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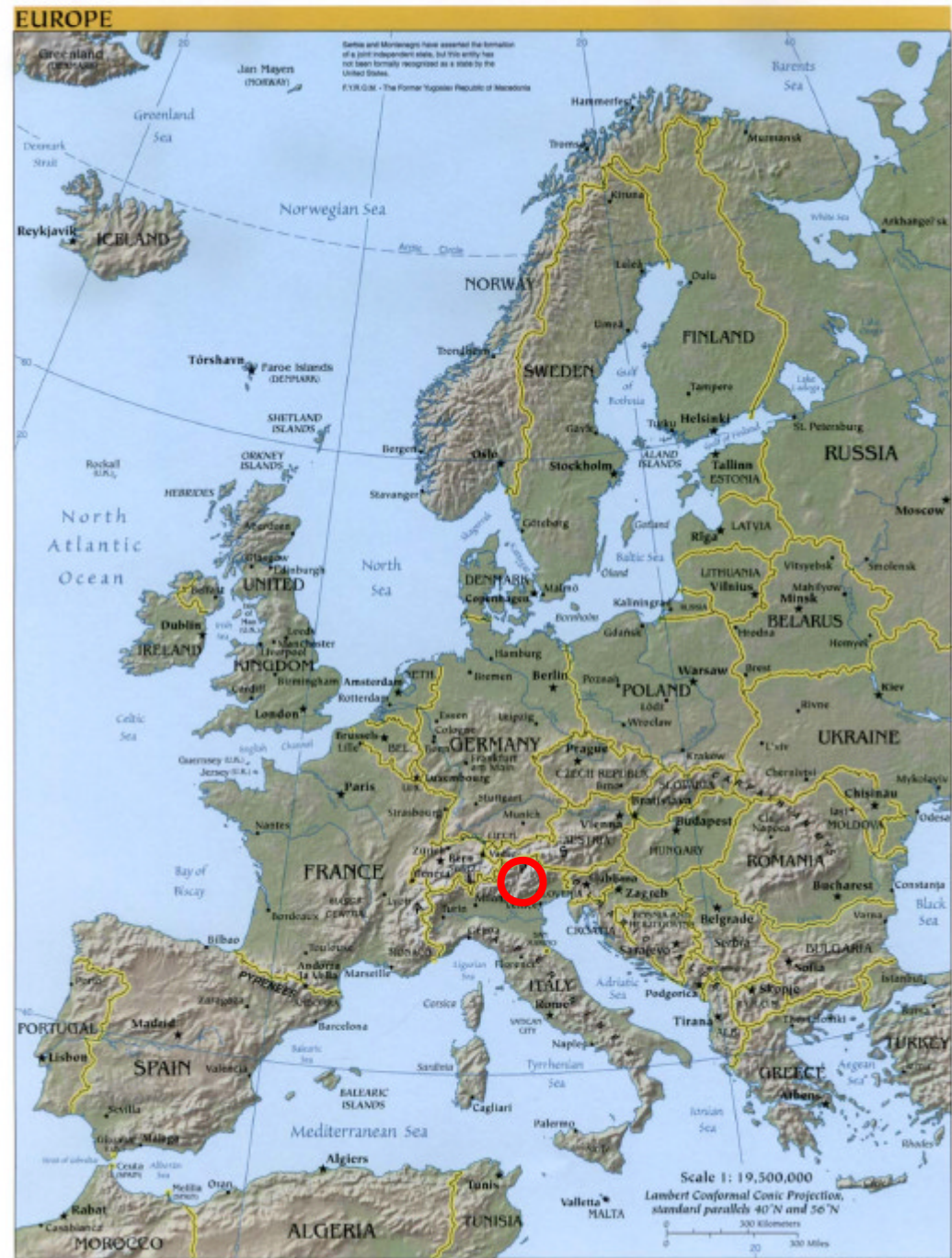
Autonomous Province of Bolzano
South Tyrol/Italy
Department of Spatial Planning,
Environment and Energy



KlimaHaus - Living in a plus



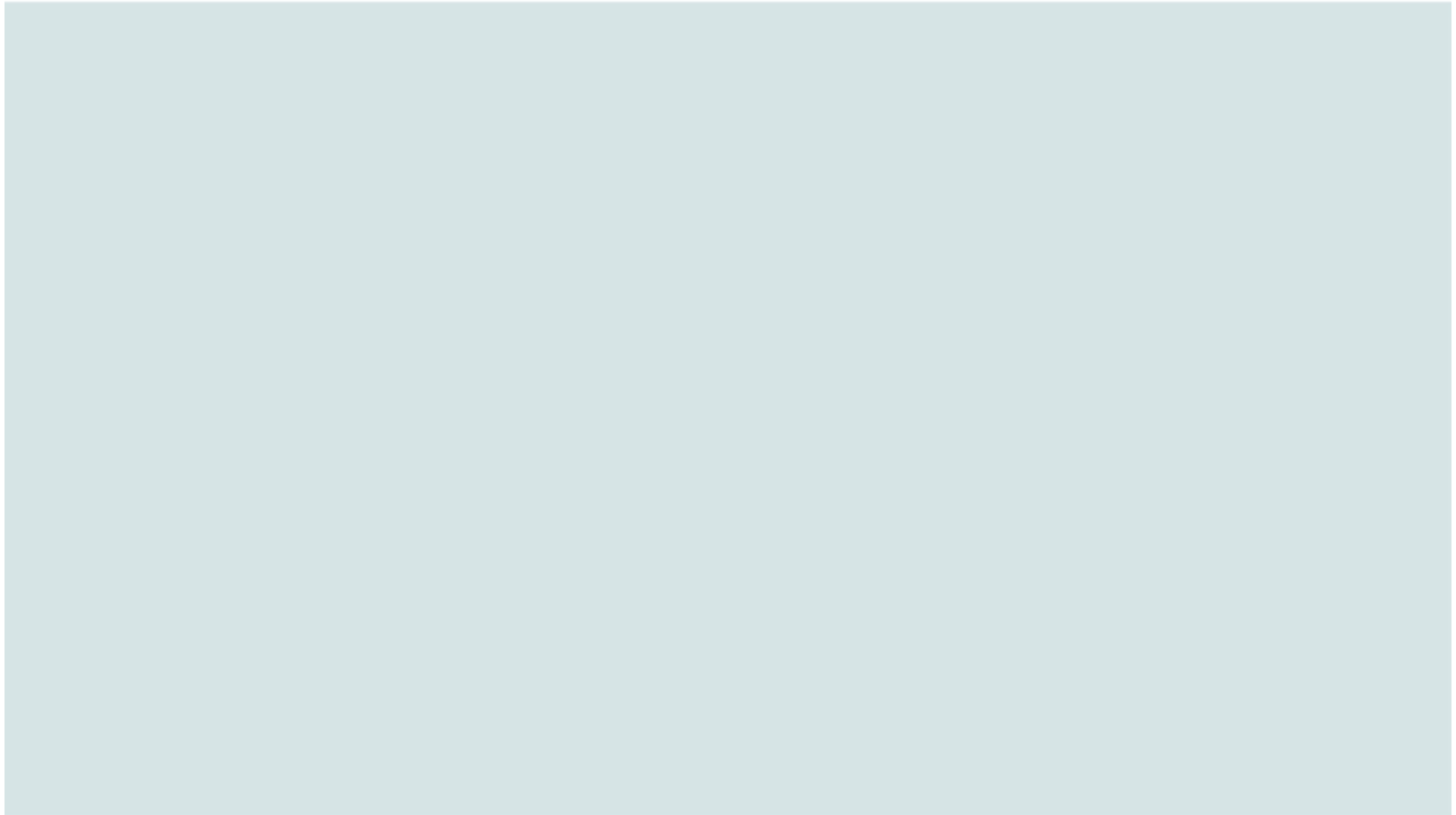
Autonomous Province of Bolzano/Bozen, Italy





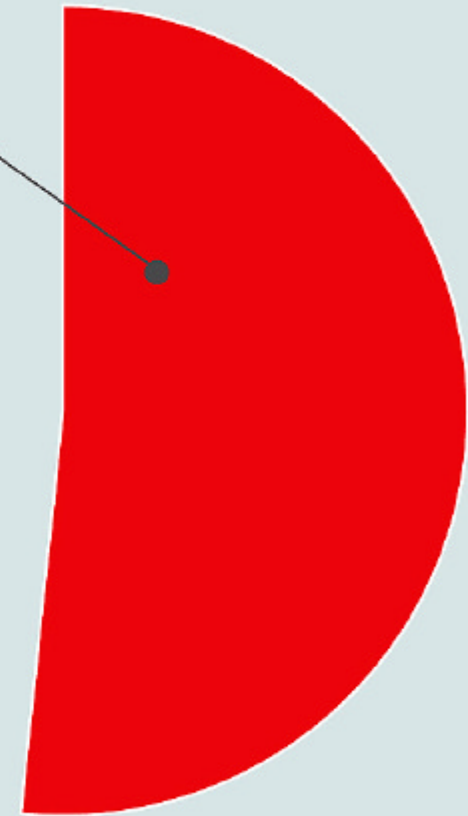
Household energy consumption in South Tyrol/Italy

