term focus. A 'state of exception' founded on permanent crisis and charitable emergency aid is not a sufficient substitute for a just recovery in which our fundamental needs are met equitably and sustainably. Let's explore a couple of toolkits that might help us get there.

Simple Critical Infrastructure Maps

Devised by Vinay Gupta and Lucas Gonzalez, this system allows for an analysis of how the 'six ways to die' can be prevented at the level of the individual, household, community and beyond. Good physical infrastructure and provision of services are vital in creating a public health system- and as we are seeing, they can break down in a crisis.



SCIM showing how typical individual is protected from six ways to die by layers of infrastructure

Decentralised systems are more reliable in a crisis because they have fewer dependencies and can be more easily run on renewable resources. Part of the vulnerability of our current system is that centralising profit leads to centralising infrastructure provision and maintenance.

Another element of SCIM is the Integrated Needs Matrix Analysis. This can be used to make sure we are not missing anything in terms of our design and deployment of the things we need to take care of each other. It looks like this:

Integrated Needs Analysis Matrix (INAM)	too hot	too cold	hunger	thirst	illness	injury	communications	transport	space	resource control	shared map	shared plan	shared succession	jurisdiction	territory map	citizens list	effective institutions	international recognition	additional needs	additional needs	additional needs	
individual																			/			
household		specific data about supplies, additional needs - for													for	5						
village / neighborhood			needs, interdependencies and so on should be listed in each cell of the INAM spreadsheet example, electrical power to operate hospital equipment, or supply chains for specific drugs and medical supplies													r to	Г					
town / city / municipality																						
region																						
country			6	he a	actu	al sh	nape	of	the	loca	5	П	a	ddit	iona	l n	eed	s c	omb	inec	5	
world		power network, water network and so on can be provides a comprehensive																				
specific entities			mapped by municipalities mapp													ping framework - across many levels of control						
e.g. power company	*		П١	vish	ing	to e an	do	the					a	nd	loca	lity	- 0	f th	e a			
or ports / harbors																						

Source: http://resiliencemaps.org/files/Dealing in Security.July2010.en.pdf

Using tools like these help us to understand the systems we reply on, and what can go wrong. But what about the ability of those systems to function without degrading and undermining the basis of life? Currently, energy, food production and our use of resources are exceeding the carrying capacity of the planet. We have a massively fragile just-in-time supply chain which could easily collapse; a depleted agriculture sector which produces only around 50% of the food

we actually eat, leaving us at the mercies of the international markets. Just eight companies control 90% of our food supply. Finding ways to get these needs met in ways that don't cost the earth is of prime importance, and in our next learning, we'll be looking at degrowth and alternative systems which suggest hopeful ways forward. Until then, we do not offer a suggested activity: our current demanding task is to work together to ensure our mutual survival.

Optional Resources for Weeks 4-6 of LESS for LENT

Imagining a post-oil Scotland- Mike Small
Resilience maps- Simple Critical Infrastructure Maps- Vinay Gupta and Lucas Gonzalez
Sustainable Energy without the Hot Air- David MacKay
Regenerative- not merely sustainable- resilience - David Rhodes
When the Ferries Fail to Sail- Lauren Eden and Alastair McIntosh