



# The benefits of Hempcrete

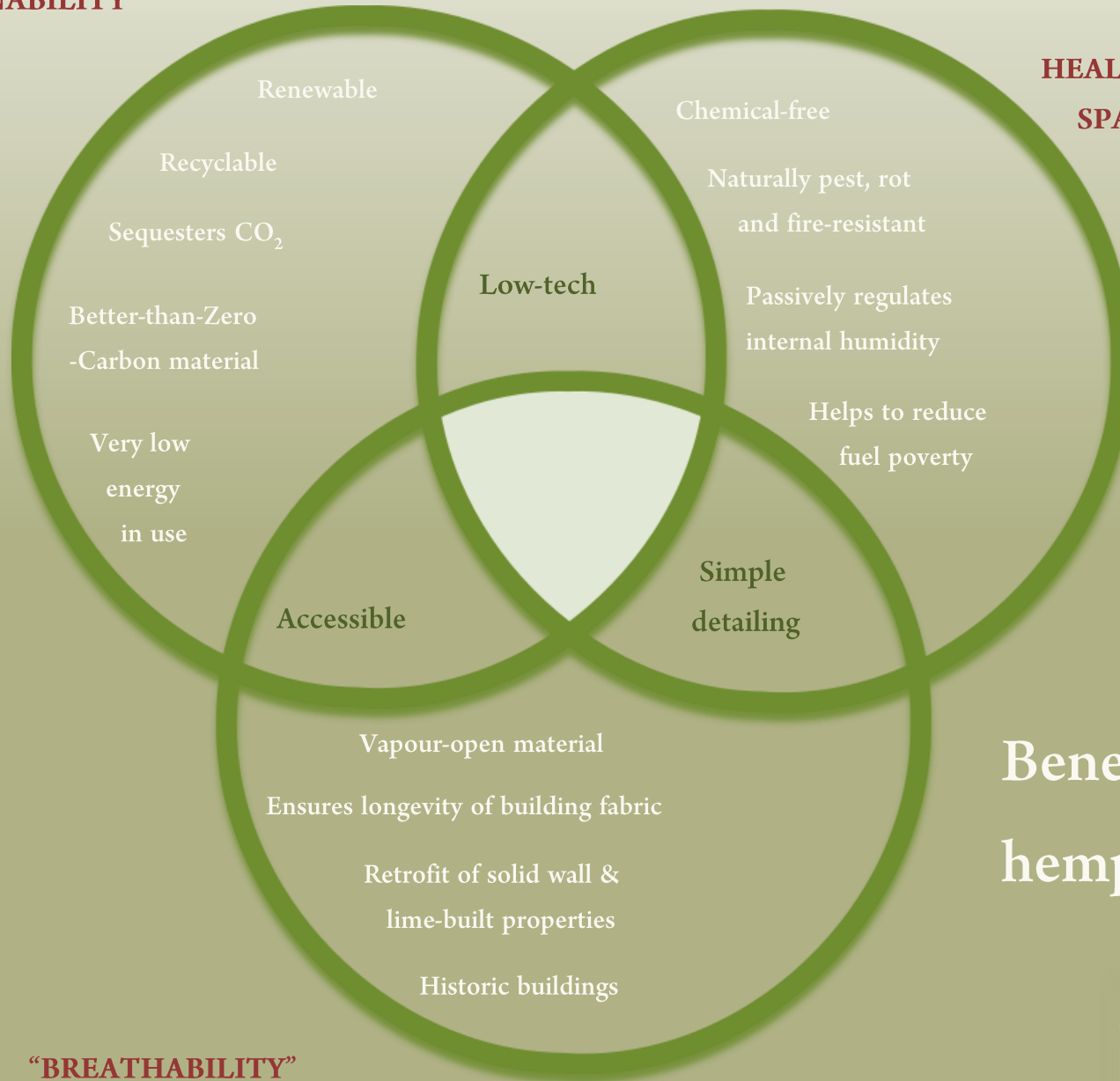
Alex Sparrow

Director, UK Hempcrete

February 2017

## SUSTAINABILITY

## HEALTHY LIVING SPACES



## “BREATHABILITY”

## Benefits of hempcrete





## Industrial hemp:

- Sustainable
- Annually renewable
- Local, global resource
- CO<sub>2</sub> absorption
- Supporting biodiversity
- Processing facilities improving

