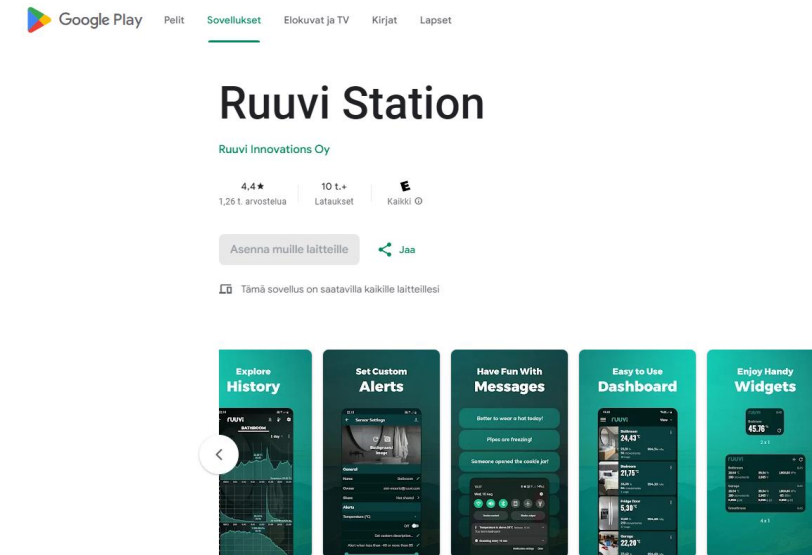


Evaluation of climate resilience of buildings – is there a connection into valuation practices?

Ari Laitala

About the presenter

- M.Sc. (Tech.)
 - Not a practising valuer (been teaching real estate economics in Aalto University)
- Specialist in Sykli Environmental College
 - Energy and real estate related projects (value of the renewable energy)
 - Decarbonisation, climate change
- Tools
 - Data, data analysis, AI, VR
 - IoT based data
- Other
 - Virtual land investor 😊 (Next Earth)
 - Live in Talsinki



Would you like to write to Land Use Magazine Finland?

- The last issue of the year (4/2023) typically focuses on the real estate valuation and real estate market
- Not scientific => professional
- We can publish articles in English in the web&mobile versions
- Some articles can be translated into Finnish (to printed version)
- DL is 1.11.2023
- Contact ari.laitala@maankaytto.fi

KIINTEISTÖLIIKETOIMINTA JA -JOHTAMINEN • KIINTEISTÖMARKKINAT • KIINTEISTÖARVIOINTI

Professori Magdalena Habdasin (University of Silesia in Katowice) esitys käsitteli arvonalentumisen vaikutuksen juridisia perusteita ja arvioijan roolia haastavassa arviointitehtävässä.

**BVC —
lento on lähdessä?**

Ari Laitala

Perinteikäs kiinteistöarviointiin keskittyvä Baltic Valuation Conference (BVC) palasi alkuperäiseen konseptiinsa parin välivuoden jälkeen. Useimmat esitykset keskittyivät tälle kertaa lentokenttävaikutusten huomioimiseen kiinteistöarvioinnissa.

COVID-PANDEMIAN alkamisen myötä joutuivat monet konferenssijärjestäjät tekemään nopeita ratkaisuja: peruako koko konferenssi vaiko lähteä etäjäristelyihin. Kumpikin ratkaisu tehtiin ja nähtiin. Viime vuonna alkoivat myös erilaiset hybridi-toteutukset yleistyä. Perusratkaisuna on usein ollut se, että ohjelma ns. pääalavalta striimataan. Ja "rinnakkaisen sessioiden" esityksistä on sitten pyydytty etukäteen videoesitys sekä diat konferenssin verkkosalustalle. Verkkosalusta on voinut avautua jo muutama päivä ennen konferenssia, mikä on osaltaan helpottanut oman konferenssiohjelman tarkempaa suunnittelua.

HYBRIDI VAI EI?
Tällaiset konferenssalustat ovat voineet olla aktiivisissa vielä joitakin päiviä varsinaisen konferenssin päättymisen jälkeen, mahdollistaen aktiivisen keskustelun. Tällainen järjestely oli käytössä mm. syyskuussa pidetyssä Smart Energy Systems-konferenssissa Tanskan Aalborgissa. Kiinnostavasti konferenssalustalle on päässy vielä pitkälle ensi vuoteen, vaikka keskustelutoiminnot eivät aktiivisia enää olekaan.
Tällainen toteutus ratkaisee varsin tyydyttävällä tavalla ikiaikaisen ongelman. Kun kiinnostavaa ohjelmaa on tarjolla vaikkapa neljässä tai viidessä rinnakkaisessa sessiossa, on valintaa joutunut tekemään hyvin aktiivisesti ja jopa hyppäämään sessiosta toiseen kesken kaiken. Jälkikäteen saatavilla olleet diat ovat toki jonkinlainen lohtu.

