How to improve and build an energy efficient building?

Antero Mäkinen
Rane's energy advicer

Rane =
Building and Living
Energy Advicer

Nokia

Kangasala

Ylöjärvi

Orivesi

Tampere
City
Building Inspector
As.

Health- environment

Building community

Lempäälä

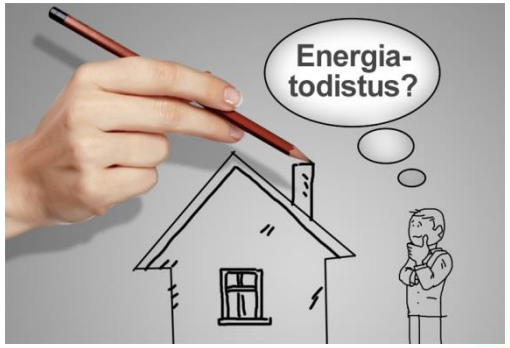
Vesilahti

EcoFellows

Pirkkala

Organized Events.

- Asta Builders expo plus others
- Cities’ land lot info (Construction/building permit)
- Rane’s Energy saving lectures for builders
- Solar and wind energy lectures (home & leasure homes)
- Learn to service air conditioners (heat pumps)
- Community & city summer happenings
- House Owners’ Association yearly events
- Lectures at schools and other education centers



