

the silencers: sound profit

Waterproof 2019

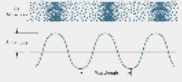
PROBLEM

Noise in cities is affecting people's health
40 % people live in places with sounds over 55 dB
90 dB noise increase lowers values of real estate for up to 10 %
Number of people in cities will increase from 3.5 to 6 mil. by 2050

What if we use noise as an energy resource?

SOUND

Our source of energy is noise pollution.
Sound is a mechanical wave which carries energy.

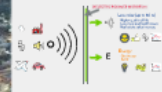


DIELECTRIC ELASTOMERS

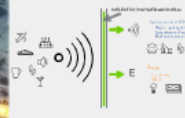
Electricity is generated from sound pollution by using dielectric elastomers.



USABILITY



USABILITY



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USABILITY



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Waterproof 2018

PROBLEM

Noise in cities is affecting people's health

40 % people live in places with sounds over 55 dB

20 dB noise increase lowers values of real estate for up to 10 %

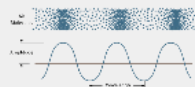
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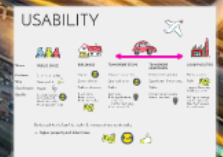
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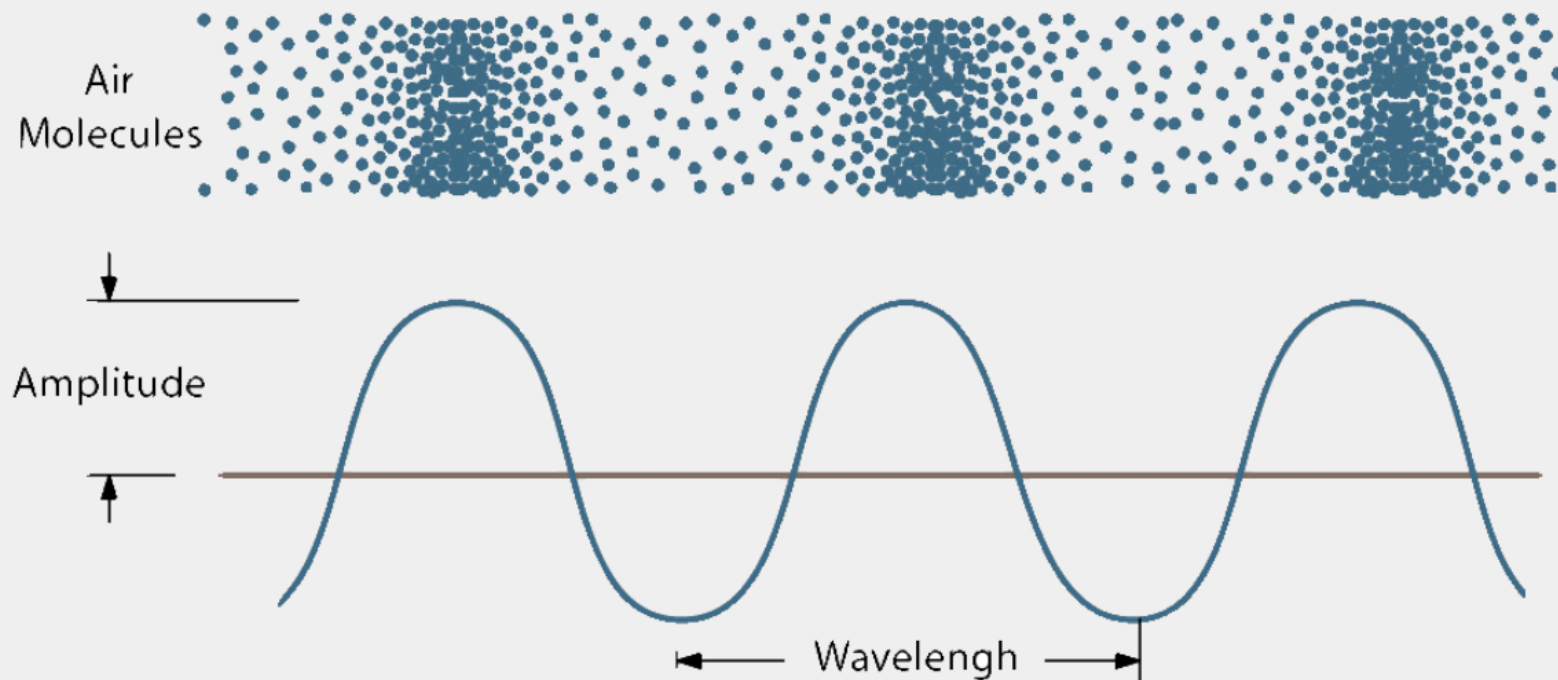
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What if we use noise as an **energy resource**?