16 MAANKÄYTTÖ 4|2022

Some questions

- What are the effects of climate change to built environment?
- Are there any short-term effects (of climate change) which should be taken account in the real estate valuation
- Are there any talk about these issues in the real estate market?
- Are there any new knowledge/skills which valuers should master?



<https://globalnews.ca/news/9165068/hurricane-ian-florida-photos/>

Damaged homes and debris are shown in the aftermath of Hurricane Ian, Thursday, Sept. 29, 2022, in Fort Myers, Fla. (AP Photo/Wilfredo Lee)



State Farm General Insurance Company®: California New Business Update

State Farm General Insurance Company®, State Farm's provider of homeowners insurance in California, will cease accepting new applications including all business and personal lines property and casualty insurance, effective May 27, 2023. This decision does not impact personal auto insurance. State Farm General Insurance Company made this decision due to historic increases in construction costs outpacing inflation, rapidly growing catastrophe exposure, and a challenging reinsurance market.

We take seriously our responsibility to manage risk. We recognize the Governor's administration, legislators, and the California Department of Insurance (CDI) for their wildfire loss mitigation efforts. We pledge to work constructively with the CDI and policymakers to help build market capacity in California. However, it's necessary to take these actions now to improve the company's financial strength. We will continue to evaluate our approach based on changing market conditions. State Farm® independent contractor agents licensed and authorized in California will continue to serve existing customers for these products and new customers for products not impacted by this decision.

[State Farm General Insurance Company®:
California New Business Update](#)

Ilmalämpöpumpuissa kytee yli 5 000 euron vesivahinkopommi – Muistathan nämä

Ilmalämpöpumpun aiheuttaman vesivahingon hintalappu voi kohota tuhansiin euroihin. Vakuutusyhtiö muistuttaa pitämään pumpun puhtaina.



Kaikkia huoltotoimenpiteitä ei tule tehdä itse, vakuutusyhtiö muistuttaa. JOEL MAISALMI / KL



Eevi Karvinen

Torstai 10.8.2023 klo 8:51

Ilmalämpöpumppujen aiheuttamat kalliit ja tuhoiset vahingot työllistävät vakuutusyhtiöitä.

Pohjola Vakuutus tiedottaa saavansa vuosittain satoja vahinkoilmoituksia ilmalämpöpumppujen rikkoutumisista ja laitteiden aiheuttamista omaisuusvahingoista.

What is said there?

Air source heat pumps cause every year several hundred damages in Finland (Pohjola Insurance)

- Water damages (condense water based)
- The cost of renovation is by default at least 5000 euros

I Installation failures

II Maintenance failures

[Ilmalämpöpumpuissa kytee yli 5 000 euron vesivahinkopommi – Muistathan nämä \(iltalehti.fi\)](https://www.iltalehti.fi/ilmalampopumpuissa-kytee-yli-5000-euron-vesivahinkopommi-muistathan-nama)

Aurinkopaneeleista ilmeni huolestuttavia asioita Tukesin tarkastuksissa

Tukesin tarkastamista aurinkopaneeleista vain 11 prosenttia oli asennettu oikein.

➔ JAA



Aurinkopaneelien asennusta Vantaan Tammistossa 8. kesäkuuta 2016 ja aurinkopaneeleita Espoossa 2010. Kyseiset paneelit eivät liity Tukesin tarkastuksiin. KUVA: RONI REKOMAA, KIMMO MÄNTYLÄ / LEHTIKUVA

What is said there?

Finnish Safety and Chemicals Agency (Tukes) made a revision project of solar panel installations

- Winter 2022-2023 (45 cases)
- 5 cases were OK
- In 40 cases there was a risk of electric shock and/or fire
- Other kind of problems were detected as well, emerging moisture damages etc.
 - Because of the bad installation work

