

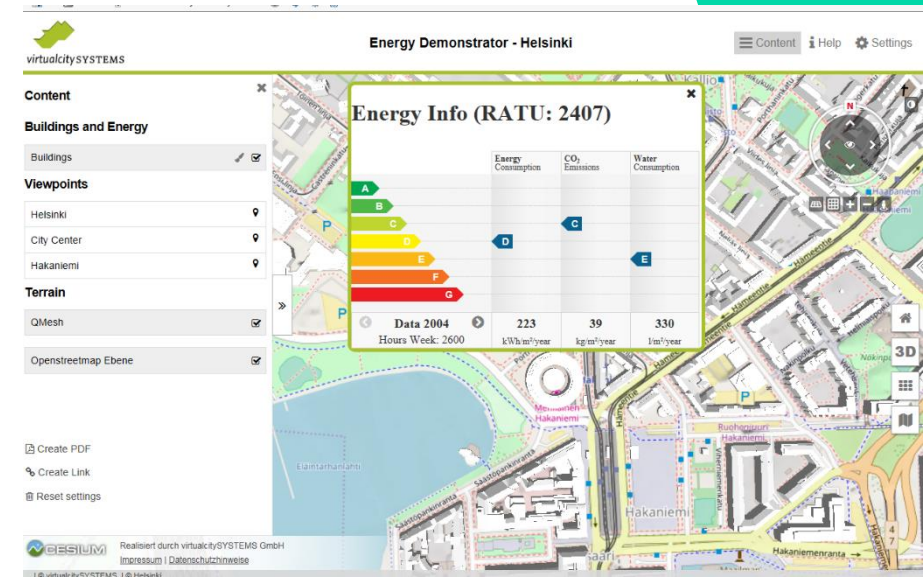
Helsinki's energy data into 3D-model and citizens' views

Petteri Huuska



Helsinki's energy data into 3D-map

- Helsinki has an aim to be in forefront in energy 3D data
 - To support building owner's interest on the performance of their buildings and to see the potentials
 - To support S&C businesses possibilities to develop needed services for investors and see where they can help best
 - To ease city and climate planning in energy aspects (visuality often helps decision-making)
 - To help city's strategic climate neutrality goal
- Various projects ongoing with 3D experts to open the first datasets in February 2018 in 3D model
- More information to be included



Contents of 3D energy data

Data	Source	Will be published	Challenges			
1. Building renovation history	Facta building registry	Feb 2018	Some old data in paper format			
2. Hekan apartment buildings heat, electricity and water consumption	Heka Ltd.	Feb 2018				
3. Energy certificate registry	www.energiatodistusrekisteri.fi	2018?	Building ID's needed			
4. Public service buildings consumption	HEL Buildings and public areas div.	End of 2018	Energy monitoring renewed			
5. Calculated energy consumption of all buildings	VTT	Feb 2018				
6. Calculated energy saving potential in one area (Merihaka)	VTT	Feb 2018				
7. Heat loss images of Helsinki's roofs reanalysis	HSY, kartta.hsy.fi	Feb 2018	Don't fit directly in buildings			
8. Large scale waste heat potential of buildings	Metropolia study	2019	Preliminary study done, needs more accurate info			
9. Solar energy potential and visualization	HSY+3D, kartta.hsy.fi	Feb 2018				
10. Thermal imaging of facades in one neighbourhood (Merihaka)	HEL environmental services	Winter 2018	Right weather needed (cold+dry)			

Citizens thoughts about 3D-map

- Questionnaire prepared by climate KIC Pioneers in environmental services
- Piloted in Lähiöfest2017 (suburb-week) event in Haaga's school
- Included presentation with computer and prints of visualization
- N=25



Helsinki

1.10.2017 | 3D Survey

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Helsinki 3D-City-Model

The City of Helsinki has commissioned two next-generation 3D-City-Models in May 2017: a smart, semantic city information model and a visually high-quality reality mesh model.

Please take some time to respond to the following survey regarding the Helsinki 3D-City-Models. The questionnaire is anonymous, provides 9 questions and a few minutes of compilation time. Your opinion and experience are very important to improve the 3D-City-Models and adapt them to Helsinki citizen's wishes!

