
Hönnun byggingar í hringrásarhagkerfi

Vigdís Bergsdóttir, 16. Mars 2022
Mastersverkefni

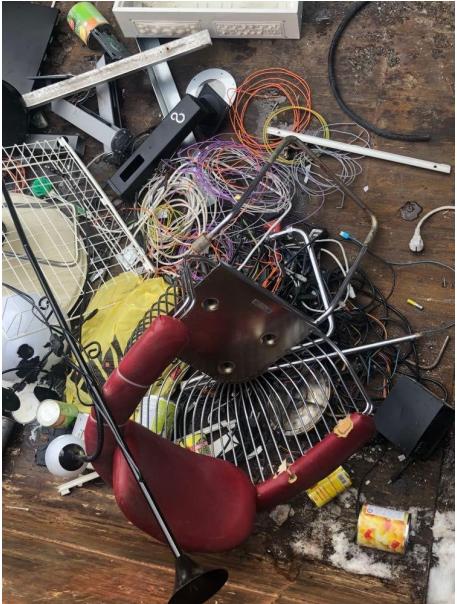
Mín menntun

Menntunin mín: MSc í sjálfbærum Arkítektúr frá NTNU og BSc í umhverfis- og byggingarverkfræði HÍ

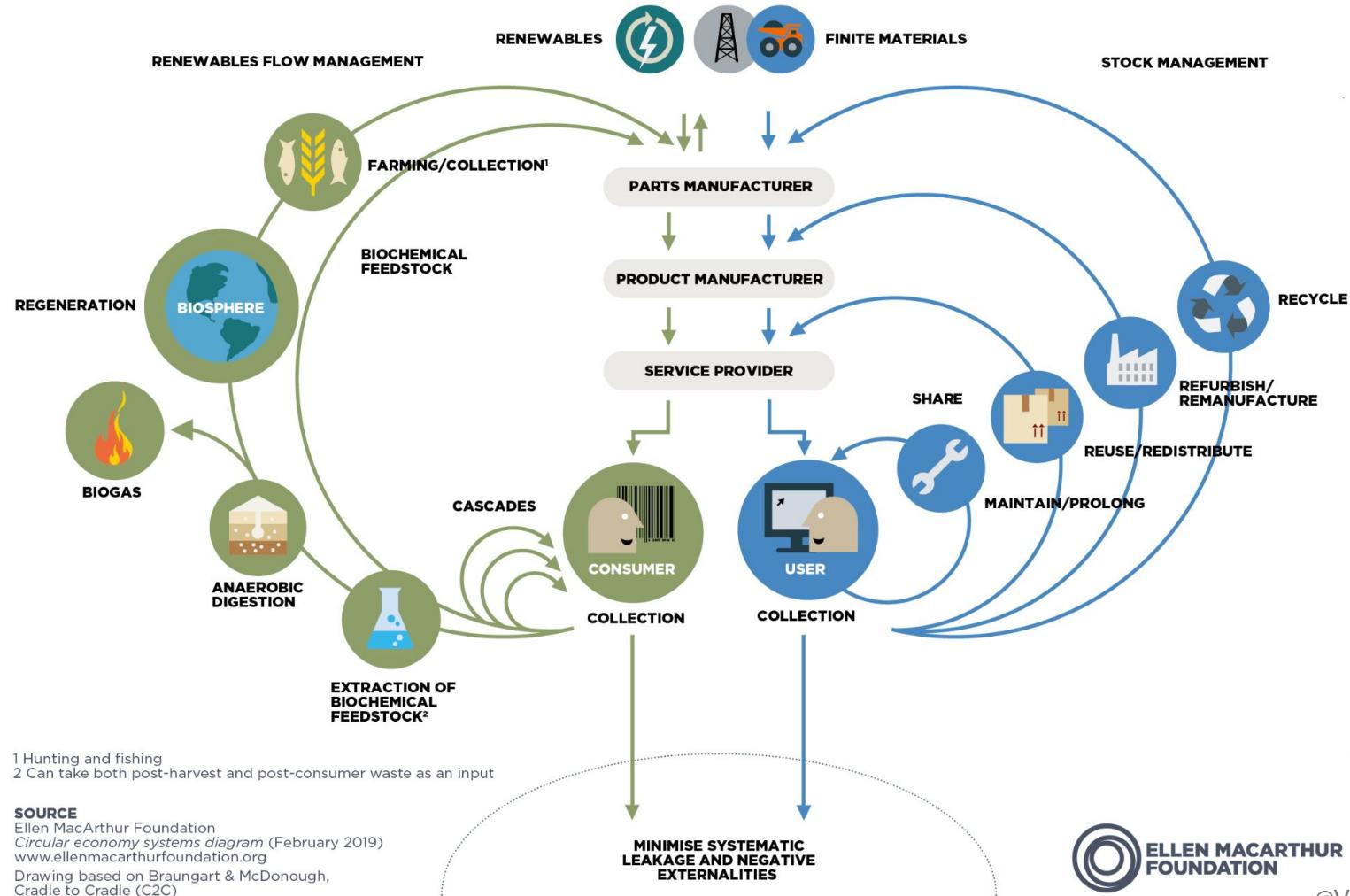
Hringrásarhagkerfið verið mér efst í huga síðan ég heyrði orðið fyrst árið 2018 og hefur orðið veitt mér von í loftslagskrísunni