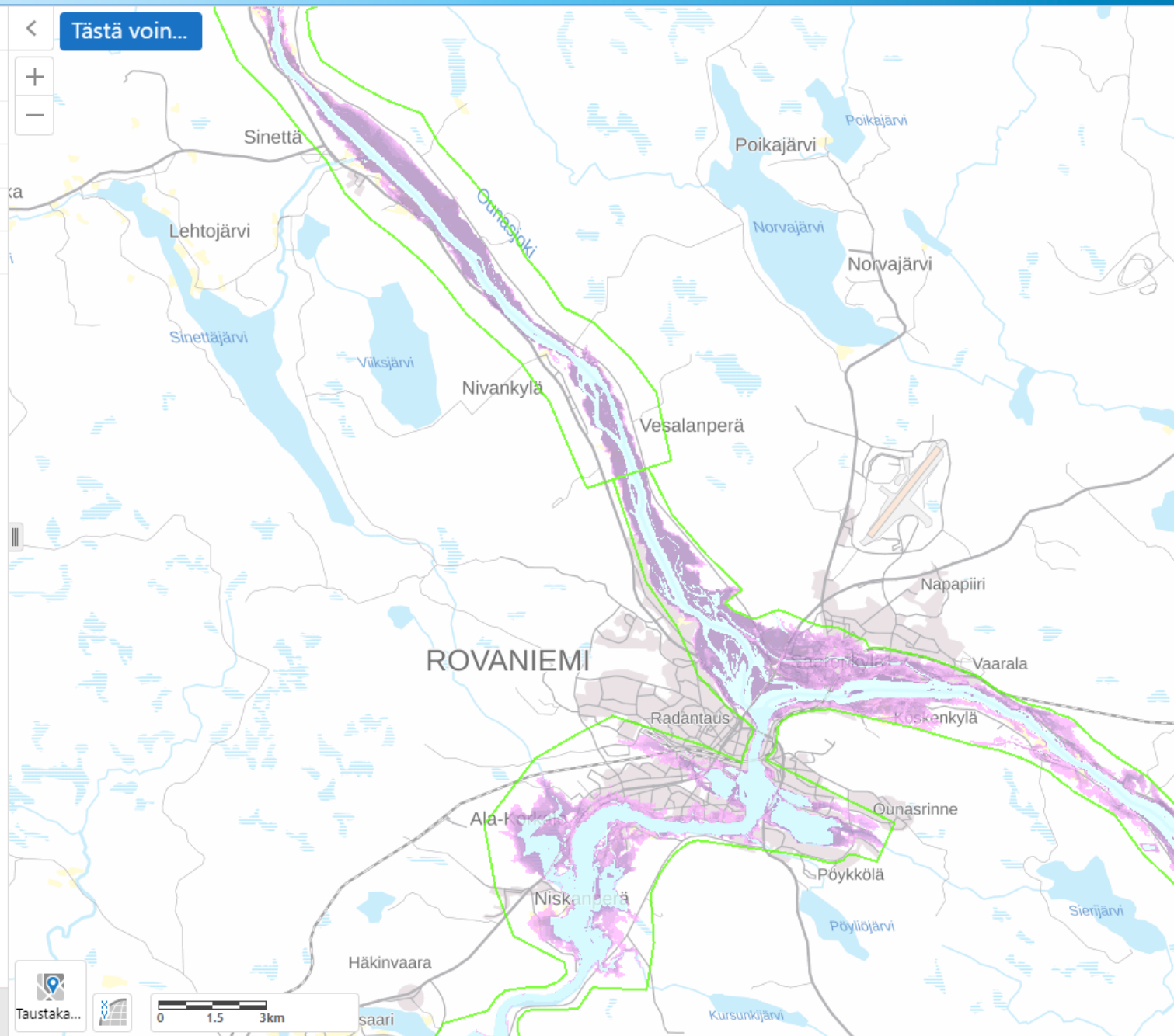
[Tukes varoittaa: Suuri osa aurinkopaneeleista asennettu väärin - Taloussanomat - Ilta-Sanomat](#)

Karttatasot

Tästä voi...

- Tulvavaara- ja -riskikartat
- Tulvakartoitustarvealue (tulvariskialueet 2018)
- VESISTÖTULVAT, tulvariskiaineistot
- MERITULVAT, tulvariskiaineistot
- Taustakartat

https://paikkatieto.ymparisto.fi/tulvakartat/Viewer/Index.html?Viewer=Tulvakartat_suppea





Mikä tahansa päiväys

Vuodesta 2023

Vuodesta 2022

Vuodesta 2019

Oma ajanjakso...

Lajittele osuvuuden
mukaan

Lajittele pvm mukaan

Kaikki tyypit

Arvosteluartikkelit

 hae patenteista sis. lainaukset Luo ilmoitusGuest editorial: Sustainability and **climate change**; the challenge ahead. With dedication to Sarah Sayce[G Warren-Myers](#) - [Journal of Property Investment & Finance, 2022 - emerald.com](#)

... was a pioneer and stalwart of a topic that is dear to us all, and her passing in 2021 was not just the loss of a great ambassador on how we need to take action to slow **climate change** ...

☆ Tallenna Viittaa [Aiheeseen liittyviä artikkeleita](#) Kaikki 2 versiota

Real estate valuation practice: An Australian qualitative consideration of the impacts of **climate change**[G Warren-Myers](#), [L Craddock](#) - [European Real Estate Society ..., 2023 - eprints.qut.edu.au](#)

... approaches to physical risks **climate change** risks and climate-... Are any **climate change** risks considered in valuation ... How prepared are Australian valuers for **climate change** risk and ...