## Hemp looks like this.

\$500 million worth of imported industrial hemp contributes to U.S. hemp products, like foods, fibers, manufactured parts, infrastructure materials and more. In 3 months, 1 acre of hemp can produce 4 tons of hemp seed, earning farmers \$1,300 per acre & oil processors up to \$9,000 for 60, 5 gal buckets of oil. [TNHemp.org](http://TNHemp.org)

#TN4Hemp  
<http://www.tnhemp.org>



## Hemp looks like this.

I am hemp. Less than .3% THC, over 75 U.S. manufacturers make hemp products, like clothing, t-shirts, jeans and more. Hemp is largely imported from Canada & China, but we could make it legal to grow it here. Learn more at [TNHemp.org](http://TNHemp.org)

#TN4Hemp



This product was featured at HempExpo.com, New Jersey

## Hemp looks like this.

I am hemp. Less than .3 % THC, over 75 U.S. manufacturers make hemp products. Hemp seeds are a complete super-food in the growing health food market. We can eat the seed but not grow it. Help free this market for U.S. Farmers. Bring the hemp market home. We need your help! [tnhemp.org](http://tnhemp.org) #votehemp



NOW Real Food, Organic hemp Seed Hearts

## Hemp looks like this.

I am hemp. Less than .3% THC, over 75 U.S. manufacturers make hemp products, like drought resistant biofuel crops with 97% efficiency compared to other biofuels. The U.S. gov't mandates production of biofuel. So why not grow & employ hemp for the nation? Learn more at [TNHemp.org](http://TNHemp.org)

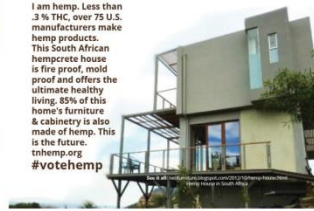
#TN4Hemp



## Hemp looks like this.

I am hemp. Less than .3 % THC, over 75 U.S. manufacturers make hemp products. This South African hempcrete house is fire proof, mold proof and offers the ultimate healthy living. 85% of this home's furniture & cabinetry is also made of hemp. This is the future. [tnhemp.org](http://tnhemp.org) #votehemp

#votehemp



## Hemp looks like this.

I am hemp. Less than .3 % THC, over 75 U.S. manufacturers make hemp products. This handbag is partially made of hemp. Hemp is durable, good-looking and creates responsible products. Chemicals can disrupt our endocrine systems & pollute our environment. Hemp is a safer option. [tnhemp.org](http://tnhemp.org)

#votehemp



This product was featured at RenewShop.com, USA

## Hemp looks like this.

I am hemp. Less than .3% THC, over 75 U.S. manufacturers make hemp products, like building materials, including composite board & hempcrete. Hemp is largely imported from Canada & China, but gov't could make it legal to grow here. Learn more at [TNHemp.org](http://TNHemp.org)

#TN4Hemp



## Hemp looks like this.

I am hemp. Less than .3 % THC, over 75 U.S. manufacturers make hemp products. This isn't a toy car. It's the first 4 passenger electric car with a hemp body. #votehemp [tnhemp.org](http://tnhemp.org)



Based on the Canadian Hempcrete Institute

## Hemp looks like this.

I am hemp. Less than .3 % THC, over 75 U.S. manufacturers make hemp products. These bio-plastic ski goggles are partially made of hemp. They are lighter than other frames on the market. They have a hemp air vent system. It is legal to buy hemp products but illegal to grow it. [tnhemp.org](http://tnhemp.org)