1. → How many times have you accessed to the 3D-City-Model at <https://kartta.hel.fi/3d/>?
 Sometimes Few times → One time Never!
2. → If YES, is the 3D-City-Model easy to understand and easy to handle?
 Yes No → Don't know
If no, why? → → → →
3. → From your experience / from what you have seen now, would you use it again / in the future?
 Yes No → Don't know!
4. → For what purposes would you use the 3D-City-Model? Up to two answers!
 General information / Looking around in the city Implementation of business ideas / purposes!
 Comparison of building background & performance Usage and processing of open data!
 Planning basis of private refurbishments Learn more on urban planning and public actions!
 Playing games / Visualizing future scenarios → Other: → → →
5. → Would you like to compare your building's performance with the performance of other...?
 Public buildings Private buildings Both → None!
6. → What information would you like to visualize in the 3D-City-Model in order to take actions for making your building more energy efficient?
 Solar panel energy potential → → Energy saving potential!
 Energy consumption of other buildings → Renewable sources available !
 I don't want to take actions to save energy → Other: → → →
7. → On what appliances would you like to use the 3D-City-Model? -!
..... Computer Smartphone Tablet Public touchscreen in the city!
8. → Overall how good do you evaluate the 3D-City-Model initiative?!
..... Very good Good Okay Bad Very bad!
9. → Would you tell us something more about you?
Age → Gender → → !
Your interest in energy-saving related issues (rate from 1=very poor to 5=very high) → 1 2 3 4 5!
Your willingness to implement energy-saving measures in the next 12 months!
(rate from 1=very poor to 5=very high) → → → → → → → →
..... 1 2 3 4 5!

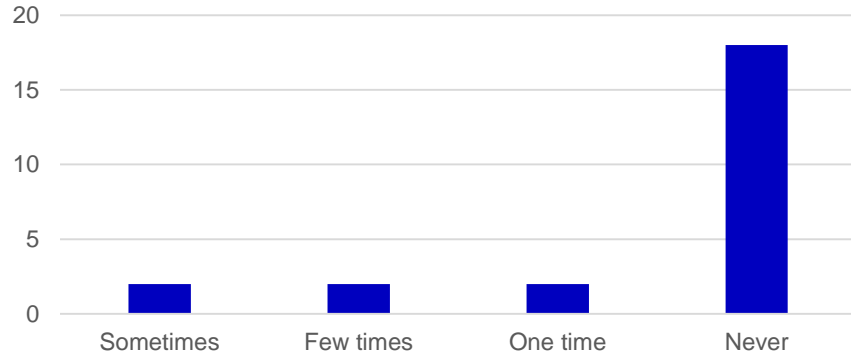
Thank you for participating!

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731297.

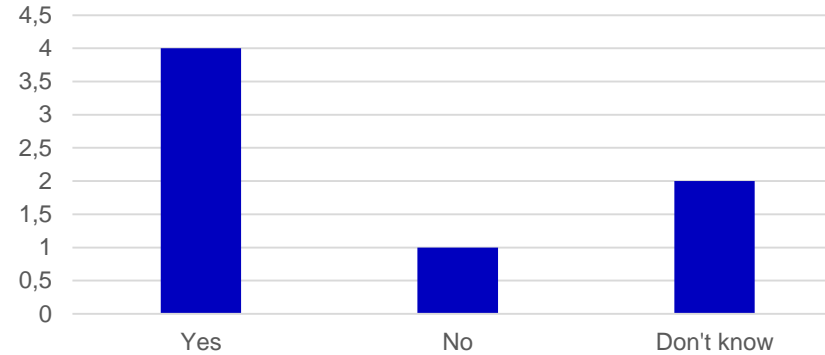


Citizens thoughts about 3D-map

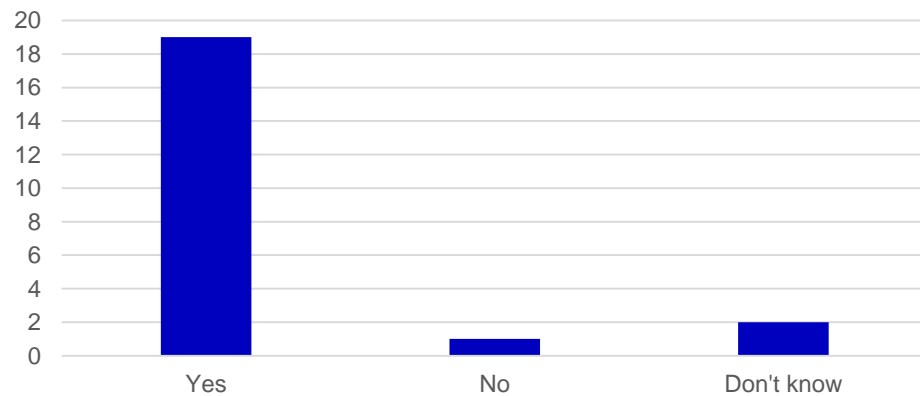
How many times have you accessed to the 3D City Model at <https://kartta.hel.fi/3d>