2



Household energy consumption in South Tyrol/Italy

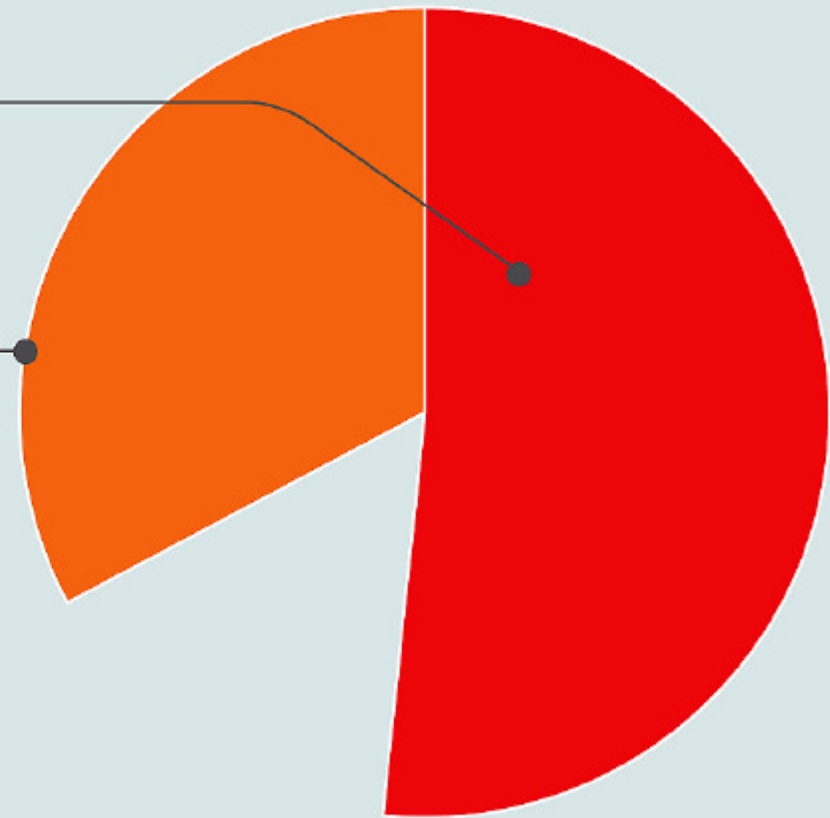
Heating/Cooling 55–60%



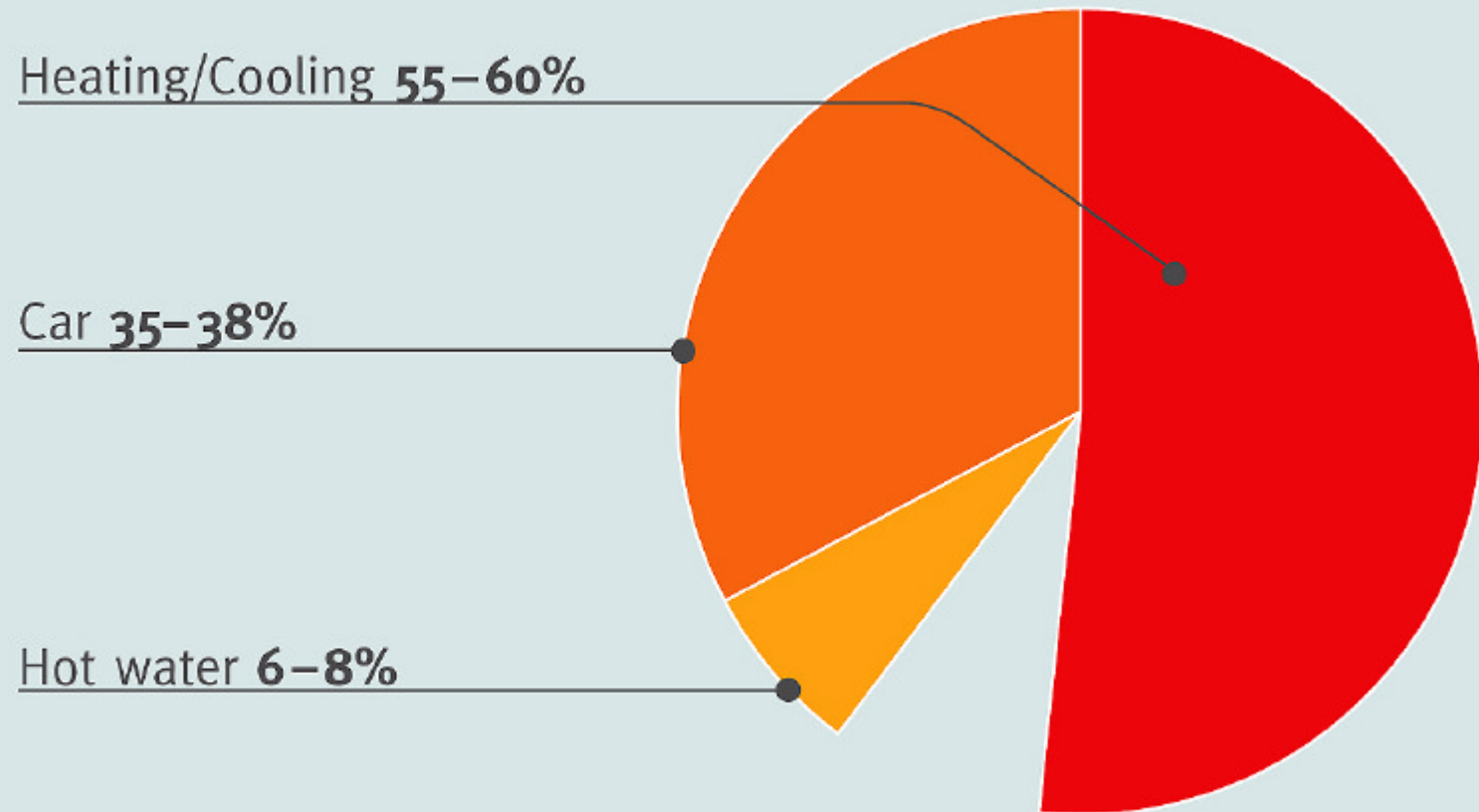
Household energy consumption in South Tyrol/Italy

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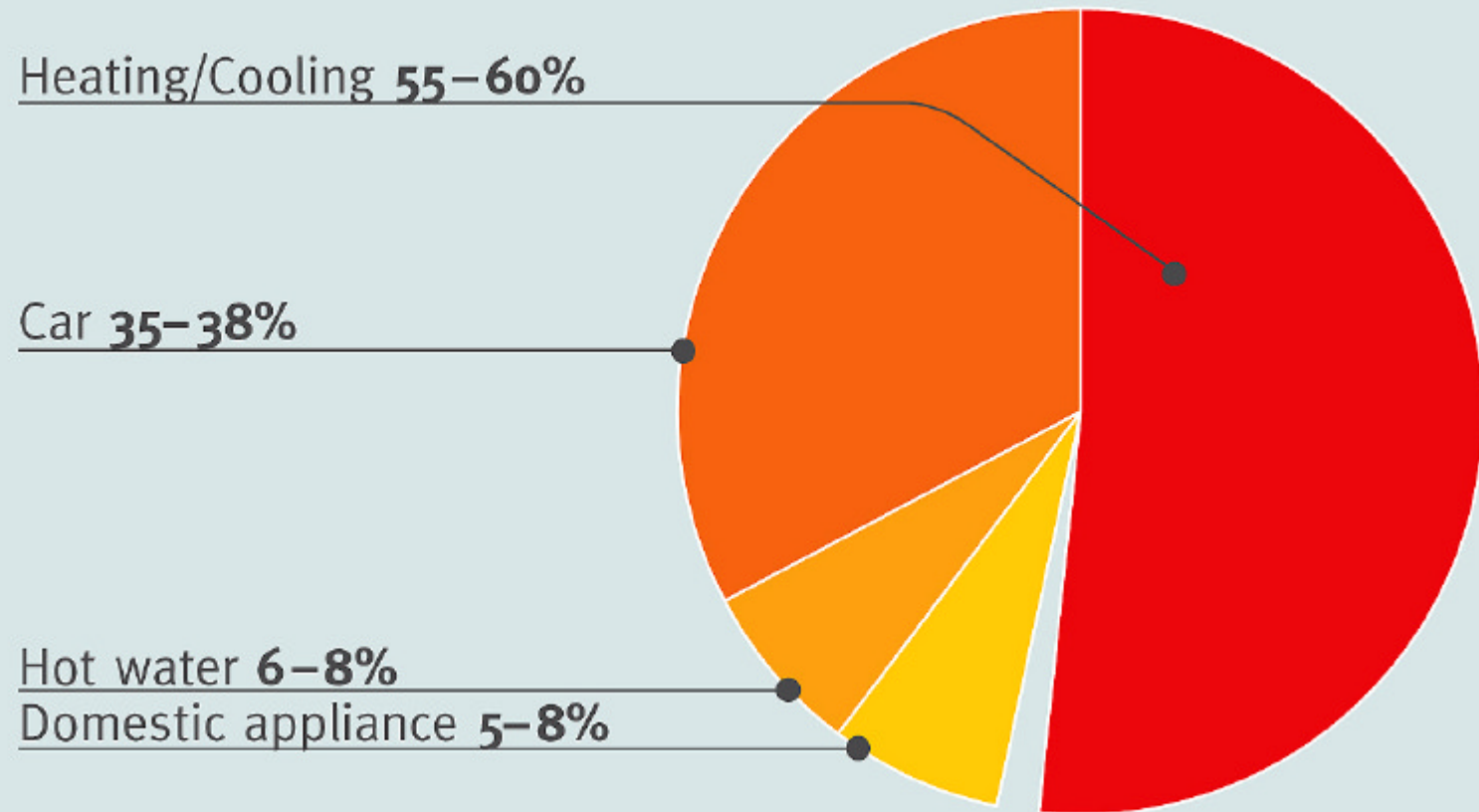
Car 35–38%



