



**INTELLECTUAL PROPERTY MODELS TO  
ACCELERATE SUSTAINABILITY  
TRANSITIONS  
(IPACST)**

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# Open Access Licensing for Sustainability Impact Knowledge Brief

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## Open access licensing for sustainability impact

### What is open access licensing?

Open access licensing is not a clearly defined term. It comprises various approaches based on the principles of sharing intellectual property (IP) assets free of charge with the objective to accelerate innovation and provide end users with access to products and technologies at a potential lower cost. Rooted in the open source software development and knowledge commons initiatives, the principle idea behind open access is sharing of IP assets such as software code, design files, and technology-related IP assets such as patents and utility models. This may enable large communities to innovate together and improve products, services and technologies. These communities also advocate repair and customisation of products.

#### **Open access licensing for sustainability impact definition**

*Open access licensing for sustainability impact is a standard licence for providing IP assets free of charge to anyone interested in order to educate, to raise awareness, to increase innovation and provision of affordable sustainable technologies, products, and services including education. It may include provisions to grant back developments for increasing the open access IP asset portfolio for sustainable solution.*

Specific to sustainability, several open access toolkits are emerging such as the Walki's open access educational and teaching kit about

sustainable and circular design for high school teachers and students (Circular Classroom 2022), and free circular economy design workshop toolkits (UN School 2022).

Open access is usually provided by a license that is free of charge but determines conditions such as re-sharing of further developments with the wider community on equal terms. Also restrictions to non-commercial use or the obligation to acknowledge the inventors and originators may be part of the licensing conditions. Restricting IP licenses to non-commercial use may limit the applications. For some technologies and products that require specific manufacturing equipment or quality assurance and safety standards, the inclusion of commercial use can increase the diffusion. The restriction to non-commercial use can be useful for low-tech products, do-it-yourself and repair communities. Social benefits include the facilitation of customized products, such as orthoses and other medical devices, which lack economic incentives for businesses.

It is worth noting that even if IP is shared freely, the IP typically remains to be owned by someone (i.e. is not lapsed into the public domain). For instance, code shared under an open source license still means that it is protected by copyright. Patents and utility models can be shared as an open access license free of charge for a specific region or application. This option of restricting the access is the main difference to putting them in the public domain by a stop of paying maintenance fees at the patent office.

### Benefits for the IP providers/ licensors:

- Saves resources for individual licensing negotiation because the licensing terms are decided and clearly communicated to interested licensees, hence saves time and costs involved in negotiations.
- Efficiency of licensing negotiations and IP sharing is increased and network effects can contribute to increase diffusion of the sustainable technologies and products.
- Increased reputation as sustainable-focused organisation by inspiring further innovators and organizations to contribute their IP assets in the same way.
- Demonstrate a stance on sustainability by using IP assets to enable diffusion of sustainable technology and products.
- Potentially increased impact of sustainable technology, product, or service, which can be reported in sustainability reporting.
- Increase sales of IPR-related services and products.

### Potential challenges:

- Depending on the type of technology and product, for fast innovation cycles open access IP may not be competitive with the state of the art. If important innovators do not provide access, the open IP assets may become outdated.
- Large variety of open source licenses comes with a selection risk. If adopting a technology/ product with a strong open source license might require the licensee to also make its related IP available under the same license. This may limit the number of interested users.

### Benefits for the IP users/ licensees:

- Gain access to IP assets for sustainable technologies and products.
- Reduce licensing negotiation barrier.
- Reduce and avoid R&D costs and associated risks.
- Free up resources for other necessary activities such as setting up manufacturing lines, developing supply chains and markets.

- Benefits from economies of scale and network effects.

### Benefits for society

- Accelerated pace of creating and diffusing sustainable technologies and products by utilizing IP as facilitating collaboration amongst relevant stakeholders.
- Reducing overall costs of sustainable technologies and products, and thus speed up transition towards sustainability including circular economy concepts.
- Facilitate repair and accordingly reduce waste and resource extraction.
- Enable on demand production and individual adaptation of special needs products, such as orthoses.

### Open access licensing examples

#### **Open Invention Network OIN**

*OIN is a network in the software sector that provides pool license to the largest patent portfolio, and enables freedom of action in Linux as a key element. It calls itself the largest patent non-aggression community in history.*

*Open Innovation Network (2021)*

#### **Open Hardware Repository**

*There are several open hardware platforms for exchanging IP assets, complementing the open source software with majority being related to electrical and electronics hardware. The online platform Open Hardware Repository provides different projects and IP assets, as well as a list of different open hardware licenses.*

*Open Hardware Repository (2021)*

The following organizations and networks provide standard open access licensing terms:

- **Creative Commons (CC):**  
CC is an organization that was founded in the USA in 2001. CC provides different licenses, which differ in degrees of release and usage options mainly for copyright and

design right but also applicable to further IP assets (Creative Commons 2021).

- **Open Source Software (OSS):**

OSS is a designation of software in which the developers publish the source text. This can also be viewed, changed and used by third parties, with the focus on joint development and collaboration. In most cases, no fee is charged for open source Open Innovation Network (2021). There is a large overlap with the term free software, with free software terminating a social movement (Free Software Foundation 2015).

- **Open Source Hardware:**

Open source hardware is based on open source software principles and refers to physical-material things. This is intended to enable as many people as possible to have access to the design and manufacturing options by disclosing sources such as designs, computer aided design (CAD) drawings or even 3D printer files, which is the current most widespread sector. For standard licenses see Open Hardware Repository (2021).

### Further readings

Benkler, Y. (2006). The wealth of networks: How social production transforms markets and freedom. Yale University Press. Available at: <http://www.benkler.org>

Circular Classroom (2022). Available at: <https://circularclassroom.com/>

Creative Commons (2021). Available at: <https://creativecommons.org/>

Free Software Foundation (2015). Free Software, Free Society - Selected Essays of Richard M. Stallman, 3<sup>rd</sup> eds. Available at: <https://www.gnu.org/doc/fsfs3-hardcover.pdf>

Niezen, G., Eslambolchilar, P., & Thimbleby, H. (2016). Open-source hardware for medical devices. BMJ Innovations, 2(2), 78–83. <https://doi.org/10.1136/bmjinnov-2015-000080>

Open Hardware Repository (2021). Available at: <https://ohwr.org/welcome>

Open Innovation Network (2021). Available at: <https://openinventionnetwork.com/>

Open Source Hardware Association (2021). The state of open source hardware in 2021. Available at: <https://www.oshwa.org/2021/07/21/the-state-of-open-source-hardware-in-2021/>

Opensource.org (2021). What is open hardware? Available at: <https://opensource.com/resources/what-open-hardware>.

UN School (2022). Circular Economy Workshop Toolkits. Available at: <https://online.unschools.co/courses/free-circular-economy-workshop-kit>

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