☆ Tallenna Viittaa

[\[HTML\]](#) **Climate Change** and Risk of Flooding in Germany[S Kropp](#) - [Research Collection, 2015 - books.google.com](#)

... **Real estate valuation** is an individual process. There are different possibilities to consider flood risk within the valuation process. In general, flood risk needs to be considered but there ...

☆ Tallenna Viittaa [Viittausten määrä 3](#) [Aiheeseen liittyviä artikkeleita](#) Kaikki 4 versiota

One example of the literature

- <https://www.diva-portal.org/smash/get/diva2:1564191/FULLTEXT01.pdf>

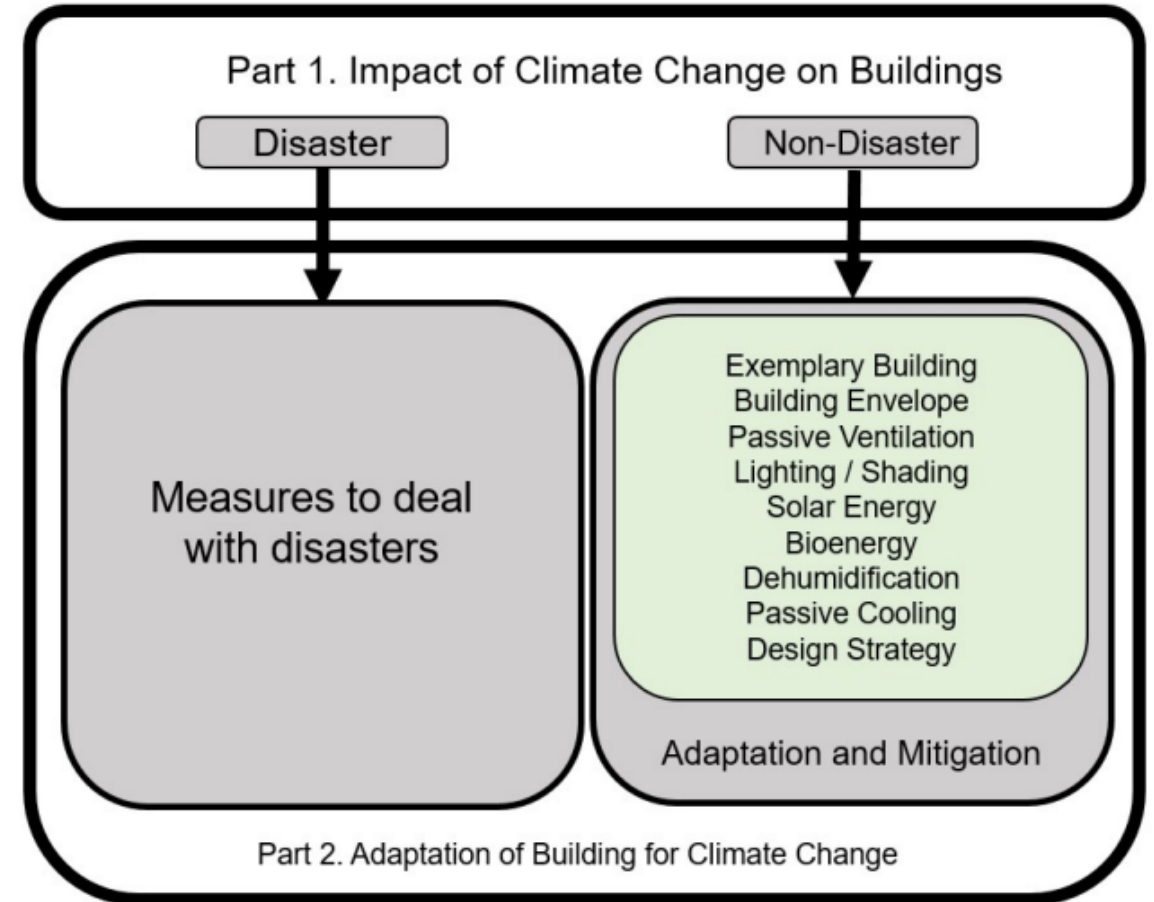
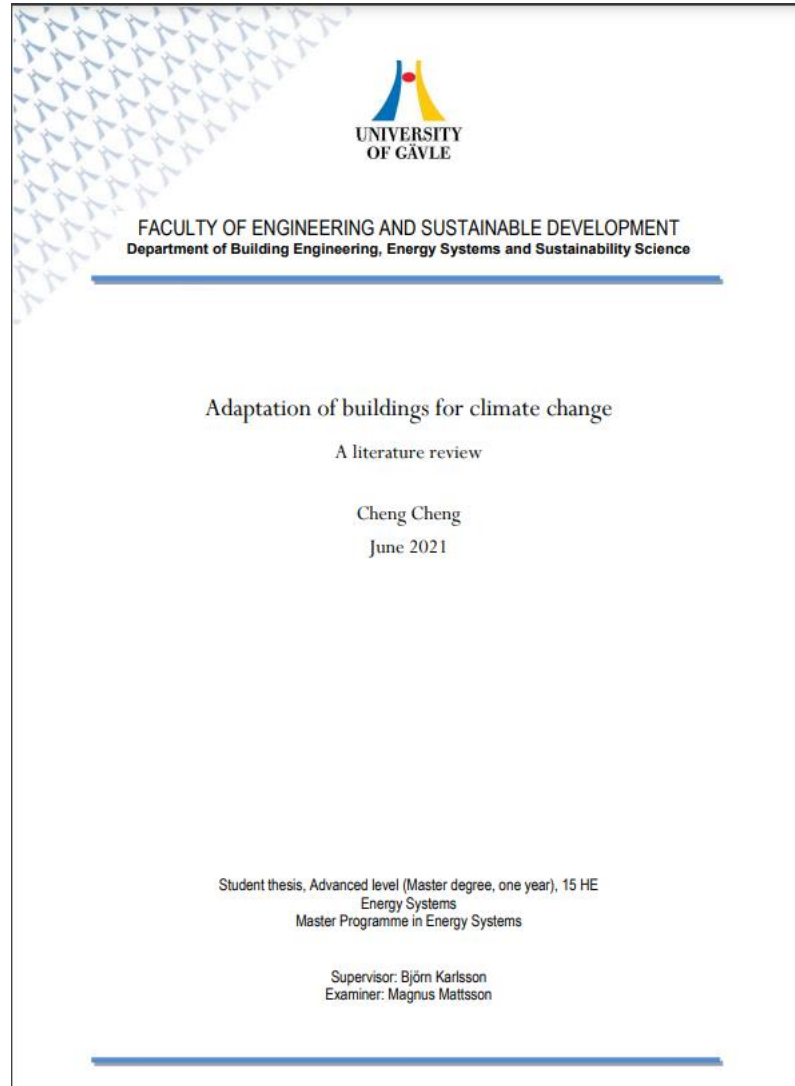