SOUND

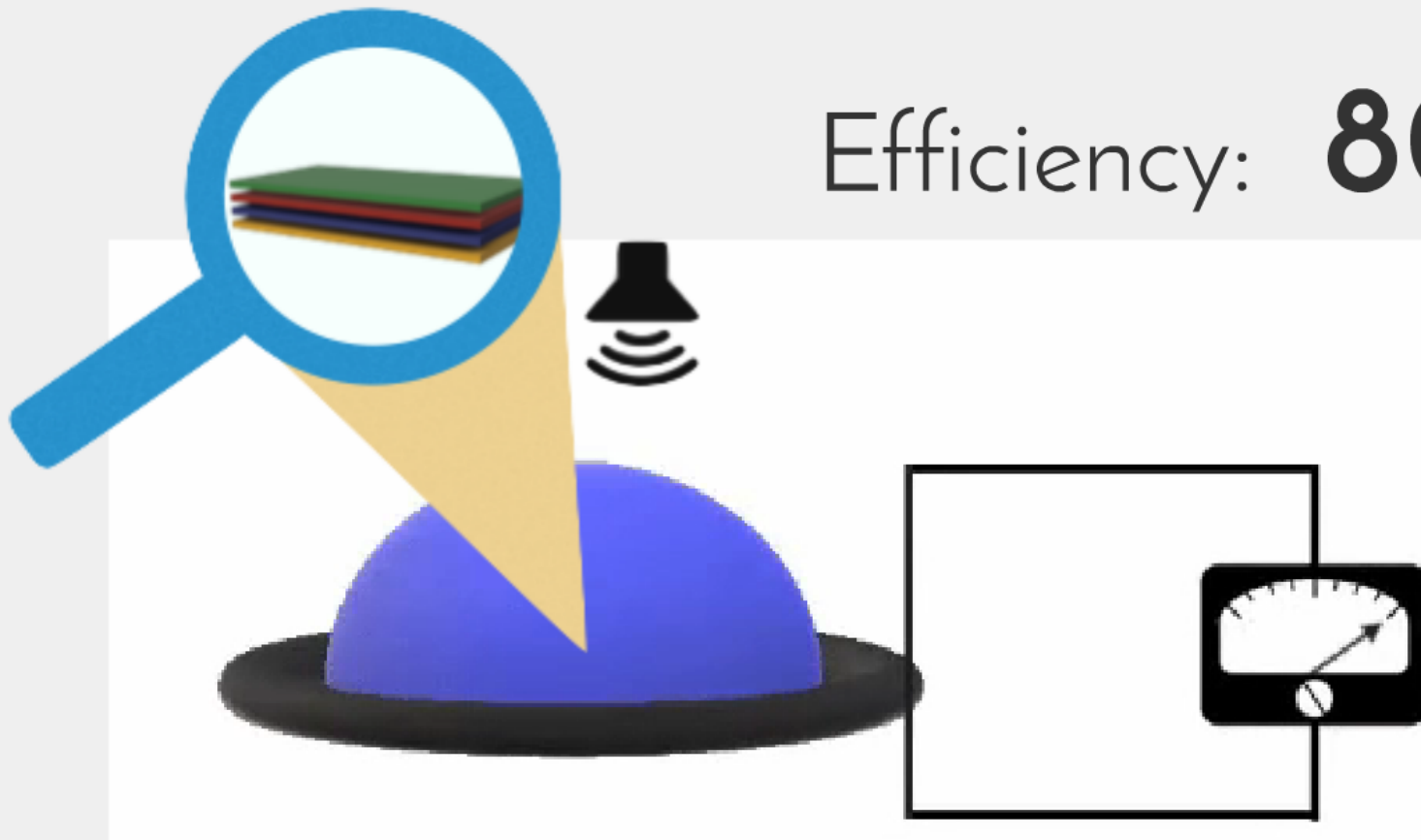
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