Allt of miklu hent



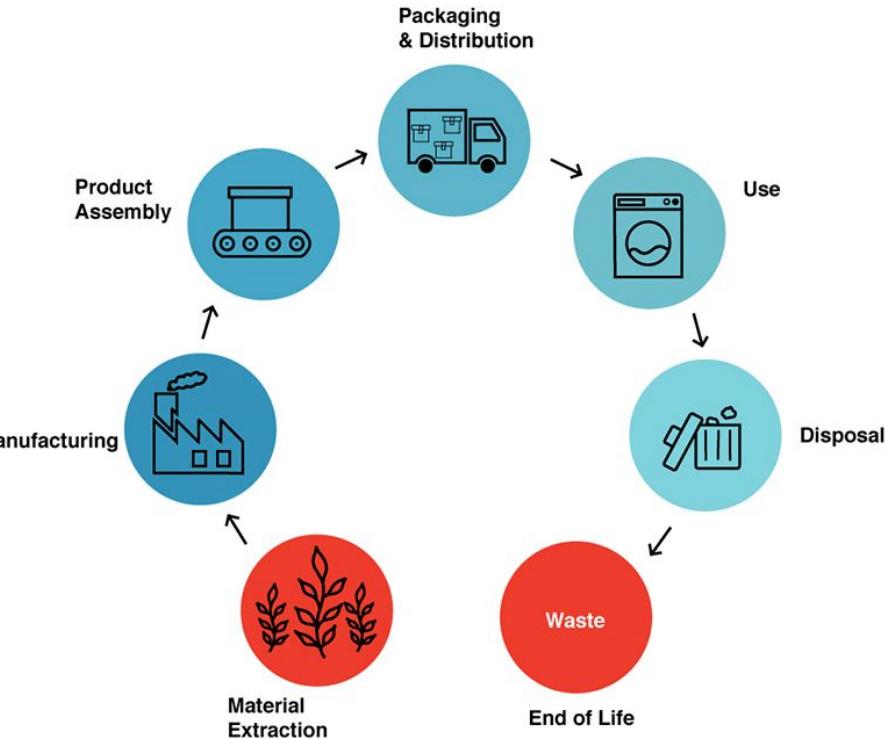
23. Febrúar 2022 - Sorpa á Höfða



Hringrásarhagkerfið

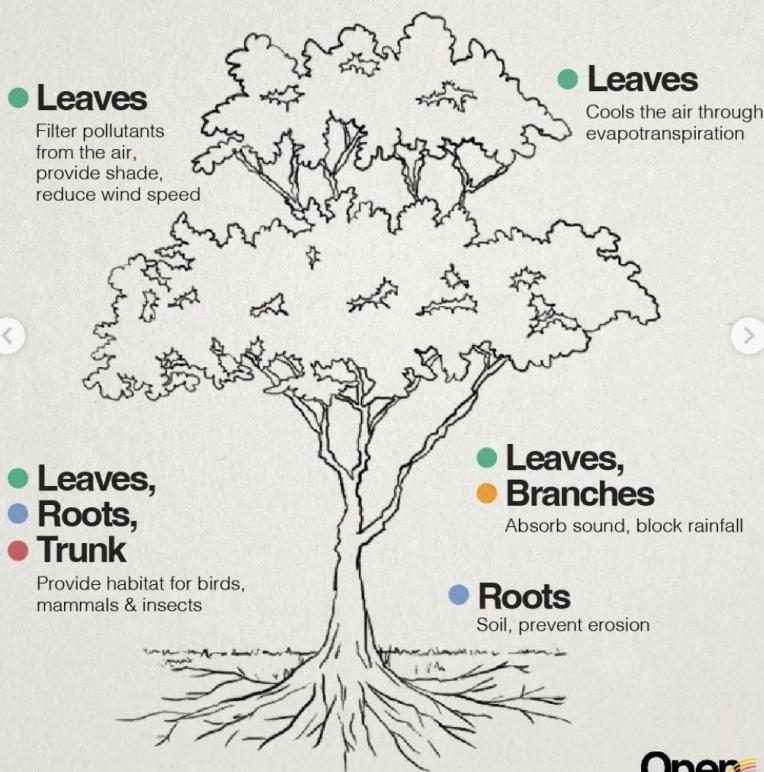
<3

Lífsferilsgreining

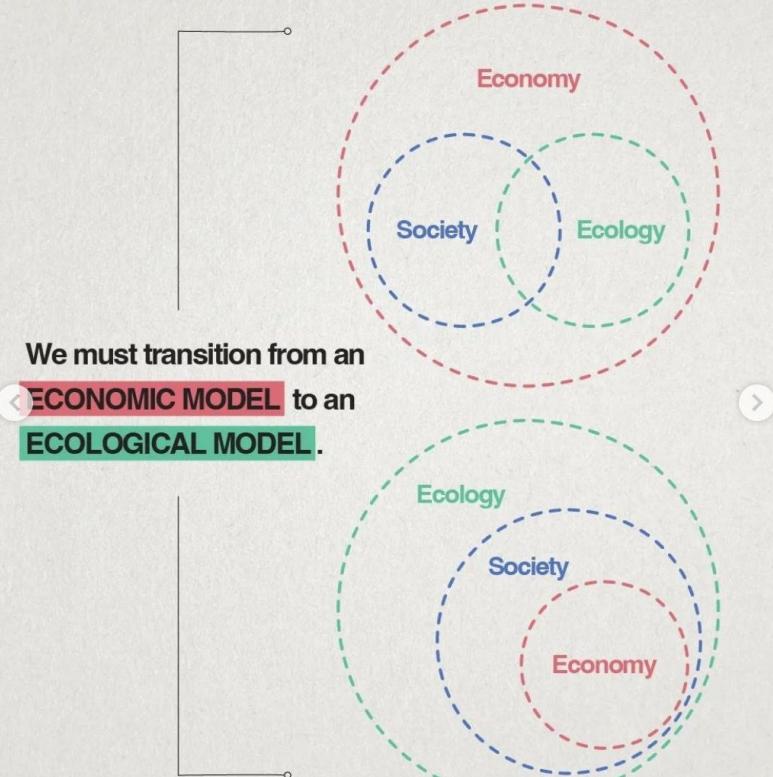


Buildings Can Act Like Trees.

Trees are generous and regenerative, hosting all kinds of life.



Regeneration.



Living Systems: Planting Liberation
with Adib Dada

Open
Edu

@Vigdis Bergsdottir

Mastersverkefnið mitt

- Hanna stúdíó fyrir listamann með því að endurnýta gamalt hús á Íslandi og umbreyta því í anda hringrásarhagkerfisins
- Þróa concept
- Nota til þess hringrásarreiknivél og lífsferilsgreiningu



- Ég bjó til skilgreiningu eftir lestur margra mismunandi skilgreininga á hugtakinu hringrásarhagkerfi í samhengi bygginga
- *Circular building: A circular building is a building that has been designed and built with minimal waste creation and extraction of virgin materials in mind while using research based tools to reflect on all significant design decisions. First step is reducing the amount of materials needed and then reusing as much as possible of existing materials.*
- Í stuttu máli - að minnka þörf á nýjum efnivið er mikilvægast, næst mikilvægast er að endurnýta sem mestan efnivið
- Á eftir því kemur adaptable design, design for dismantling

Verkfæri

- Handteikning og handútreikningar (umhverfisvænast)
- One Click LCA (lífsferilsgreining og hringrásarreiknivél)
- Excel (til að setja upp töflur og gröf)
- AutoCAD (allar teikningar)
- 3D forrit (reyndist síðan vera óþarfa tímasóun fyrir skalann sem ég var með)

Concept þróun

- Myndlist <3 Vísindagreinar



The Circular Economy – A new sustainability paradigm?