energycertificate

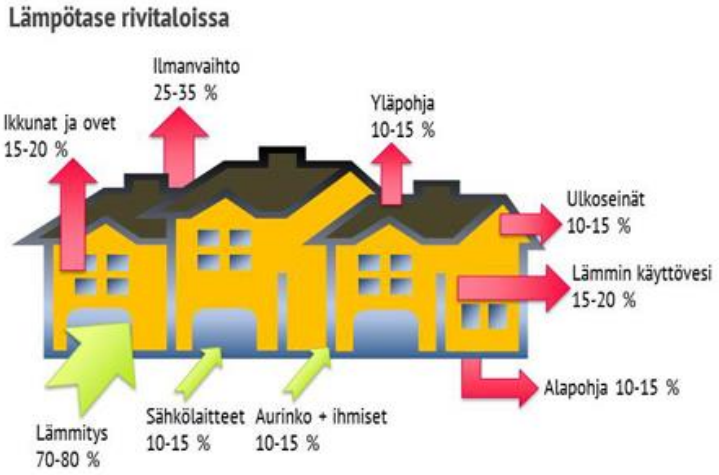
energy reports

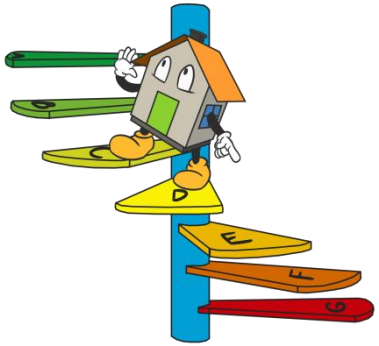
Measuring Performance U-Factor

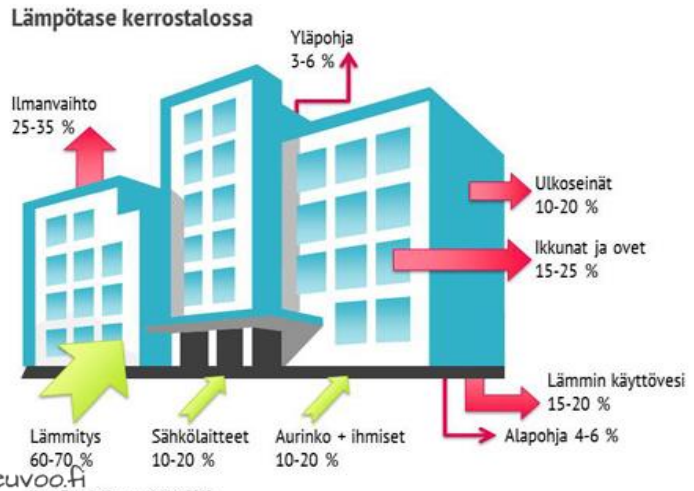
U-arvovaatimus	C3/1985	C3/2003	C3/2007	C3/2010
Ulkoseinä	0,28	0,25	0,24	0,17
Yläpohja, ulkoilmaan rajoittuva alapohja	0,22	0,16	0,15	0,09
Ryömintätilaan rajoittuva alapohja	0,22	0,20	0,19	0,17
Maata vasten oleva rakennusosa	0,36	0,25	0,24	0,16
Ikkuna tai ovi	2,1 (0,7)	1,4	1,4	1,0
Kattoikkuna		1,5	1,5	1,0
Ikkunapinta-ala	enintään 15 % kerrosalasta, enintään 70 % huoneen ulkoseinän alasta	enintään 15 % kerrosalasta, enintään 50 % rakennuksen ulkoseinien yht.lask. alasta	enintään 15 % kerrosalasta, enintään 50 % rakennuksen ulkoseinien yht.lask. alasta	15 % kerrosalasta, enintään 50 % rakennuksen julkisivupinta-alasta

Energy efficient building

WHERE DOSE ALL THE ENERGY ESCAPE FROM OUR HOMES







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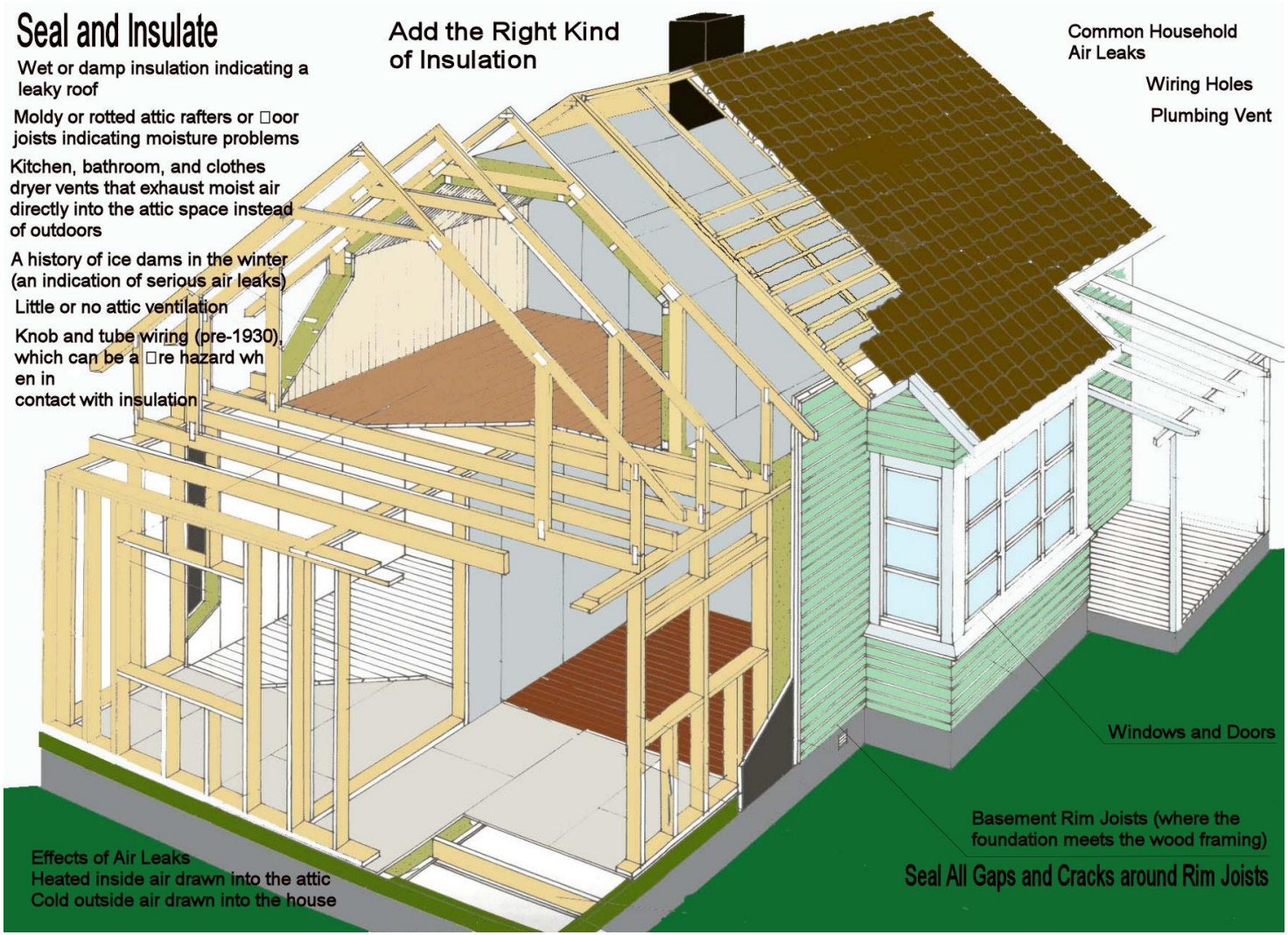
www.neuvoo.fi