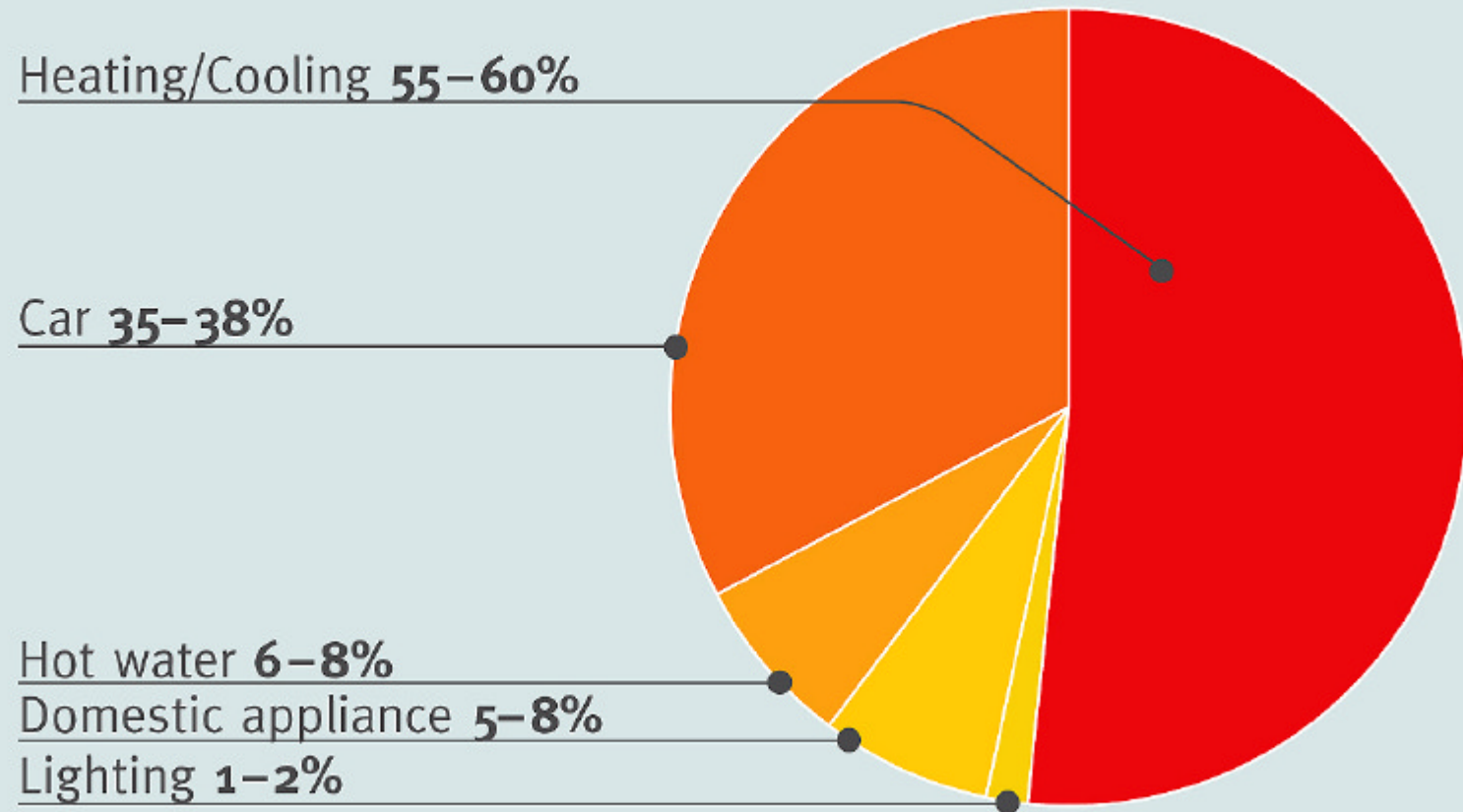
Household energy consumption in South Tyrol/Italy



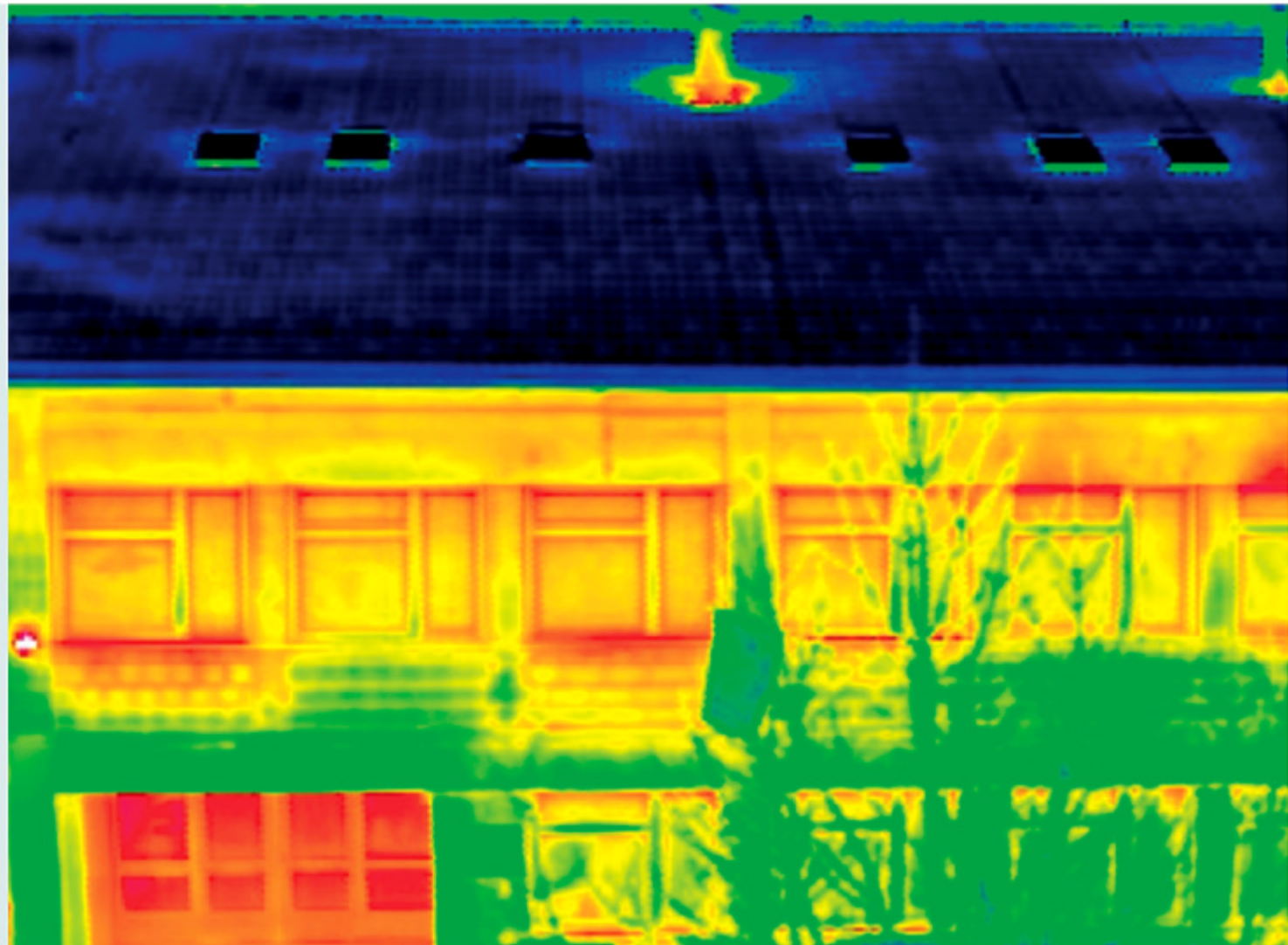
Household energy consumption in South Tyrol/Italy