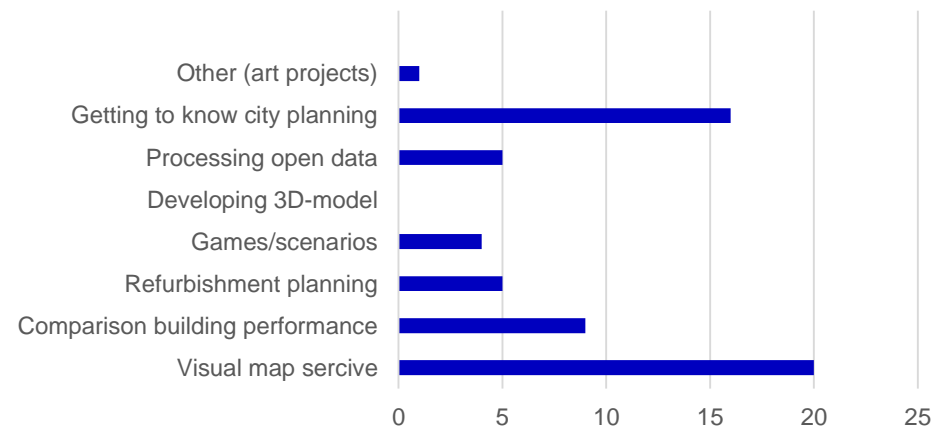
If YES, is the 3D City Model easy to understand and easy to handle?



From your experience / from what you have seen now, would you use it again / in the future?

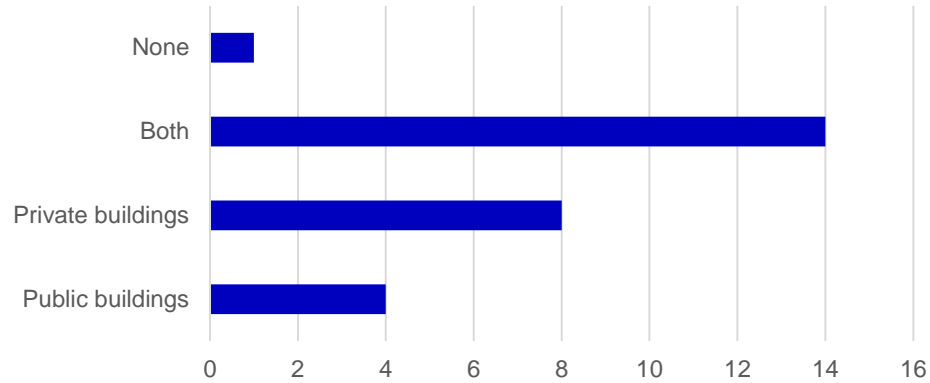


For what purposes would you use the 3D City Model?

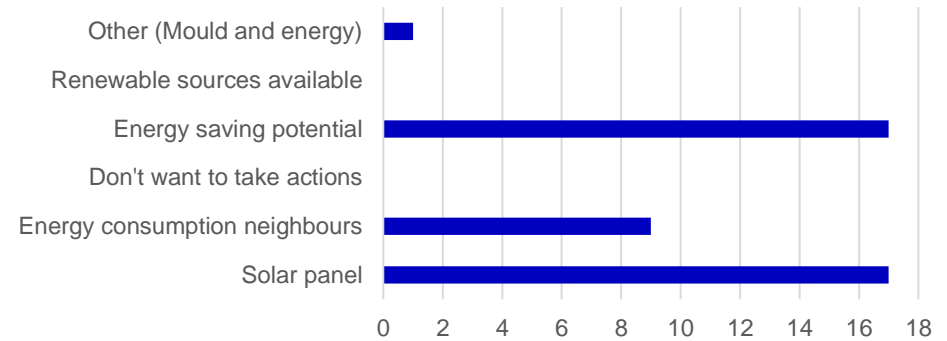


Citizens thoughts about 3D-map

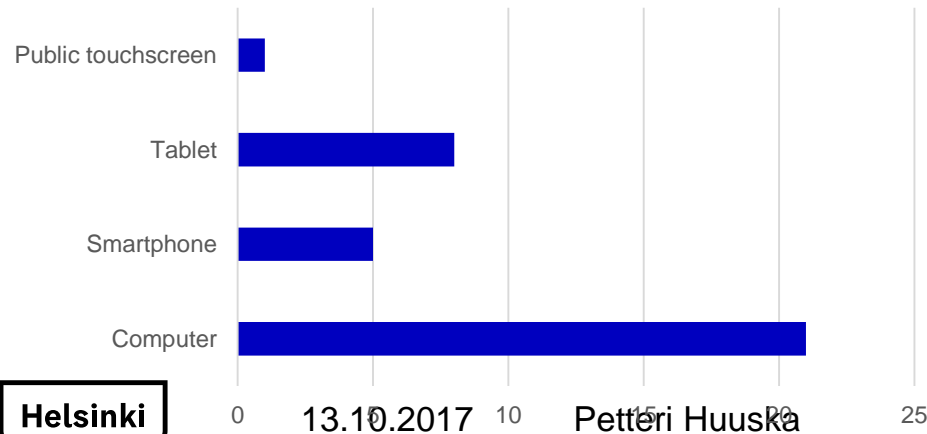
Would you like to compare your building's performance with the performance of other...?