Grosserter, Martin^{1,2}; Saragat, Paula³; Bocken, Nancy M.P.^{1,2}; Hultink, Erik Jan²

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² Cambridge Centre for Environment, Energy and Development;

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Journal of Cleaner Production (accepted version).

<https://doi.org/10.1016/j.jclepro.2016.12.048>

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Production 145: 757–768. doi:10.1016/j.jclepro.2016.12.048

Abstract

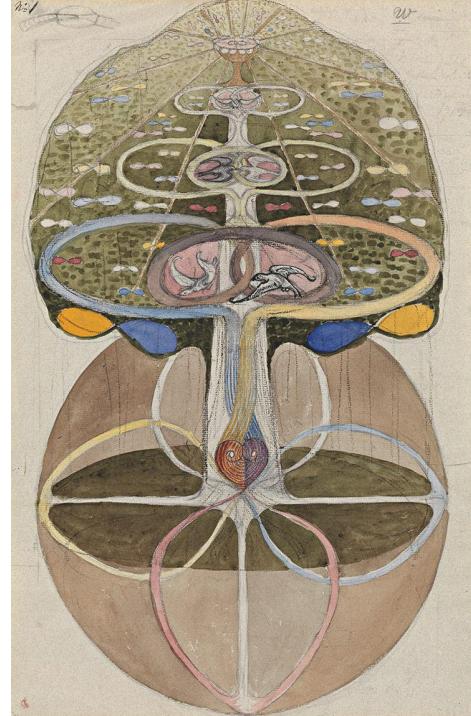
While in some Circular Economy and sustainability are increasingly gaining traction with academics, industry, and policymakers, the similarities and differences between the two concepts are often not clearly understood. The gap between the concepts is not made explicit in literature, which is hindering their conceptual contours and constrains the efficacy of using the approaches in research and practice. This paper aims to address this gap by providing a more precise conceptual clarity by distinguishing the terms and synthesizing the different types of approaches used in the literature. We conducted a systematic literature review, employing bibliometric analysis and snowballing techniques to investigate the relationship between the two concepts. We identified eight different research streams and found that they all addressed the most evident similarities and differences and relationships between both terms. We identified eight different research streams and found that they all addressed the most evident similarities and differences between both concepts.

Keywords:

Circular Economy; Sustainability; Sustainable Development; Closed Loop; Literature Review; Circular Business Model

1. Introduction

There is a pressing need to transition to more sustainable sociotechnical systems (Meadowcroft et al., 2006; WBCSD, 2010; Seifert, 2005; Markant, 2012). Environmental problems, such as climate change, biodiversity loss, energy, resource depletion, and social land use issues, increasingly jeopardizing the earth's life-support systems (Rustad et al., 2009; Jackson et al., 2006; Meadows et al., 2004). These problems are often interconnected and can occur simultaneously, such as high unemployment, poor working conditions, social vulnerability, the poverty