Household energy consumption in South Tyrol/Italy

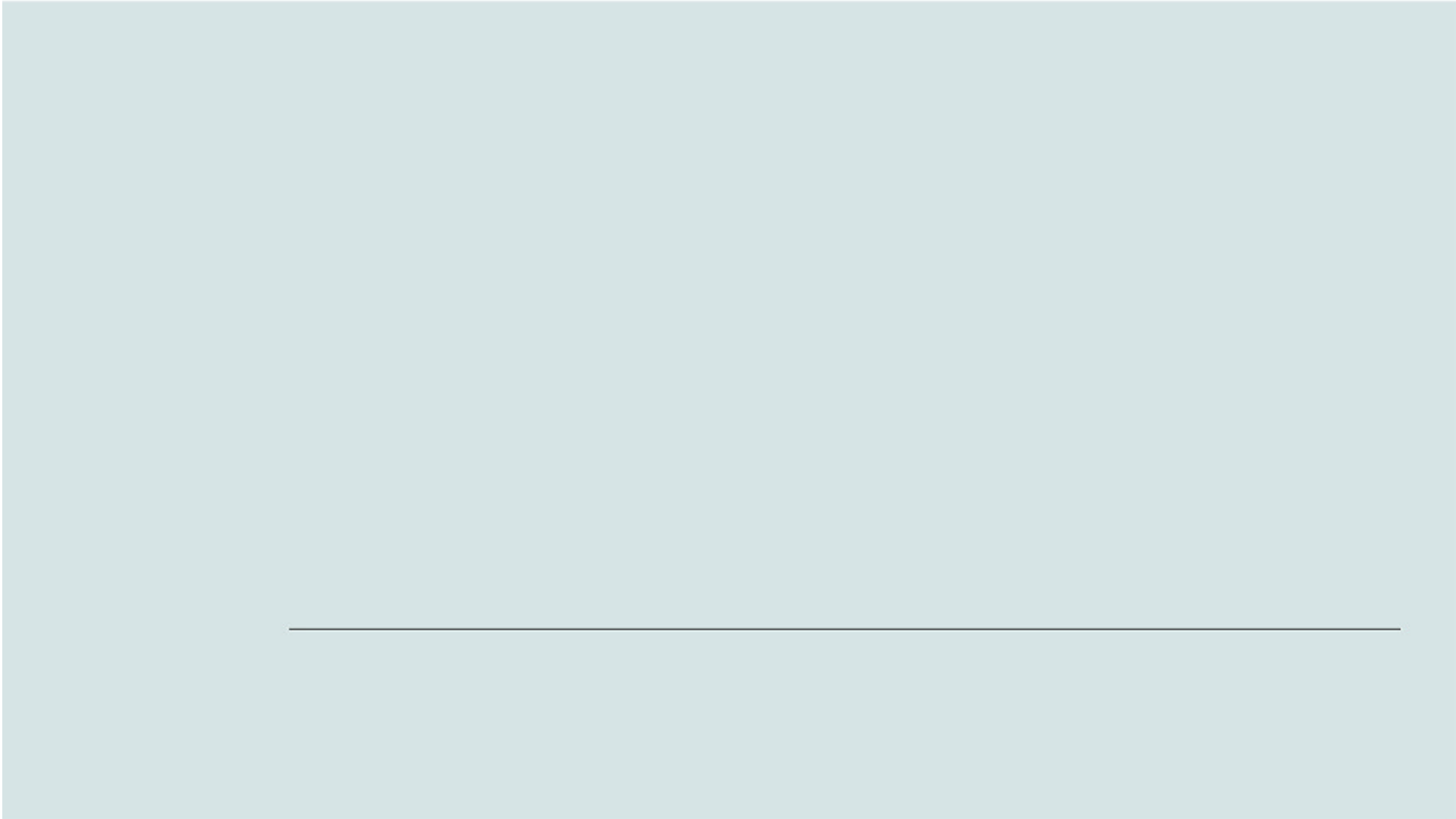


Infrared image demonstrating heat loss within a structure





KlimaHaus - factors of success and target groups





KlimaHaus - factors of success and target groups

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Certificate

Certificate

Plaque

Certificate

Plaque

Costless consultation

Certificate

Plaque

Costless consultation

Training and education

Certificate

Plaque

Costless consultation

Training and education

Competition (Best KlimaHaus of the Year)

Certificate

Plaque

Costless consultation

Training and education

Competition (Best KlimaHaus of the Year)

Publicity campaign

Certificate

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Consumers

Certificate

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Consumers



Architects

(KlimaHaus experts)

Certificate

Plaque

Costless consultation

Training and education

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Publicity campaign



Consumers



Architects
(KlimaHaus experts)



Craftsmen and Companies
(KlimaHaus experts)



KlimaHaus Certificate

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Low heating required rating

Energy consuming rating

Low heating required rating



Energy consuming rating

$$HBW_{NGF} \leq 30 \text{ kWh}/(\text{m}^2 \cdot \text{y}) = 3 \text{ l}/(\text{m}^2 \cdot \text{y}) \text{ oil}$$

Low heating required rating



Energy consuming rating

$$HBW_{NGF} \leq 30 \text{ kWh}/(\text{m}^2 \cdot \text{y}) = 3 \text{ l}/(\text{m}^2 \cdot \text{y}) \text{ oil}$$

$$HBW_{NGF} \leq 50 \text{ kWh}/(\text{m}^2 \cdot \text{y}) = 5 \text{ l}/(\text{m}^2 \cdot \text{y}) \text{ oil}$$

Low heating required rating



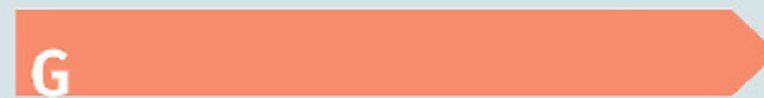
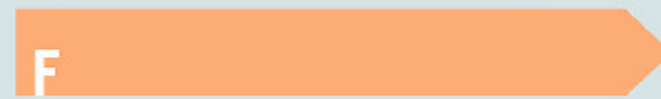
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Low heating required rating



High heating required rating

Energy consuming rating

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$$HBW_{NGF} \leq 90 \text{ kWh}/(\text{m}^2 \cdot \text{y}) = 9 \text{ l}/(\text{m}^2 \cdot \text{y}) \text{ oil}$$

$$HBW_{NGF} \leq 120 \text{ kWh}/(\text{m}^2 \cdot \text{y}) = 12 \text{ l}/(\text{m}^2 \cdot \text{y}) \text{ oil}$$

$$HBW_{NGF} \leq 160 \text{ kWh}/(\text{m}^2 \cdot \text{y}) = 16 \text{ l}/(\text{m}^2 \cdot \text{y}) \text{ oil}$$

$$HBW_{NGF} > 300 \text{ kWh}/(\text{m}^2 \cdot \text{y}) = 30 \text{ l}/(\text{m}^2 \cdot \text{y}) \text{ oil}$$

Low heating required rating



A

B

C

D

E

F

G

High heating required rating

Energy consuming rating

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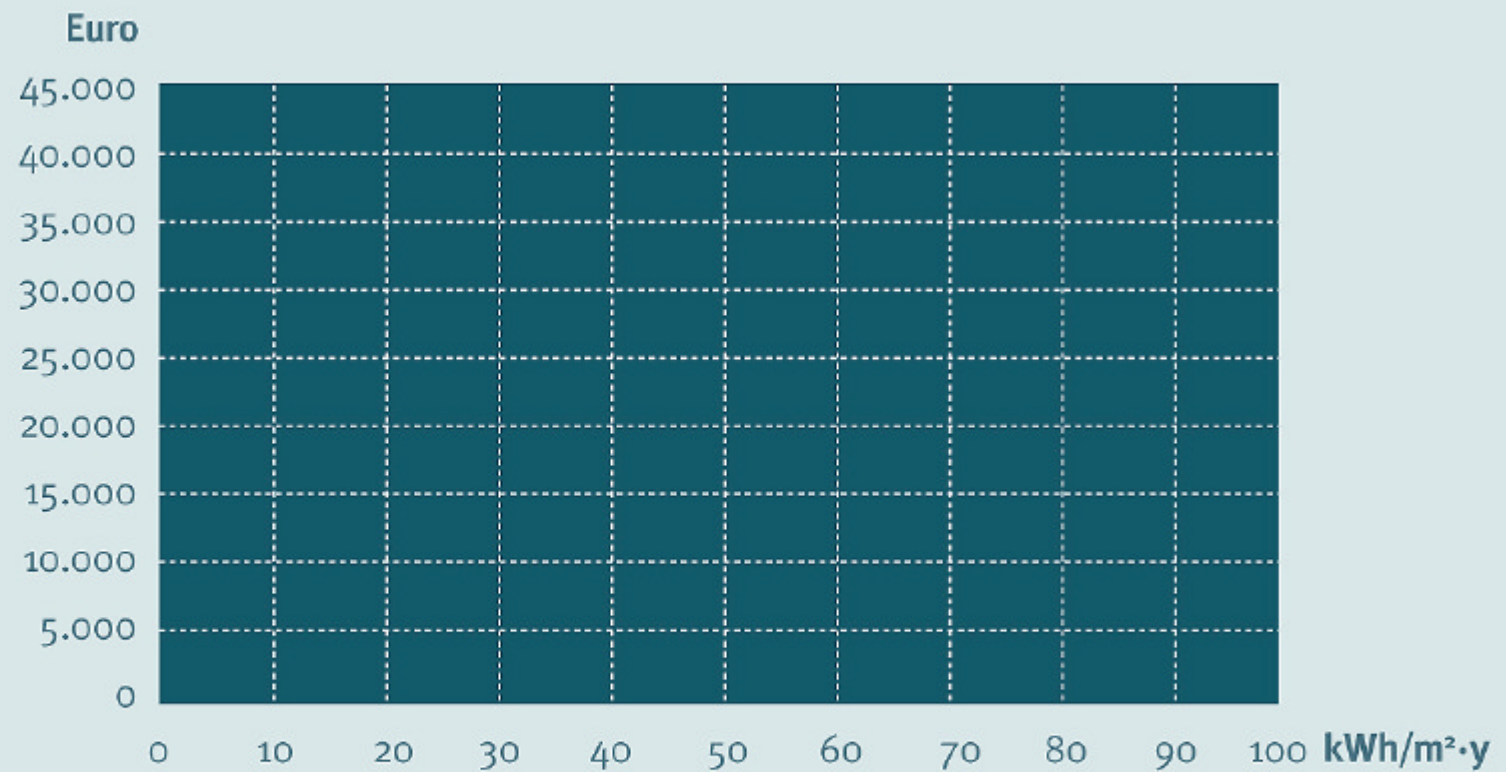
*Class A and B constructions using ecological materials get a plus +