Fig. 1 Study concept framework

Usually recognized effects of climate change to built environment? non-disastrous

- Slanting rain (rain coming from an angle)
 - (increasing windiness?)
- Fluctuating temperature around zero
- Heat inside the buildings
- Increasing humidity inside the buildings
 - Moisture damages?
- Wetter soil (foundations)
- Increased sun radiation (UV-radiation)
 - shorter life span of materials

- > Existing buildings
- > Buildings and urban development
- > New construction
- > Legislation
- > **Climate change impact on buildings and constructions**
- > Frequently asked questions



[Del artikel](#) [Print](#)

Climate change impact on buildings and constructions

Buildings and roads etc. must be designed for future climate conditions.

Wetter winters and sudden, heavy downpours make it even more important to direct rainwater and meltwater away from houses, paved areas, roads etc.

A milder climate will reduce the durability of building materials and affect the indoor climate of buildings. Warmer summers will introduce a greater need for cooling.

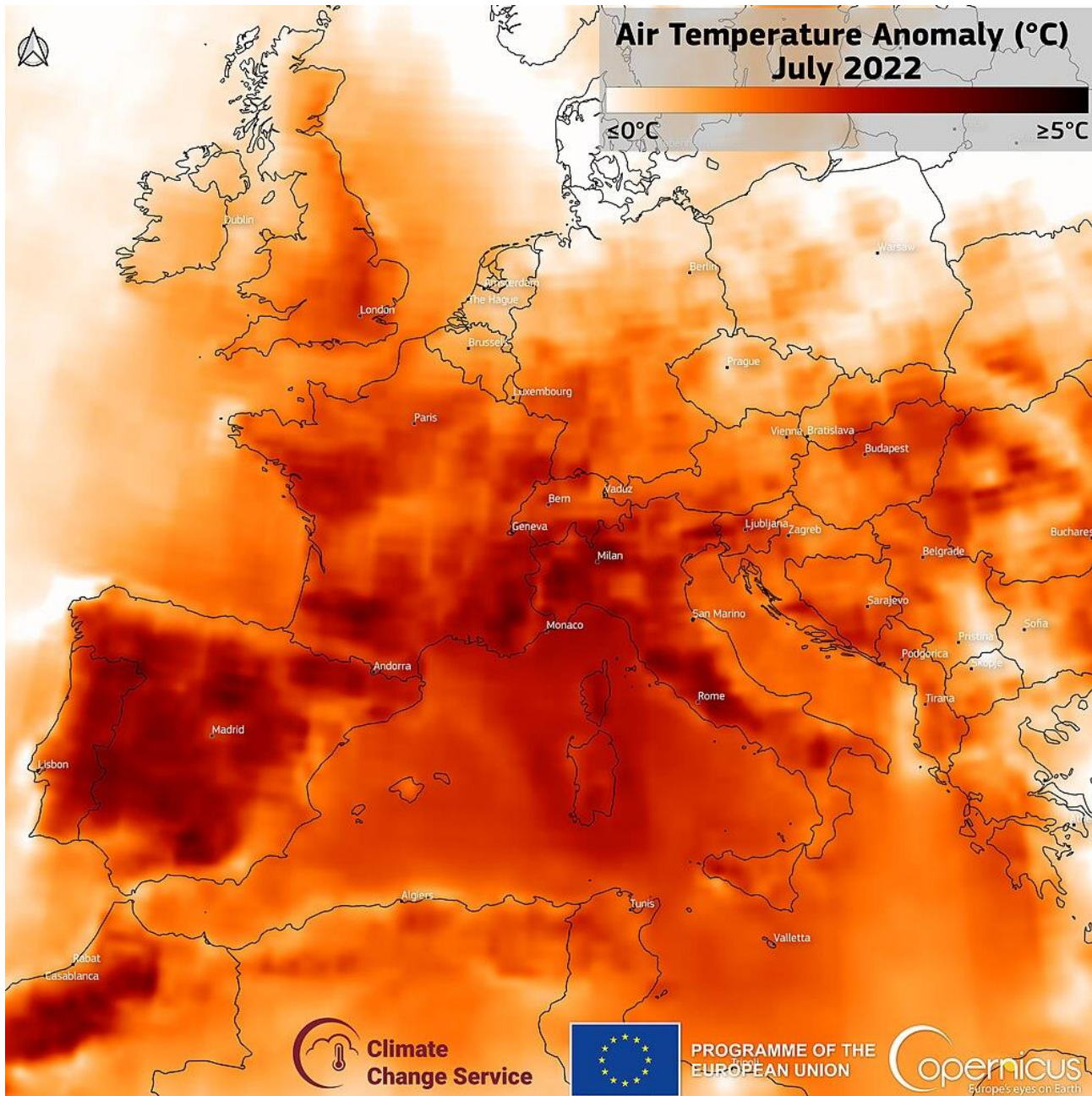
Higher groundwater levels, higher water levels in streams and watercourses, and greater risk of storm surges along the coastline, make it pertinent to safeguard buildings against seepage and flooding.

Buildings

Buildings can be vulnerable to climate change. In the future there may be an increase in the risk of collapse, declining health and significant loss of value as a result of more storms, snow or subsidence damage, water encroachment, deteriorating indoor climate and reduced building lifetime. In the short term stronger storms are the greatest challenge.

Storms will constitute a safety risk in those parts of existing buildings that do not meet the building

<https://en.klimatilpasning.dk/sectors/buildings/climate-change-impact-on-buildings/>