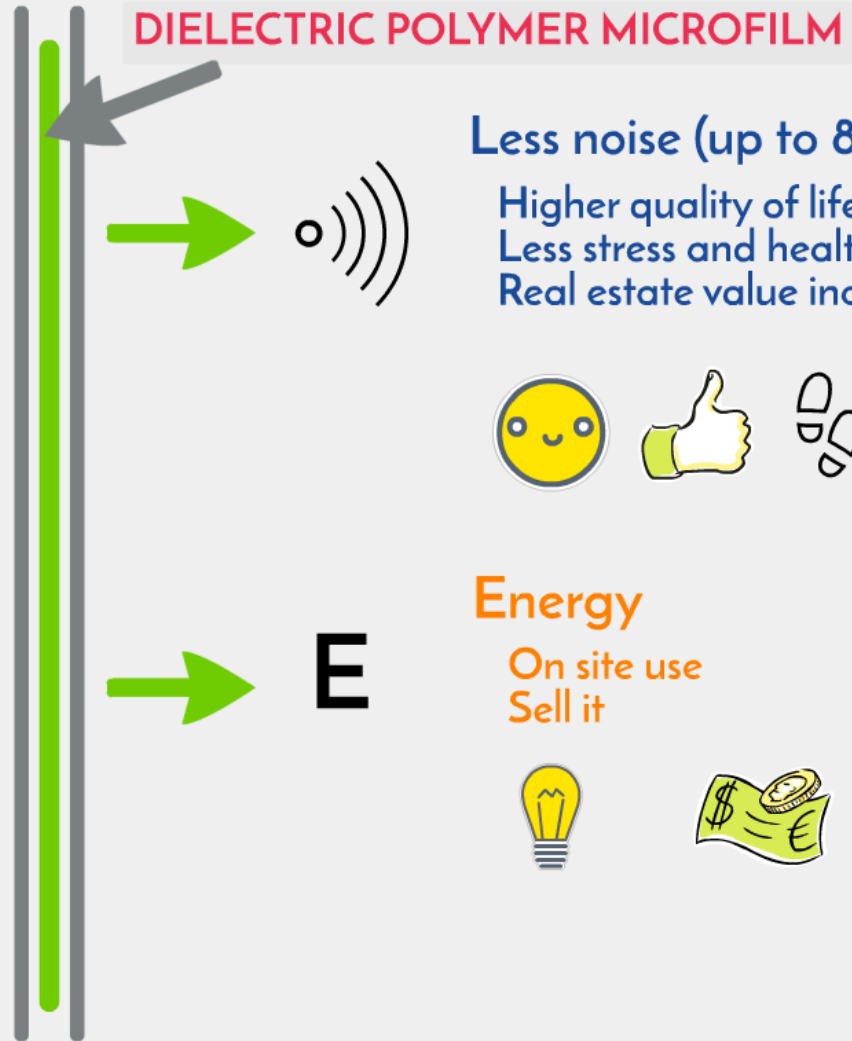
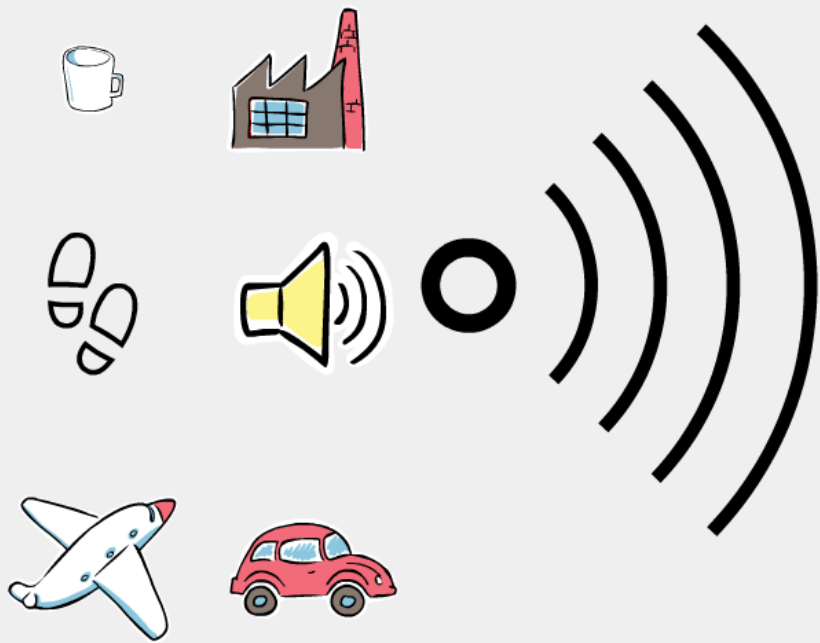
DIELECTRIC ELASTOMERS