Kuva: Taloyhtiön energiakirja 2012

eneuvonta.fi

eko KUMPPANIT



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10 Energy-Efficient Home Improvements

1. **Energy-efficiency advicer:**
   To make your home more energy efficient, you need to know where you currently stand.

2. **Seal it up:**
   Ensuring that your home is sealed right.

3. **Decrease electricity use in homes :**
   Energy saving lamp's or led lamp's, plus unnecessary use of power.

4. **Seal the ducts:**
   If not sealed ducts carry hot or cold air to different parts of house.

5. **Programmable thermostat:**
   Cut down on energy costs is a programmable thermostat. Plus the right temp.

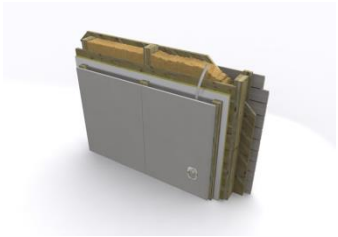
6. **Energy- efficient windows:**
   Leaky and in bad shape windows that can't be saved or efficient.

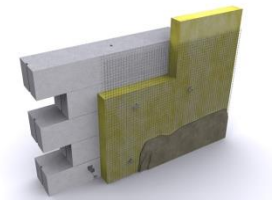
7. **Energy- efficient outer doors:**
   Higher-efficiency door (renew seals frequently)

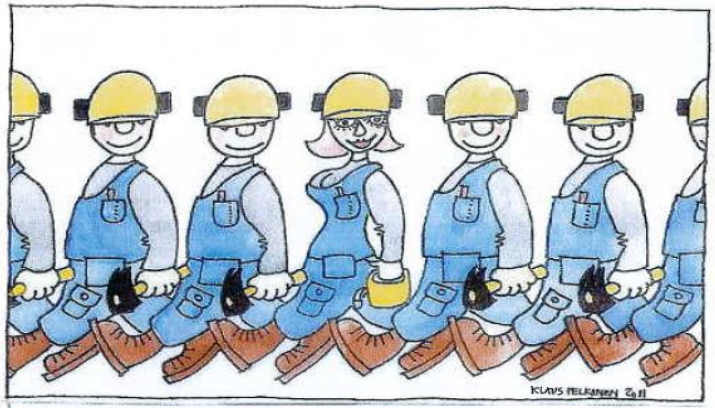
8. **Energy-efficient heating, ventilating, and air conditioning system:**
   The right use plus frequent service

9. **High-efficiency in water use:**
   The large amount of water use per person.

10. **Insulate upstairs:**
    Adding insulation to attic or under the roof is a good improvement if possible.







Thank YOU