Listamaður: Hilma af Klint

Listamaður: Paula Fenwick Lucas

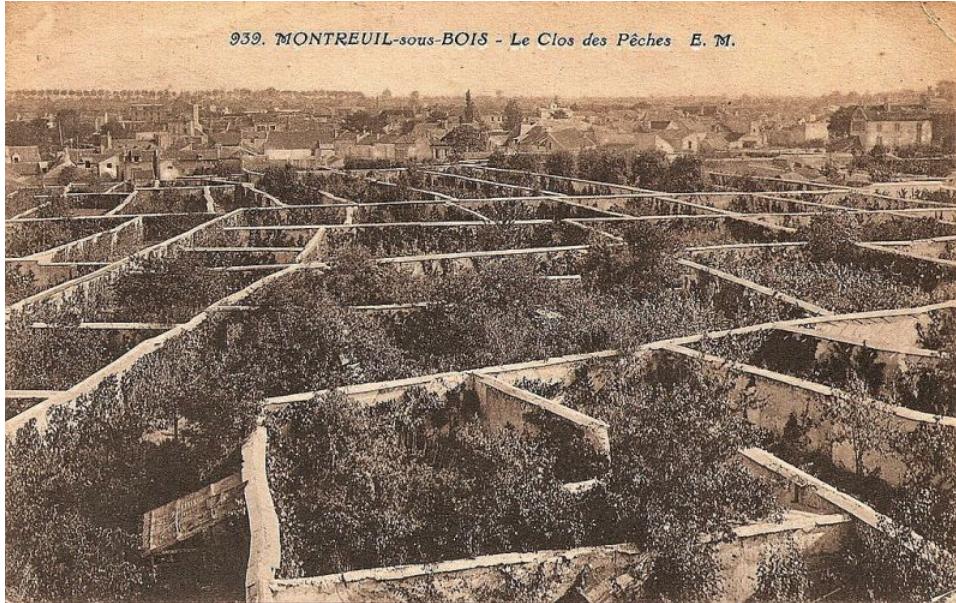
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Saga gróðurhússins

- Að skoða sögu gróðurhússins hjálpaði mér að skilja nútíma byggingar og hvernig þær geta orðið sjálfbærari
- Gróðurhús mikilvæg í Íslensku samhengi og hafa verið notuð hér síðan 1924



Saga gróðurhússins



- Lítill Ísöld í Evrópu

Heimild: Low-Tech magazine. (2016). Fruit walls: Urban farming in the 1600s.
<https://www.lowtechmagazine.com/2015/12/fruit-walls-urban-farming.html>



Heimild: Low-Tech magazine. (2016). Fruit walls: Urban farming in the 1600s. <https://www.lowtechmagazine.com/2015/12/fruit-walls-urban-farming.html>

<https://nea.is/geothermal/direct-utilization/greenhouses/>

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Heimild: Morgunblaðið. (2006) Sumar allt árið í Mosfellsbæ. <https://www.mbl.is/greinasafn/grein/1108746/>
<https://www.audkula.is>