Electricity is generated from sound pollution by using **dielectric elastomers**.

Efficiency: **80%**



USABILITY



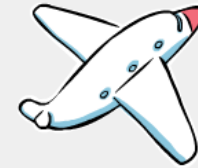
Less noise (up to 80 %)
Higher quality of life
Less stress and health issues
Real estate value increase












Energy
On site use
Sell it



USABILITY



Where	PUBLIC SPACE	BUILDINGS	TRANSPORT STOPS	TRANSPORT CORRIDORS	LOUD FACILITIES
Customer	City / municipality	Owners 	Transport companies	Infrastructure operator	Private business
Why	Quality of life 	Sound isolation	Quality of service 	Signalisation & monitoring	Profit 
Sound source	People 	Traffic and people	Traffic	Traffic	Airports, Factories, Building sites etc.
Benefits	Life satisfaction  Citizens health Real estate value More people in cities	Silent home Extra income Real estate value 	Less noise E for signalisation, monitors, traffic monitoring More users of PT	Off grid energy source  Sound insulation 	Selling the energy Quieter work env. Health of workers Less sick days

Better quality of urban life, health & Increase of real estate value

-> higher property and labor taxes



USABILITY

up to 80 % less noise

AIRPORT

640W per 8 mq pannel
2,60 GW / year



**THANK YOU FOR YOUR
COLLABORATION AND ATTENTION**

.... NOW ITS TIME FOR YOUR QUESTIONS...

SOURCES

<https://daydj.com/how-much-does-noise-affect-real-estate-prices/>
<http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>
<http://www.euro.who.int/en/health-topics/environment-and-health/noise/data-and-statistics>
<https://waset.org/publications/10001948/piezoelectric-approach-on-harvesting-acoustic-energy>
<https://physics.stackexchange.com/questions/337208/can-sound-be-turned-into-electrical-energy>
<http://www.physicsclassroom.com/class/sound/Lesson-2/Intensity-and-the-Decibel-Scale>

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USABILITY

MECHANICAL ENERGY

- Transportation
- Construction
- Industry
- Power
- Light
- Heat
- Water
- Gas
- Oil

USABILITY

ELECTRONIC ENERGY

- Smartphones
- Computers
- TVs
- Refrigerators
- Air Conditioners
- Lighting
- Water
- Gas
- Oil

USABILITY

up to 80 % less noise

AIRPORT

60000 pass 8-meg potential \$450 GMV / year

USABILITY

MECHANICAL ENERGY

ELECTRONIC ENERGY

WATER

GAS

OIL

HEAT

POWER

Light

Water

Gas

Oil

Heat

Power