

# Results of the GAP: Technology and Production

## Overview of working questions

*(bold: voted most significant and discussed in order to obtain visions and proposals, red: controversial)*

Which technologies do we need for the transformation to and in a degrowth society?

What is the relation between high-, middle- and low-tech?

How can societal and democratic control of technological innovation be organized?

Can high-tech be produced democratically and sustainably in a Degrowth-Society? *(main working question)*

Are there "bad technologies as such"? and the related question: Can technology be considered separately from society and the environment or is it embedded in relations of interdependence?

Will 3D-printing and related technologies lead to a democratization of production and empowerment or to a new consumptive and economic boom?

Where are answers to societal problems coming from if not from technology? *or the inverse* How much faith should we have in technology as a solution to societal and environmental problems?

Will 3D-printing and related technologies change the behaviour of people, e.g. towards a repair-culture?

Who is using 3D-printing and related technologies, white middle class men? (potentials for more equality in access and use of technologies) *or more general:*

How can technology become more open to people from all backgrounds and of all genders?

## Main working question:

**Can high-tech be produced democratically and sustainably in a Degrowth-Society?**

*We worked out the following visions or long-term goals in a brainstorming session and subsequently established measures we consider steps in a transition towards these goals. The order of the visions does not correspond to their relevance, since we consider all of them highly relevant. We tried to be as concrete and precise as*

*possible, nevertheless everything we worked out will have to be filled with life and put into action. Some links to existing projects and initiatives were already added.*

*Feel free to leave comments, especially on the practical feasibility of the propositions and examples of good practices existing already! As vision 1 and 3 are closely linked to the issues of commons and intellectual property we especially welcome interactions with the commons GAP. The same holds for the proposals concerning raw materials in vision 3 and the GAP raw materials and extraction.*

#### **Vision 1: Open Source learning spaces**

- Use open educational resources (<http://oercommons.org>)
- Use open source software in schools and other learning environments
- Work with open hardware: more tinkering and DIY in learning environments
- Raise awareness of issues like the commons and intellectual property (IP)

#### **Vision 2: Intuitive technology designed for all**

- Public, transparent and need-orientated technology development (codesign and prosumers; e.g. the [Slow Tools Project](#))
- foster the development and use of open source and open hardware (examples: [Open Source Hardware Association](#), [Open Structures](#), [Open Source Ecology](#), [Open Source It Manual](#), [Everywheretech](#))
- Open the design process by commons licenses (decrease counterproductive IP licenses)
- Facilitate the realisation of good project ideas by more crowd funding

#### **Vision 3: Non-violent and cooperative production from raw materials to technology**

- Improve the current conditions in industrial (high-tech) production
- Think High-tech cooperatives rather than start-ups (<http://p2pfoundation.org>, <https://opentechco.co/>)
- Learn to understand, make and repair things in [FabLabs](#), [hackerspaces](#), [Repair-café](#)s or related initiatives and/or create and use virtual open knowledge bases (for example the [Open Hardware Repository](#))
- Save raw materials: Reuse, upcycle & recycle what is already around and don't replace stuff unless necessary
- Reduce the dependency on critical (socially or environmentally harmful) materials

#### **Vision 4: Opening technology use and production for all genders and backgrounds**

- Change the dominant image of technology: from bloodless technocracy down to earth, i.e. closer to people's lives ("lebensnah")
- Fight gender-stereotypes in education – for example: encourage girls to tinkering and DIY in schools
- It is crucial that *men* in male-dominated environments reflect their behaviour: Inquire about the causes for the absence of women in those fields and put into action measures to change the status quo.

## **Controversial issues**

### **The question about “bad” technologies...**

*In the second GAP-session half of us discussed the question of “bad technologies as such”, the possibility to establish a black list, the possibility of moratoria for those technologies and the interdependence of technology and society.*

*However we did not arrive at a conclusive result. In the first place the group did not agree about the possibility to call a technology “bad” or “good” for itself disregarding the societal context. Furthermore, the question proved too general and the topic of technology assessment too vast to be discussed conclusively by a hand full of people in three 2-hour sessions. This will require a much deeper and more carefully lead debate.*

### **The relation of high-, middle- and low-tech**

*Even though there are definitions around<sup>1</sup> to distinguish high- and low-tech (we included the intermediate middle-tech in allusion to Schumacher’s Small is beautiful), the group did not reach a conclusive answer to the question what is high- and what is low-tech. However the criteria of complexity and repairability proved somewhat useful in a working- distinction of the different types of technology. Link to a low-tech coworking space in Berlin:*

*<http://bauraum-lowtech.org/>*

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<sup>1</sup> [http://en.wikipedia.org/wiki/High\\_tech](http://en.wikipedia.org/wiki/High_tech)