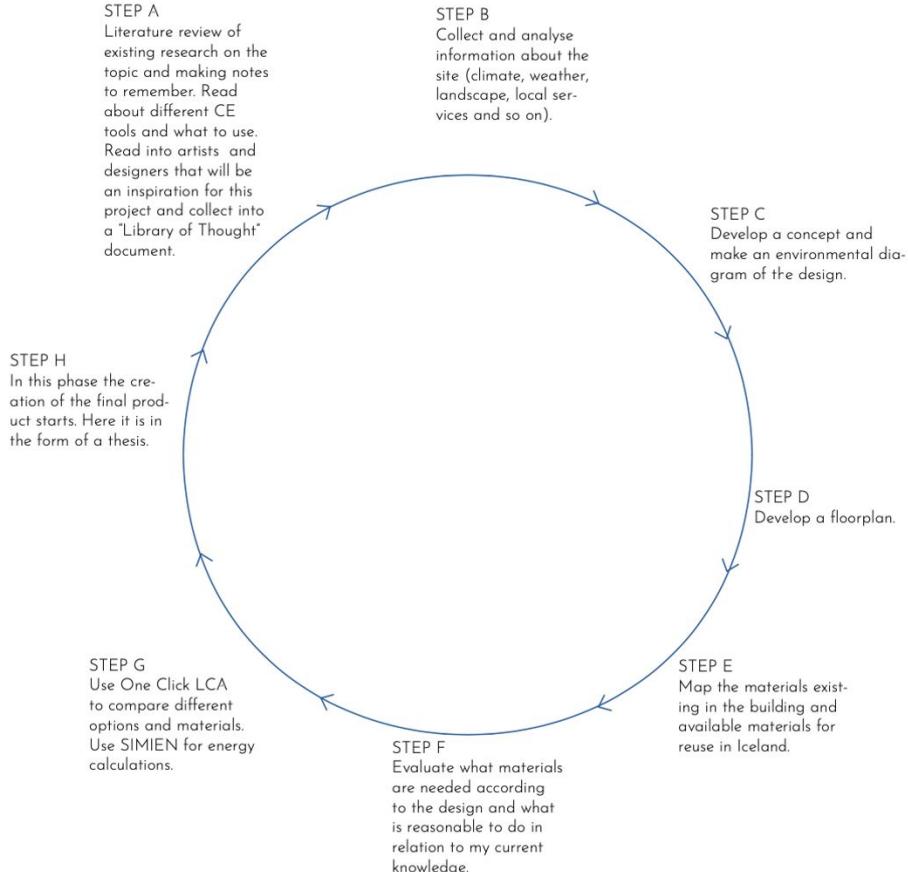
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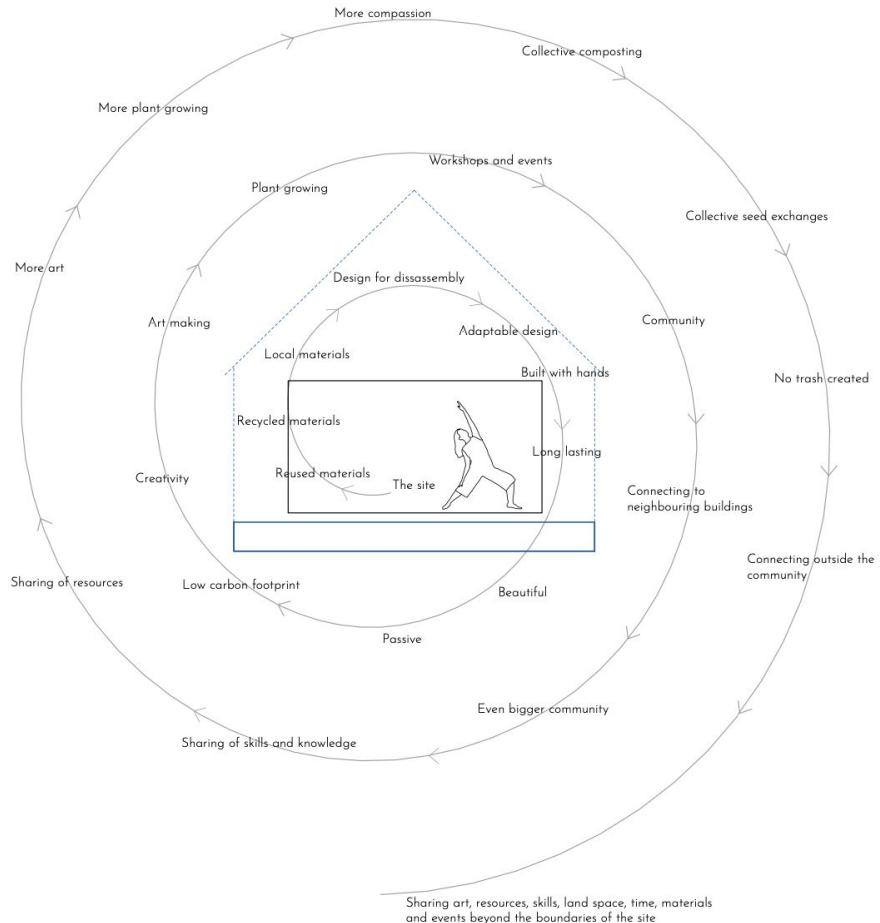
Pritzker Architecture prize 2021