#votehemp



2019-2020, 3rd Gen Bio-Plastic Snow Goggles

## Hemp looks like this.

I am hemp. Less than .3 % THC, over 75 U.S. manufacturers make hemp products. This hemp shoe is durable. It is a better material for your feet & an environmentally stable choice. [tnhemp.org](http://tnhemp.org) #votehemp



Hemp Check Tights & Socks by Converse

**TN**   
**HEMP**  
**TNHEMP.ORG**  
@TNhemp | fb.com/TNHempOrg

## Hemp looks like this.

I am hemp. Less than .3 % THC, over 75 U.S. manufacturers make hemp products. These flats are made of hemp. Hemp is durable, good-looking and creates responsible products. Chemicals can disrupt our endocrine systems & pollute our environment. Hemp is a safer option. [tnhemp.org](http://tnhemp.org)

#votehemp



Washed Hemp Flats by HEMPCRETE, USA

Transition to a post-carbon world

Hemp is *the* plant for a sustainable future

 **UK HEMPCRETE**  
[www.ukhempcrete.com](http://www.ukhempcrete.com)





60-160 kg CO<sub>2</sub> (net) sequestered  
per m<sup>3</sup>



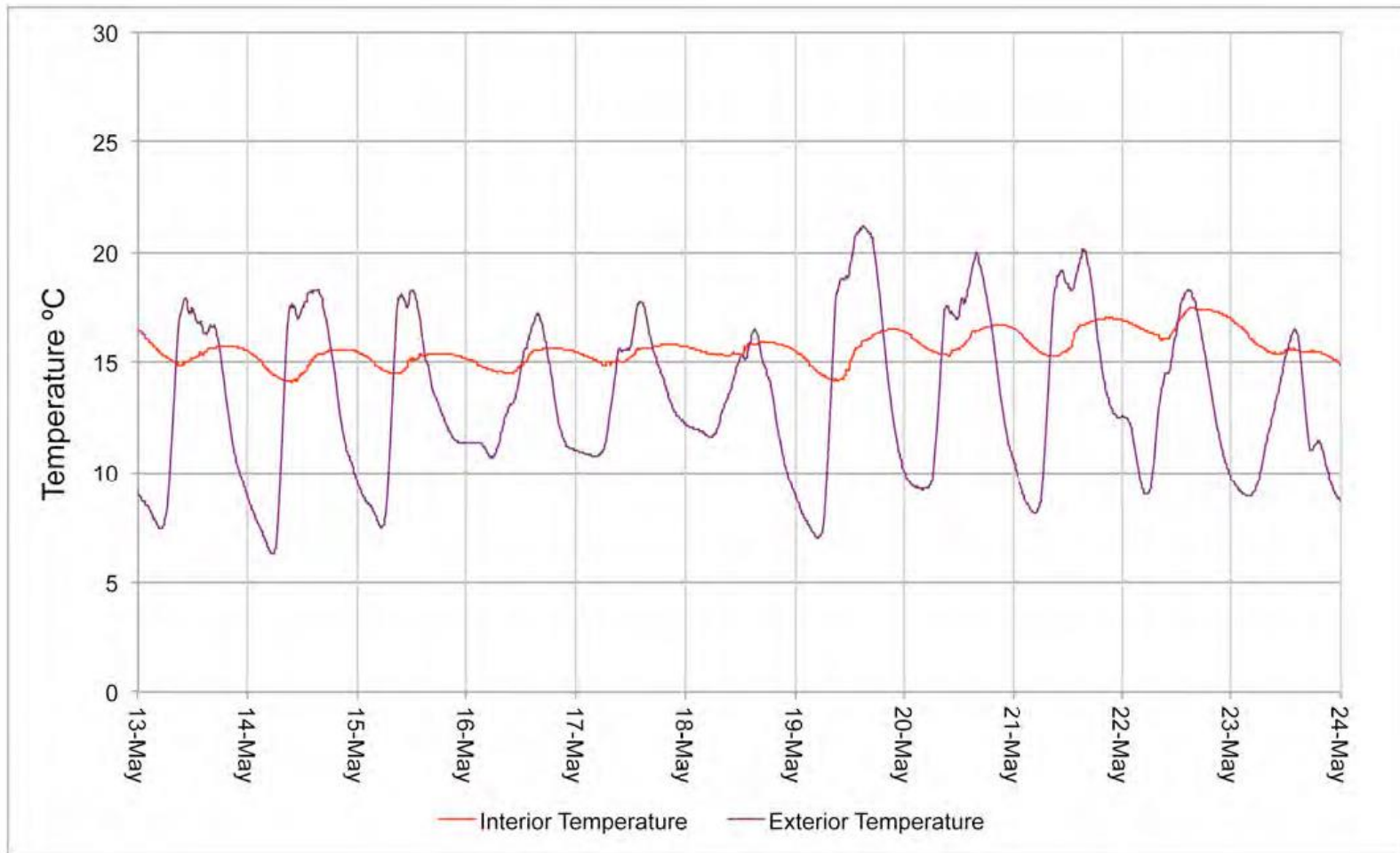


Excellent airtightness and thermal performance

<i>Thickness in cm</i>	8	12	15	25	30	36	40
<i>Density in kg/m<sup>3</sup></i>	330	330	330	330	330	330	330