KlimaHaus Gold Plaque - A status symbol Highest award for energy efficient construction



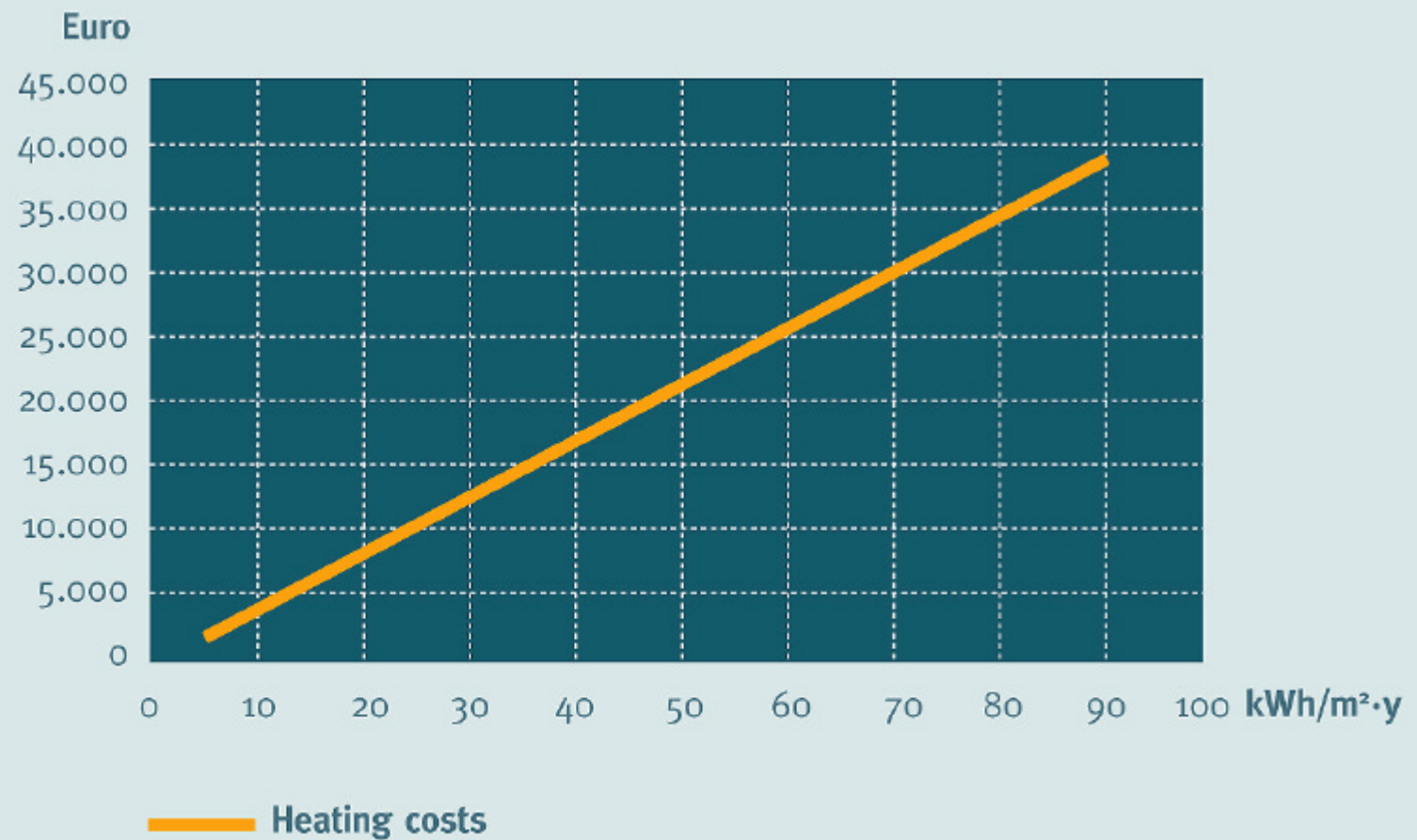
Energy saving is profitable “I’m proud of my KlimaHaus”

Expenditures for a 35 year period



Energy saving is profitable “I’m proud of my KlimaHaus”

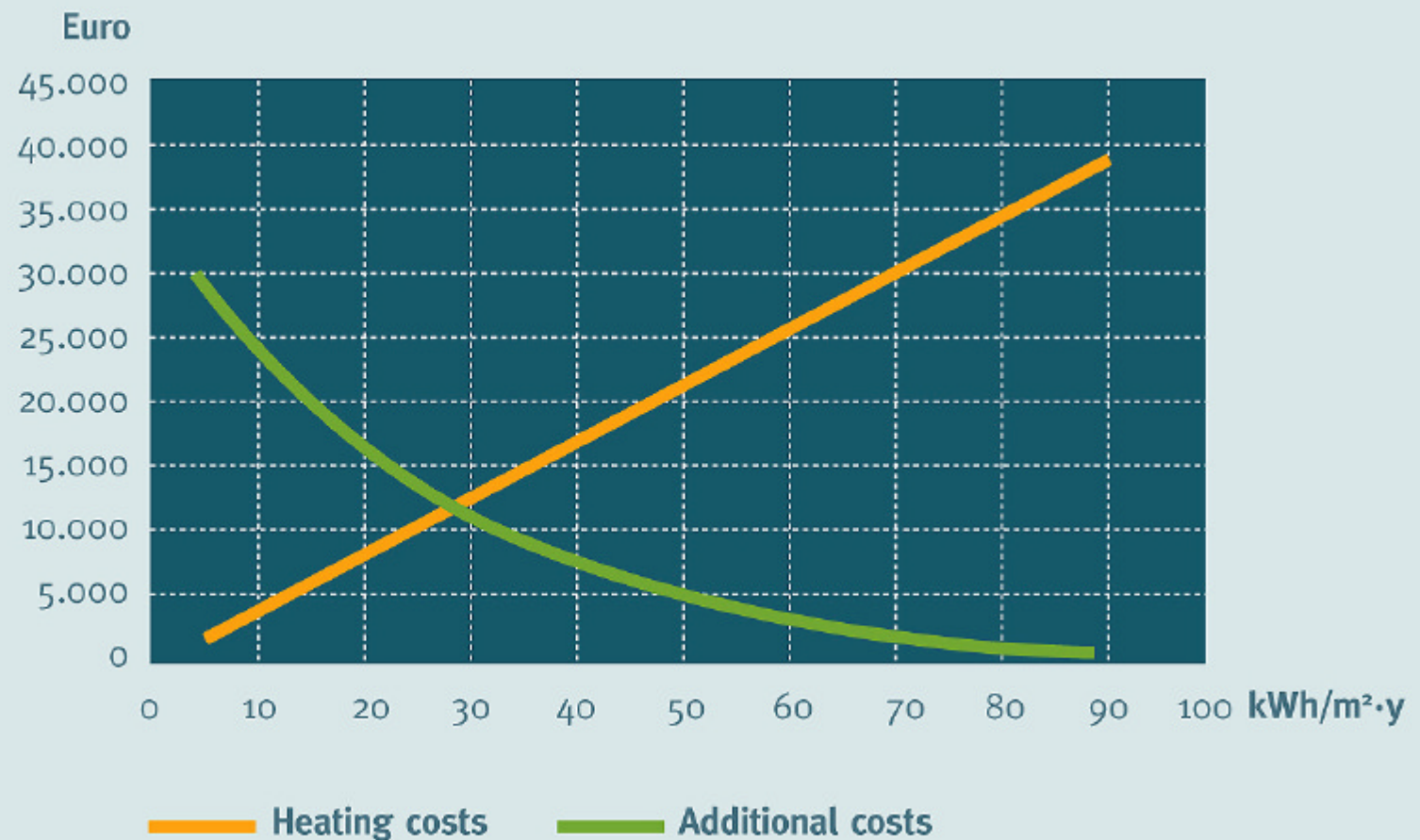
Expenditures for a 35 year period



Energy saving is profitable

“I’m proud of my KlimaHaus”