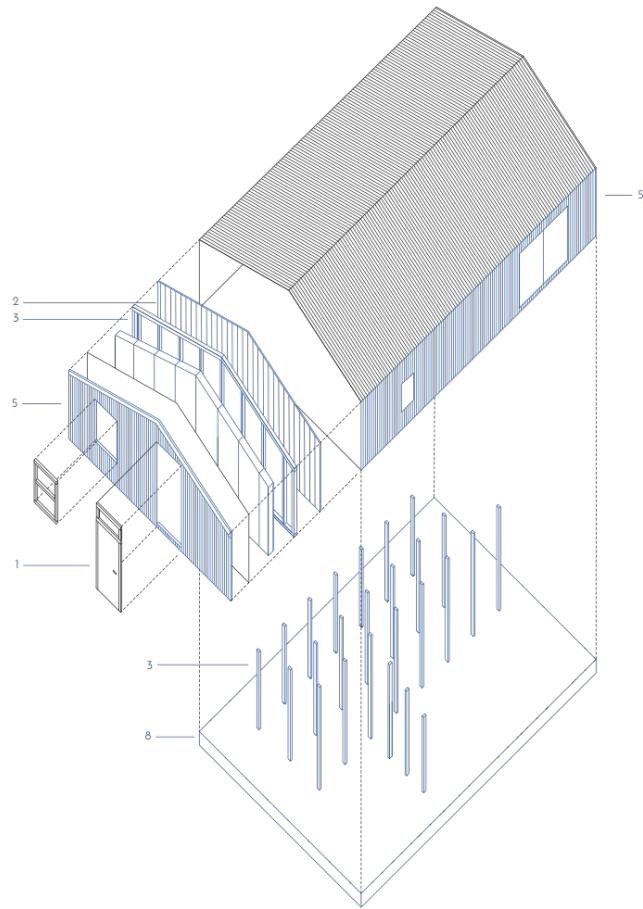
- Anne Lacaton and Jean -Philippe Vassal
- Never demolish what you find
- „Always consider what is already there, this memory and life that existed there before, even in difficult conditions”
- Always give double what you are asked for
- Do nothing if that is the best answer