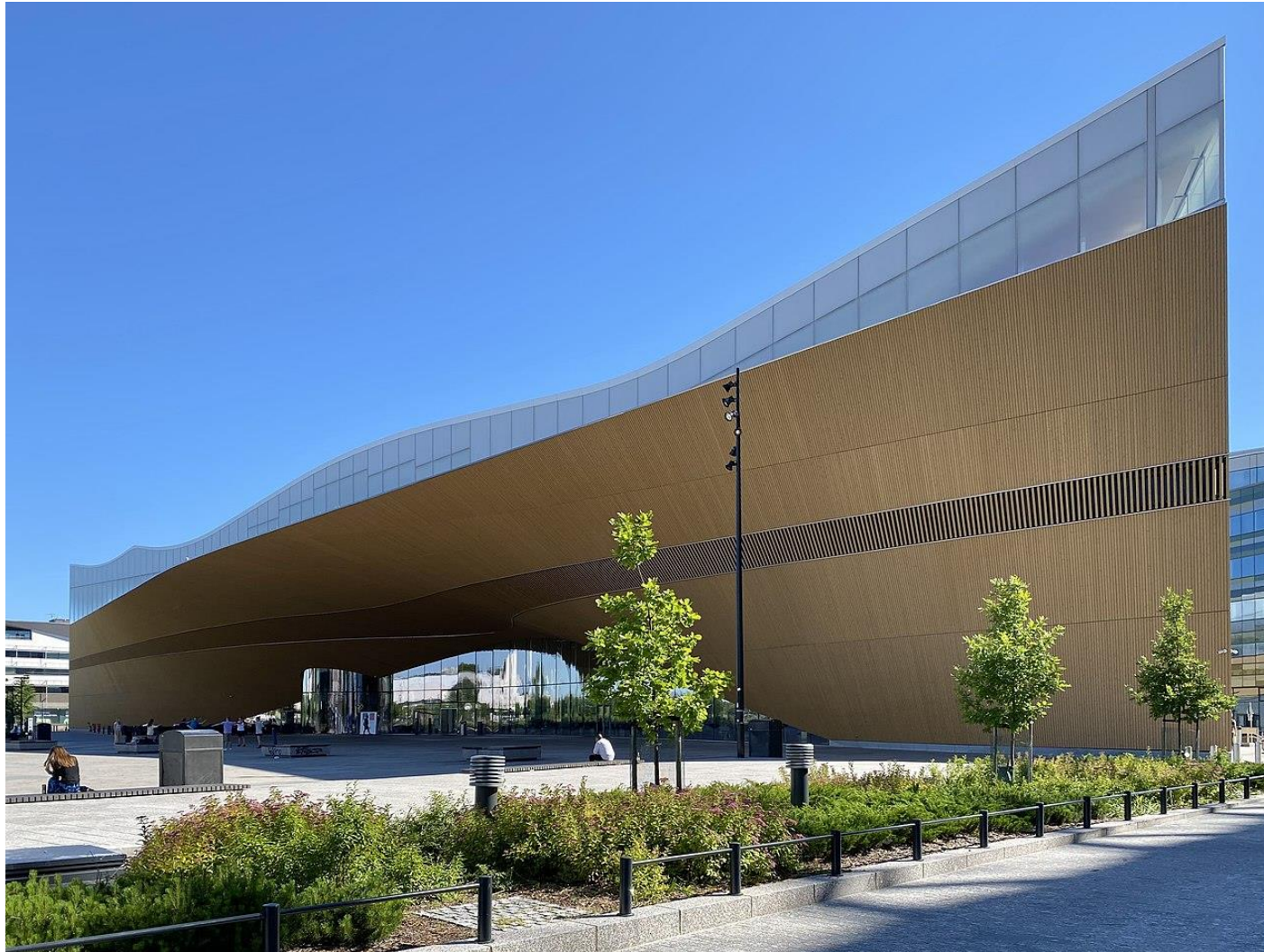
Biggest challenge?

Confirmed and estimated deaths by country

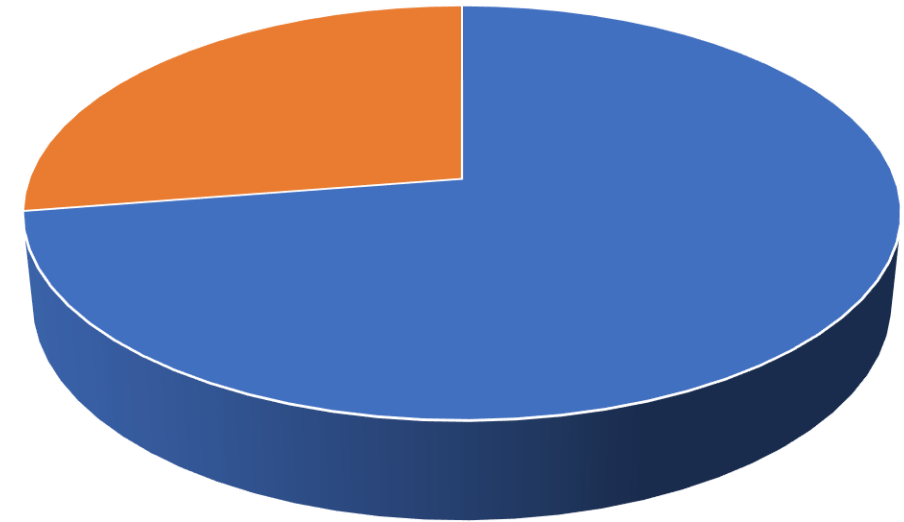
Country	Deaths
Austria	419 (estimated) ^[22]
France	c. 11,000 (confirmed) ^[23]
Germany	4,500+ (confirmed) ^[24] 8,173 (estimated) ^[25]
Greece	3,092 (estimated) ^[26]
Ireland	6 (confirmed) ^{[27][28]}
Italy	18,010 (estimated) ^[25]
Netherlands	469 (estimated) ^[29]
Poland	3 (confirmed) ^{[30][31][32]} 763 (estimated) ^[33]
Portugal	1,066 (confirmed) ^[34] 2,212 (estimated) ^[26]
Spain	4,655 (confirmed) ^[35] 11,324 (estimated) ^[25]
United Kingdom	3,271 (confirmed) ^[36] 3,469 (estimated) ^[26]
Total	24,501 (confirmed) 61,671 (estimated, between 30 May and 4 September) ^[3]