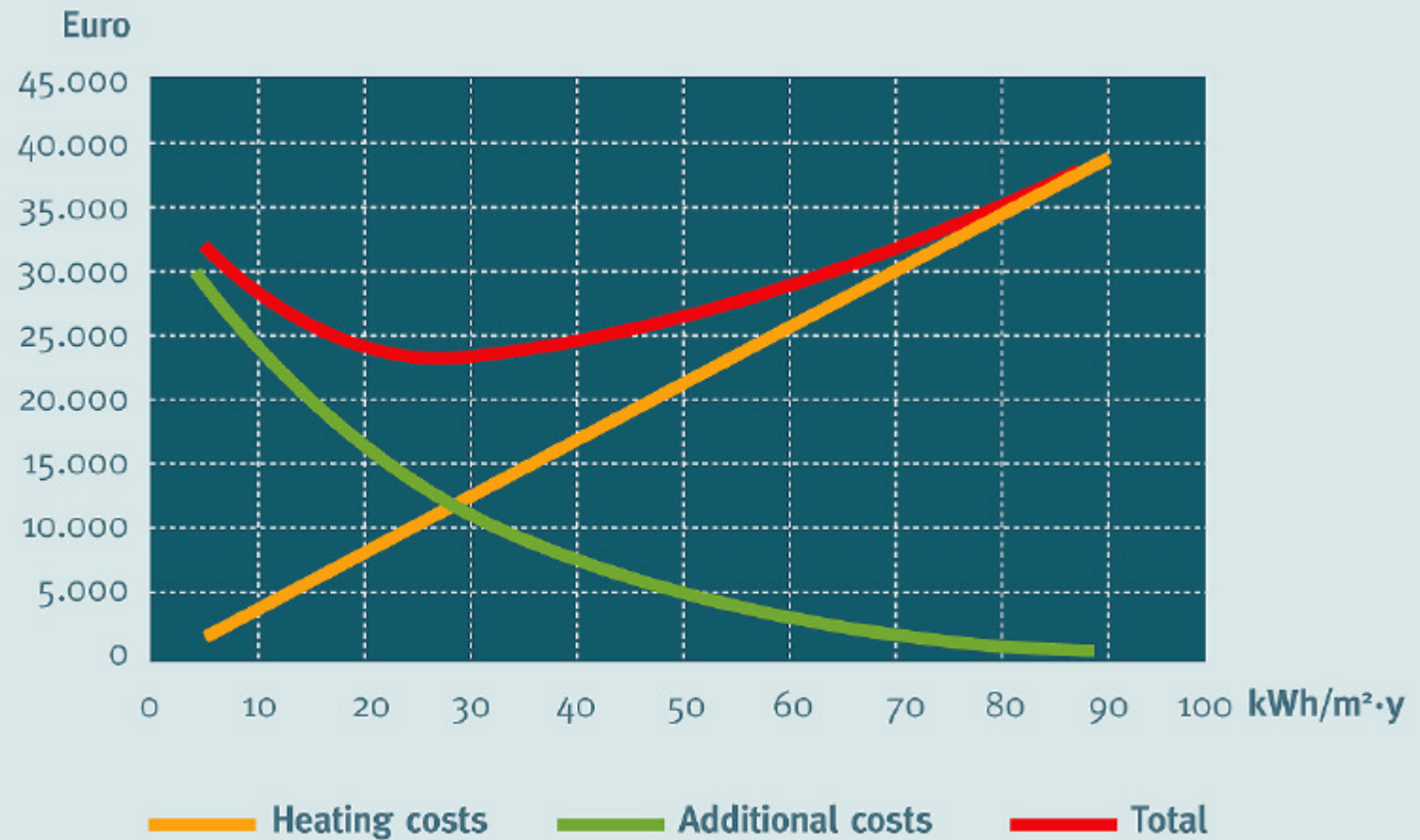
Expenditures for a 35 year period



Energy saving is profitable

“I’m proud of my KlimaHaus”

Expenditures for a 35 year period



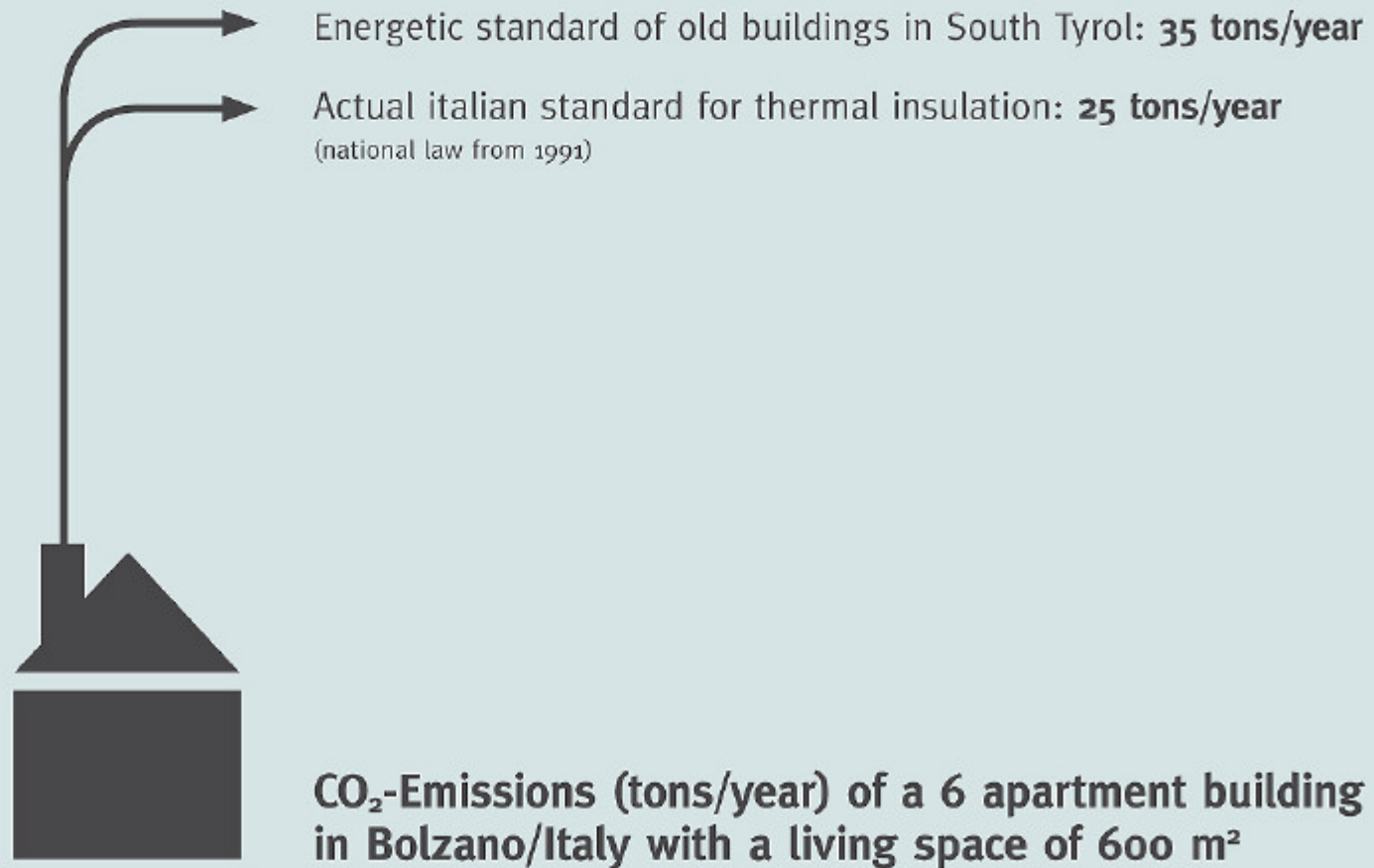


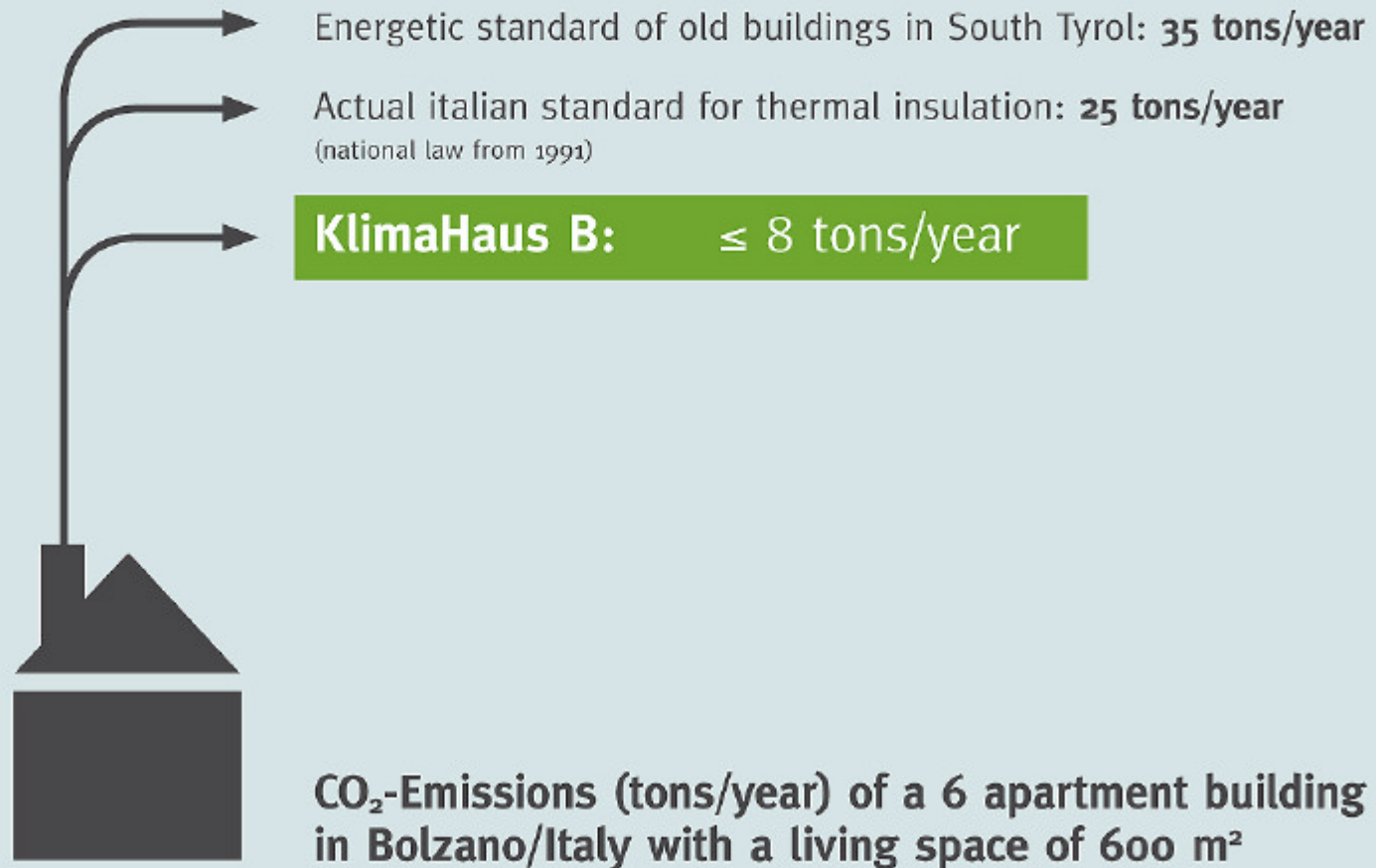
**CO₂-Emissions (tons/year) of a 6 apartment building
in Bolzano/Italy with a living space of 600 m²**