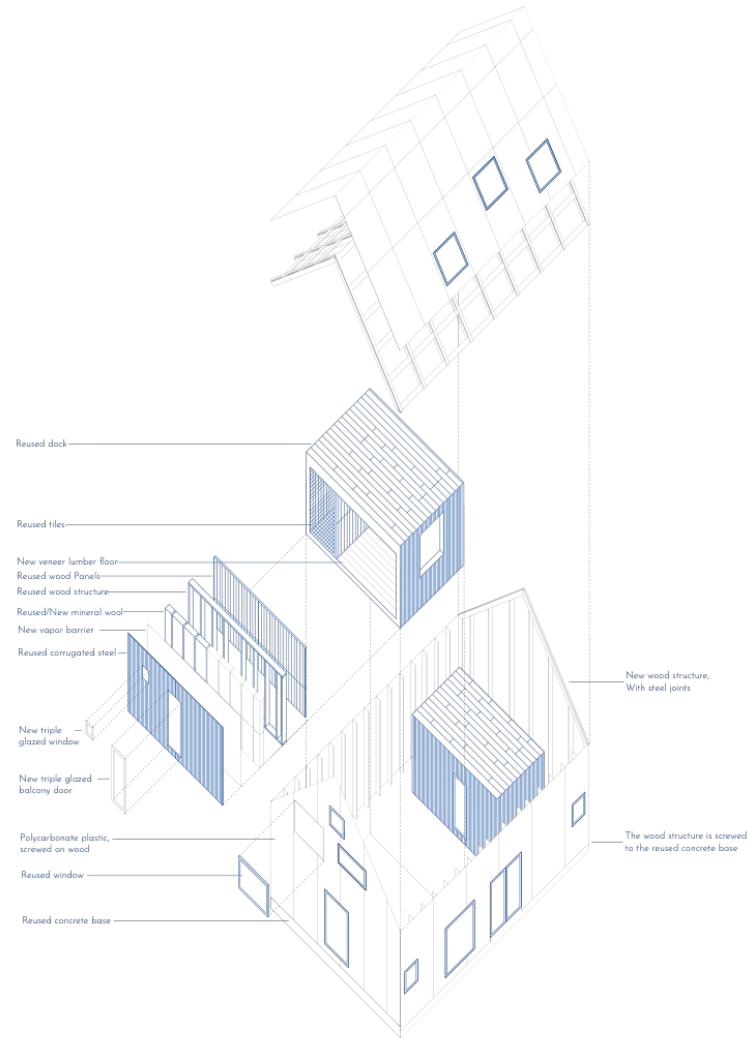


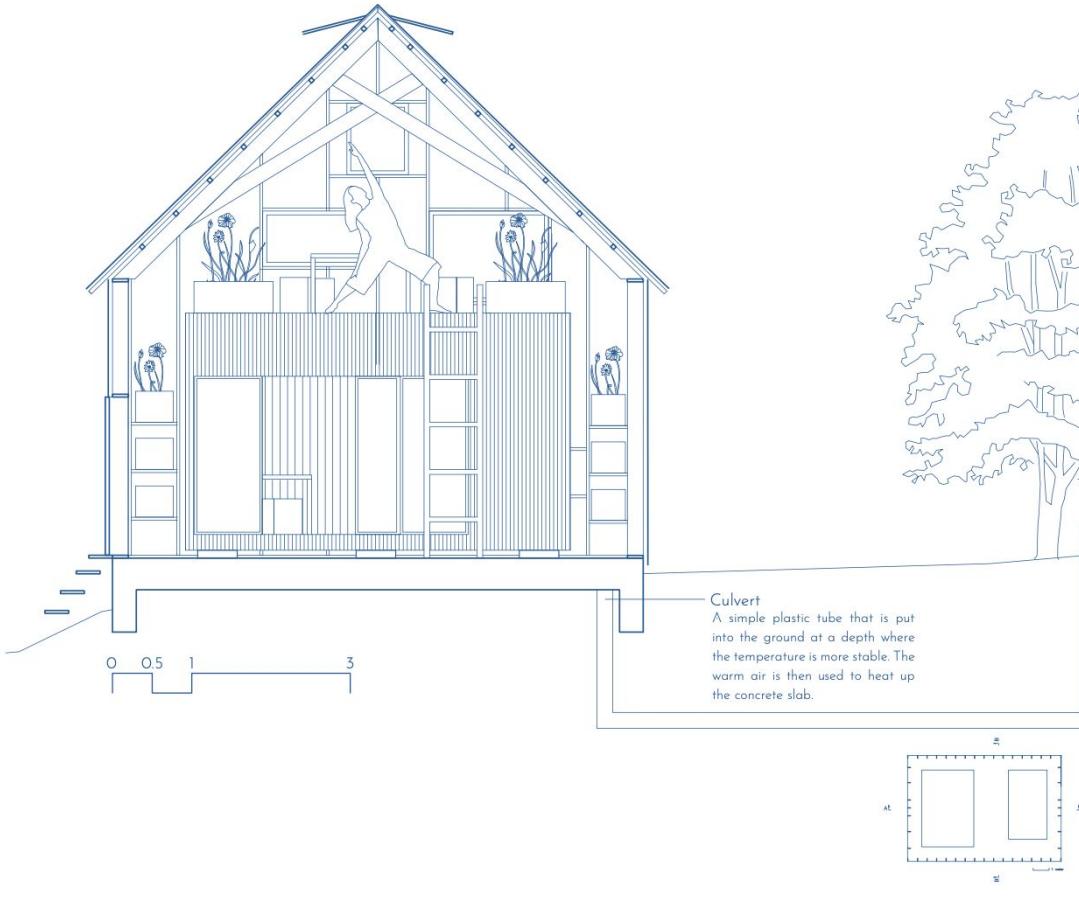
Hönnunarferli









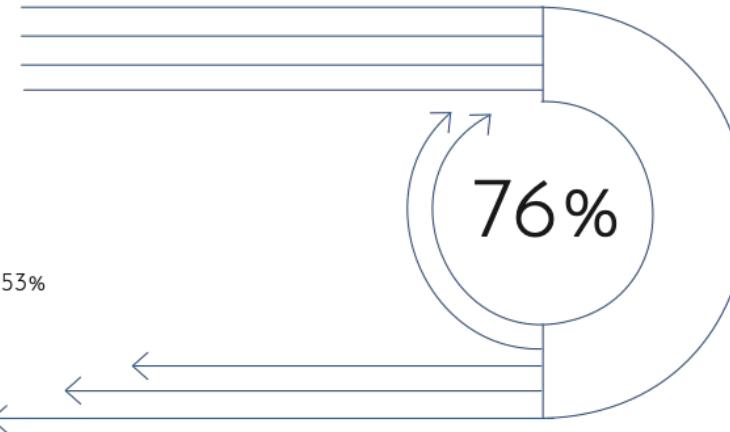


Material Recovered 98.5%

Virgin 1.6%
Renewable 4.8%
Recycled 2%
Reused 91.7%

Material Returned 53%

Reused as material 0%
Recycling 7.8%
Downcycling *0.5 82.7%
Use as energy *0.5 7.7%
Disposal 0.9%



Takk fyrir!