<i>λ Thermal conductivity in W/(mK)</i>	0.07	0.07	0.07	0.07	0.07	0.07	0.07
<i>Thermal transmittance (U-value) in W/(m<sup>2</sup>K)</i>	0.76	0.53	0.43	0.27	0.22	0.19	0.17
<i>Resistance to water vapour diffusion (m)</i>	4.50	4.50	4.50	4.50	4.50	4.50	4.50
<i>Specific heat capacity (J/kgK)</i>	1870	1870	1870	1870	1870	1870	1870
<i>Coefficient of sound absorption</i>	0,8	0,8	0,8	0,8	0,8	0,8	0,8
<i>Sound reduction index, Rw (dB) with 1.5 cm of plaster per side</i>	24.37	36.55	37.51	40.11	41.17	42.29	42.96
<i>Reaction to fire with plaster</i>	Non-flammable		Non-flammable		Non-flammable		Non-flammable
<i>Phase shift without plaster</i>	3h09'	5h53'	7h58'	14h48'	18h13'	22h19'	25h04'

## Typical hempcrete performance data

(taken from HCB Hempcrete Block specifications)



**Figure 4:** Internal and external temperature in the HemPod

Effect of long phase shift times





Healthy, comfortable  
interior spaces using  
natural materials...





...with very low heating  
and cooling costs.





Repair of the historic built environment



Heritage retrofit





A range of available finishes

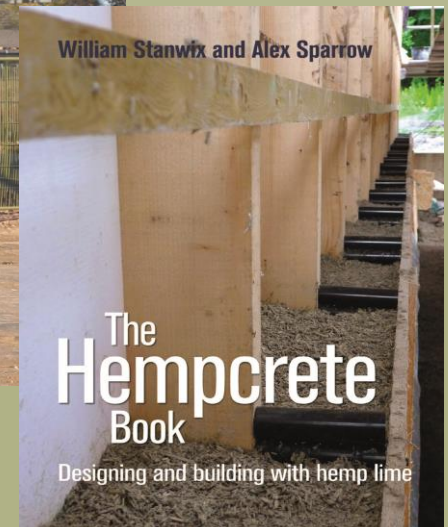


Simple detailing means hands-on clients...





