

# LOW-TECH ENERGY TRANSITIONS

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CANSEE 2023 By Design Not Disaster:  
Grounding Economies  
During Uncertain Times



Leadership for the  
**ECOZOIC**



Source:

<https://lowtechlab.org>

# LOW-TECH ENERGY TRANSITIONS

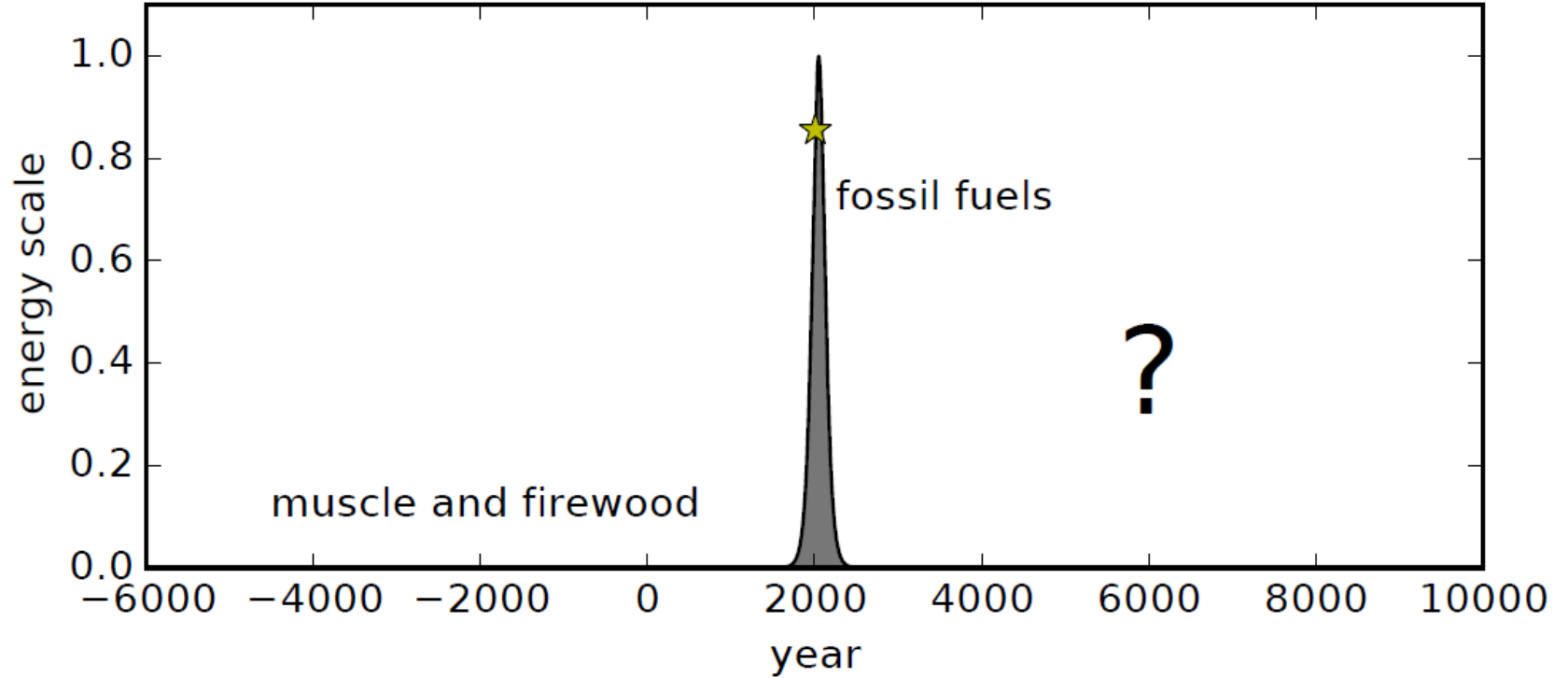
- ~Essential, accessible, ecological
- ~Design for resilience, uncertainty
- ~Expanding options, shifting power
- ~Sharing knowledge / skills, supporting a network



Source:

<https://lowtechlab.org>





Energy over the ages, in the form of fossil fuels  
(Murphy 2021 p. 116)