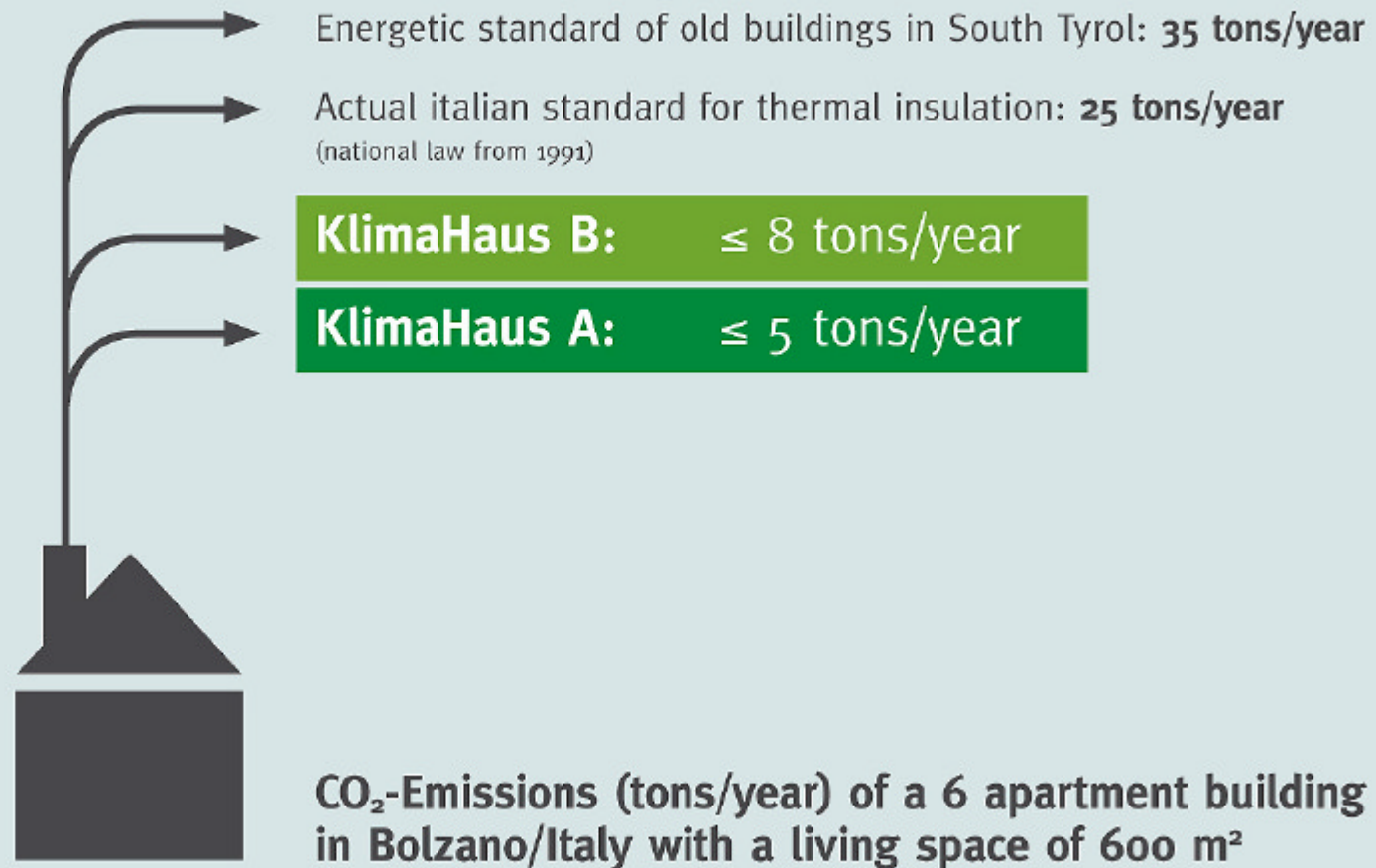


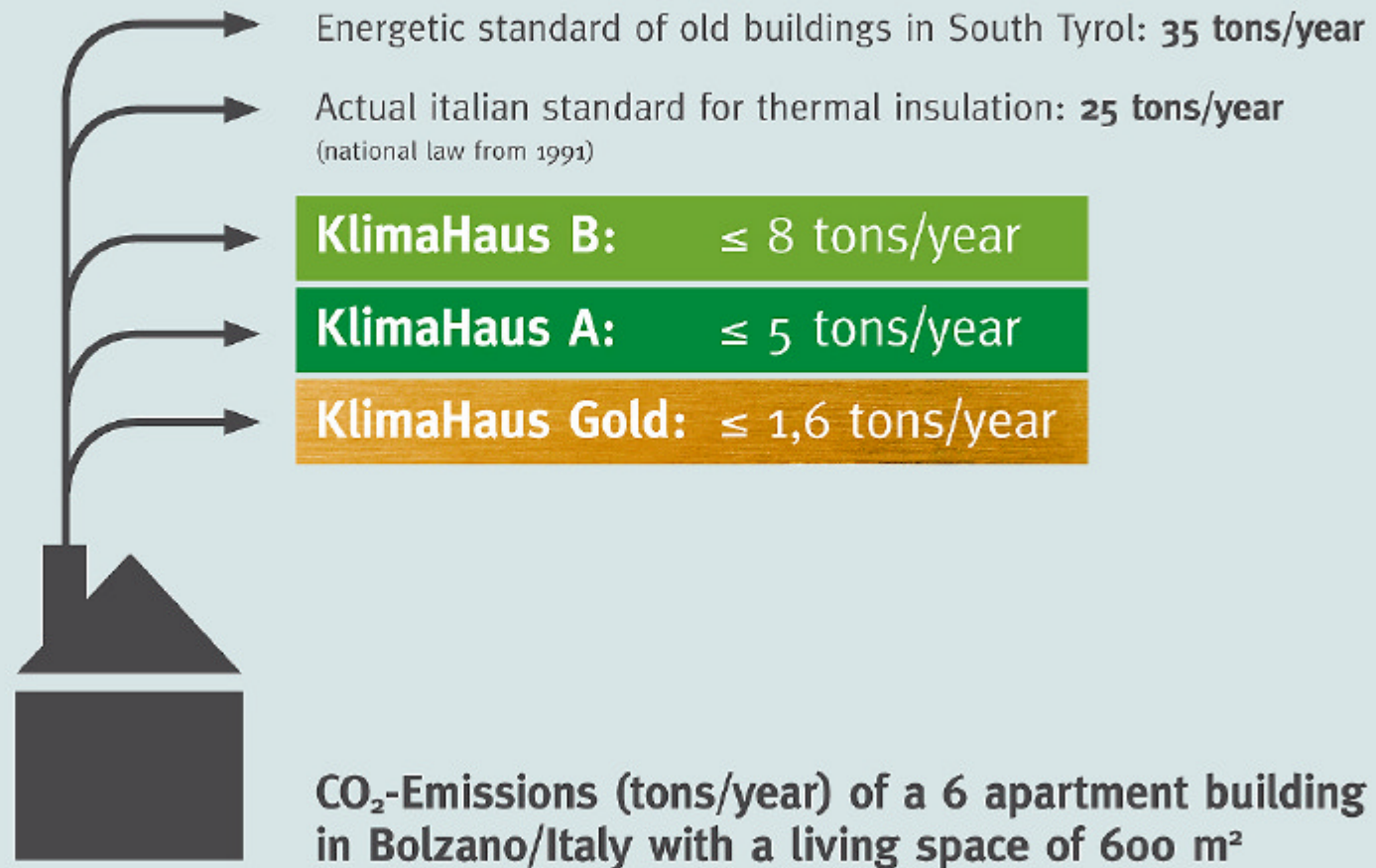
Energetic standard of old buildings in South Tyrol: **35 tons/year**