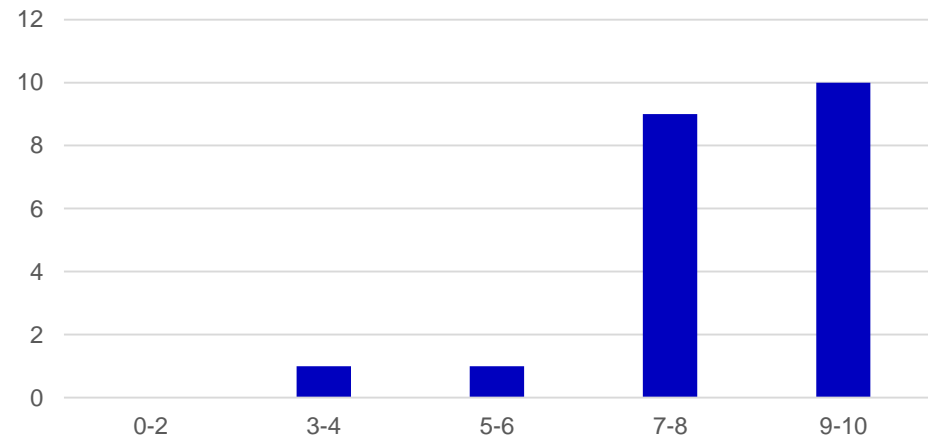
What information would you like to visualize in the 3D City Model in order to take actions for making your building more energy efficient



On what appliances would you like to use the 3D City Model?

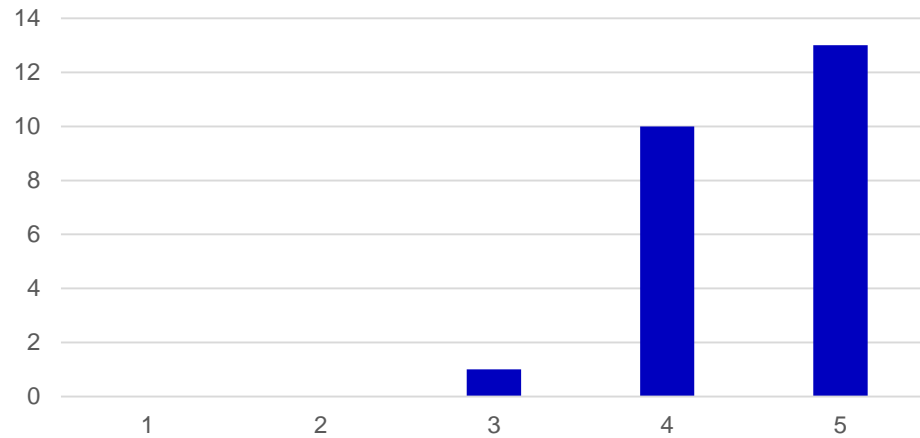


Overall how good do you evaluate the 3D City Model initiative (1-10)

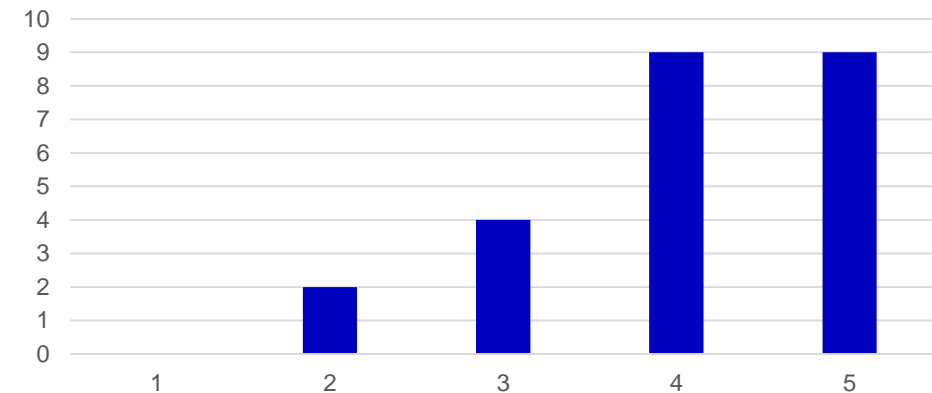


Citizens thoughts about 3D-map

Your interest in energy-saving related issues
(rate from 1=very poor to 5=very high)



Your willingness to implement energy-saving
measures in the next 12 months (rate from
1=very poor to 5=very high)



Thank You!

Helsinki's climate work www.stadinilmasto.fi –pages. Order also newsletter! (in Finnish)

Twitter: [@stadinilmasto](https://twitter.com/stadinilmasto), [@ilmastokumppani](https://twitter.com/ilmastokumppani)