...or complete self-build







Training and material  
supply to the industry



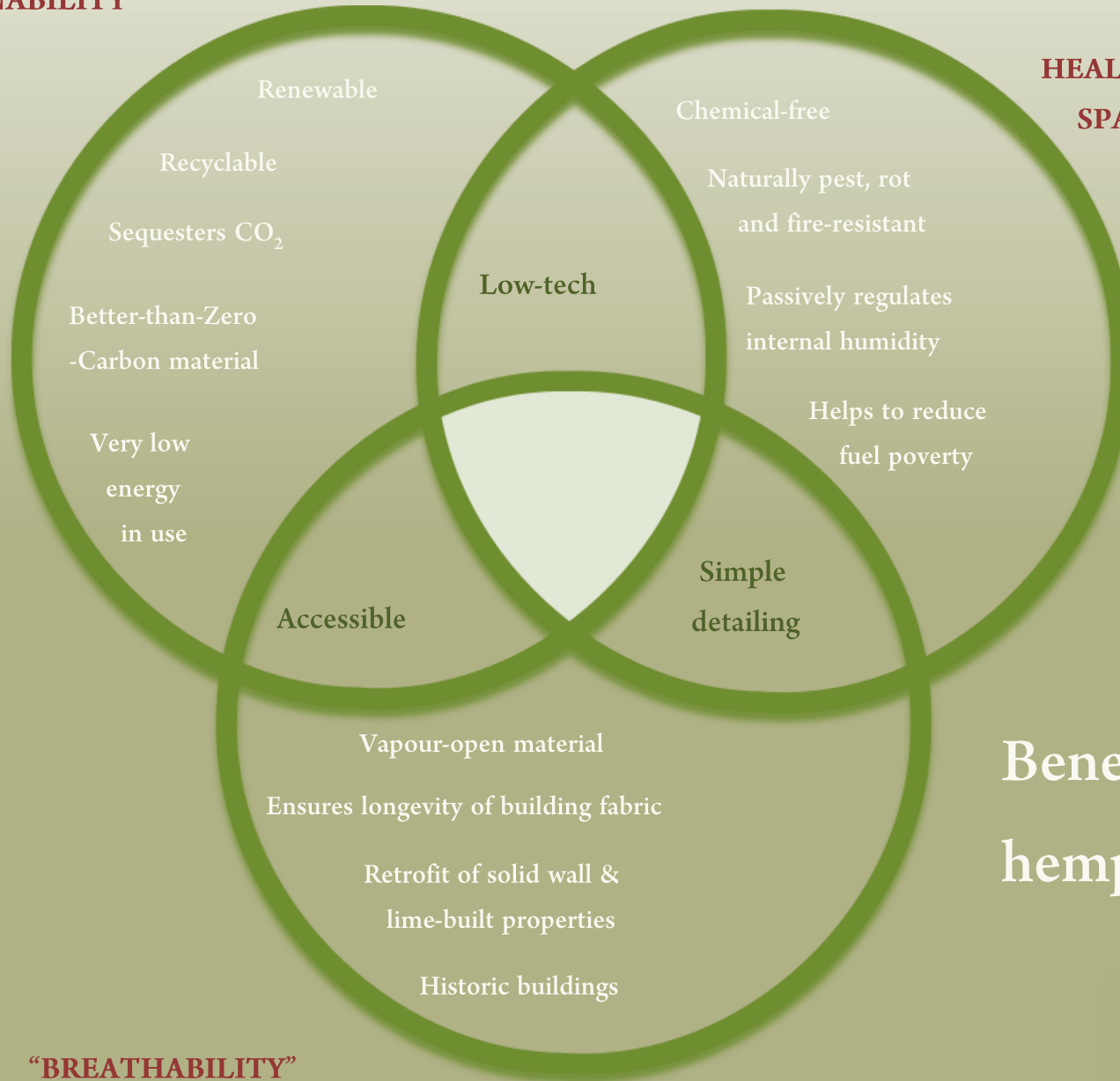




Pre-cast systems available  
for larger projects

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## HEALTHY LIVING SPACES



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