2022 European heatwaves. (2023, September 2). In *Wikipedia*.
https://en.wikipedia.org/wiki/2022_European_heatwaves

Case Oodi: Helsinki main library



Energy use heating & cooling H1/2021



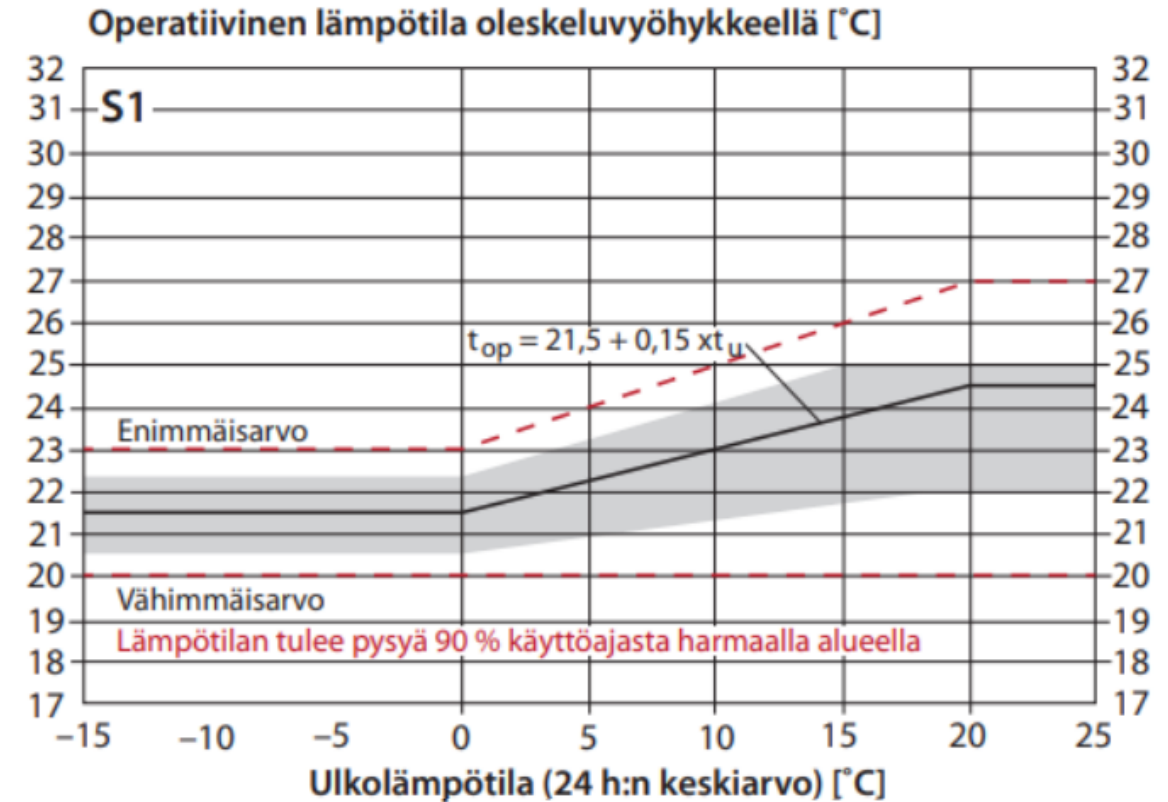
■ District heating 73 % ■ District cooling 27 %

By Alexignat - Own work, CC BY-SA 4.0,
<https://commons.wikimedia.org/w/index.php?curid=130689386>

Some calculations

Oodi	1.1.2021- 30.6.2021		
		kWh	
District heating 73 %	935803		
District cooling 27 %	354660		
		MWh	
District heating 73 %	935,803	73 %	
District cooling 27 %	354,66	27 %	
		MWh	100 €/MWh
District heating 73 %	935,803	93 580 €	
District cooling 27 %	354,66	35 466 €	
		129 046 €	
District cooling, yearly		70 000	
Direct capitalization by 10% (= Loss of value due to increased energy use?)		700000	
What is increase in value due to fulfilling S1 requirement?			

Indoor climate class S1 / temperature



Availability of Helen district cooling network



Summarizing (to take account in the valuation reports?)

- Probabilities for disastrous damages
 - Flooding especially (flooding maps)
- Increased risks for the facade materials or foundations of the building e.g.
- Cooling needs/possibilities
 - **Are there any measured information about the summertime temperatures inside?**
 - Any existing solutions (active/passive)?
 - If there are cooling capable heat pumps etc. what is the technical condition (life cycle)
 - And what is the quality of the installation?
 - Is district cooling available?

Thank you!

Do we need a development project for enhancements of valuation practices, because of the climate change?

ari.laitala@sykli.fi

ari.laitala@maankaytto.fi