<https://doi.org/10.21221/S2978-0-578-86717-5>

# LOW-TECH

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Low-tech refers to various technologies and techniques useful for meeting *essential needs* in ways *accessible* to as many people as possible, and *ecologically designed* to be sturdy, repairable, recyclable, agile, and functional

(adapted from Low-tech Lab)



# ROOTS OF LOW-TECH

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- Practitioners since ancient times
- Village-scale tech: Gandhi
- Democratic technology: Mumford
- Convivial technologies: Illich
- Appropriate / intermediate: Schumacher
- Political ecologist André Gorz
- Ecological economist Georgescu-Roegen
- Degrowth community





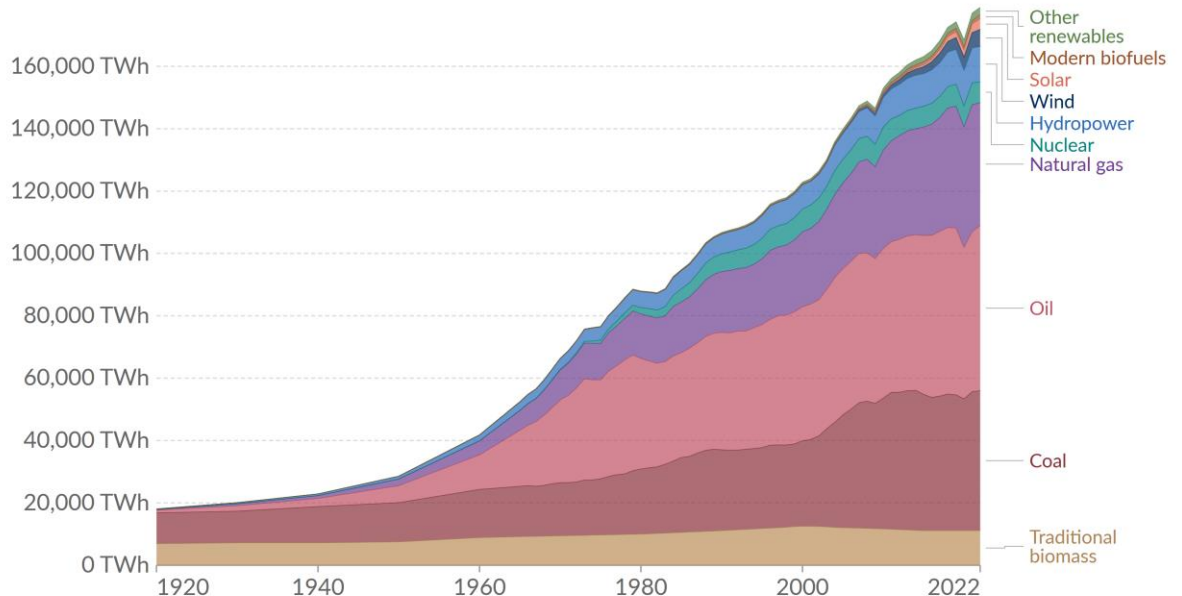
# ENERGY PATHWAYS TAKEN AND NOT

- **Energy crisis**
- **High-tech consolidation**
- **Fossil fuel plus**  
(Dunlap 2021)

## Global primary energy consumption by source

Primary energy is calculated based on the 'substitution method' which takes account of the inefficiencies in fossil fuel production by converting non-fossil energy into the energy inputs required if they had the same conversion losses as fossil fuels.

Our World  
in Data



Source: Energy Institute Statistical Review of World Energy (2023); Vaclav Smil (2017)  
OurWorldInData.org/energy • CC BY

# ALTERNATIVE ENERGY REVISITED

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*Tools for conviviality (Illich 1973):*

*“a modern society of responsibly limited tools”*

- Expanding agency and contribution
- Enhancing freedom and imagination
- Re-creating systems of production for satisfying socially-defined human needs.





# LOW-TECH ENERGY TODAY

- ~Basic energy tech for basic needs
- ~Diverse means for energy services
- ~Convivial social practices
- ~Research, action, networks

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