CO₂-Emissions (tons/year) of a 6 apartment building
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Training workshop educating project planner and craftsmen

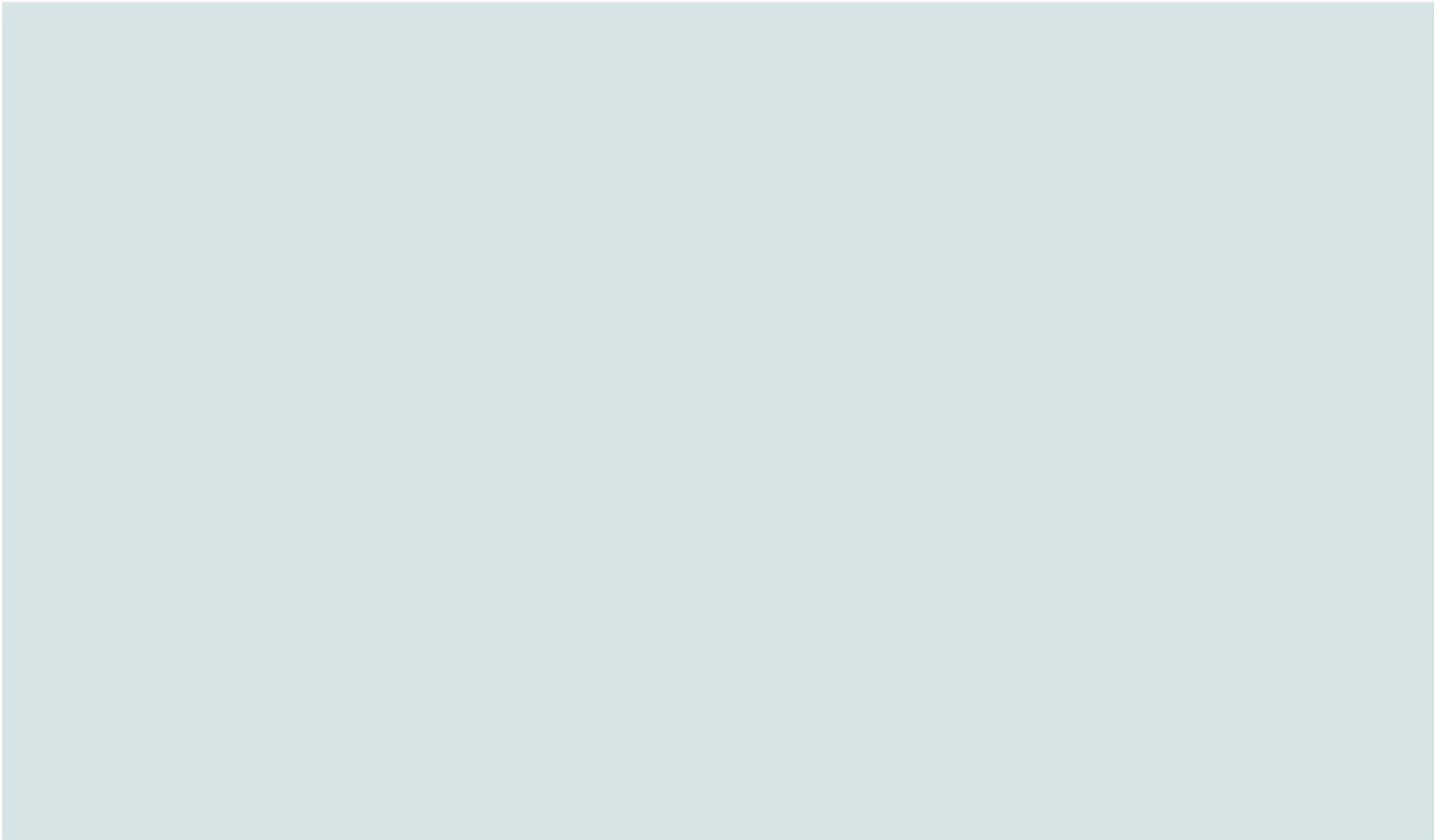


All aspects of construction are required to build a KlimaHaus





Examples of KlimaHaus constructions



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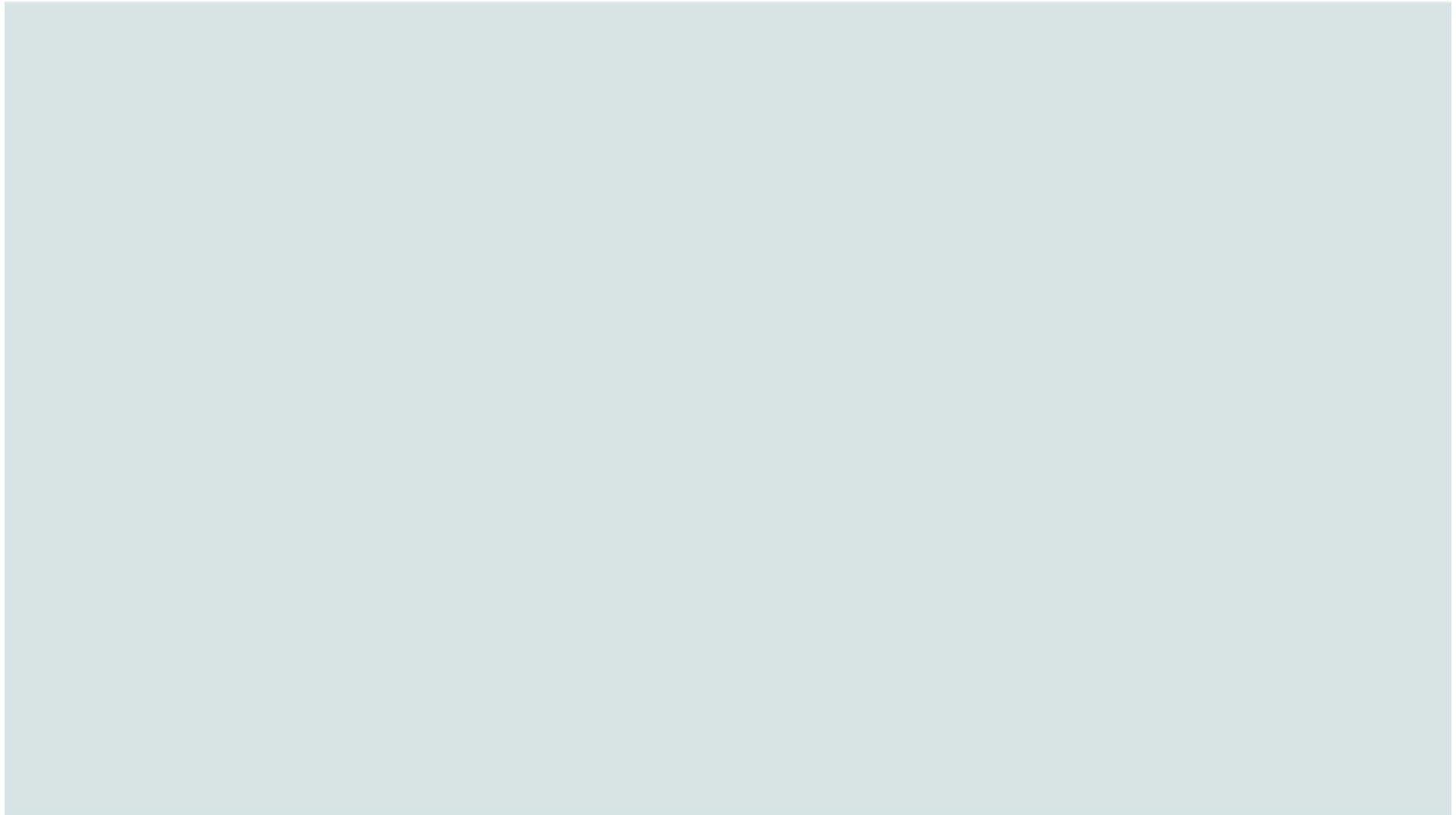




KlimaHaus - A success story

Survey of owners (2005)

14





KlimaHaus - A success story Survey of owners (2005)

14

HOW SATISFIED ARE YOU WITH YOUR KLIMAHAUS?



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HOW DID YOU DISCOVER KLIMAHAUS?

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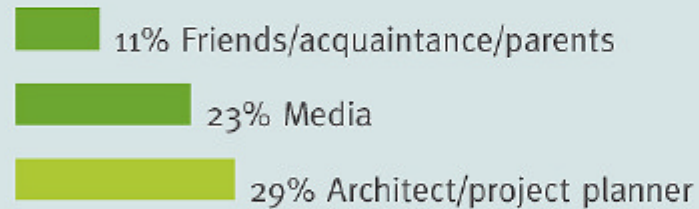
HOW DID YOU DISCOVER KLIMAHAUS?



HOW SATISFIED ARE YOU WITH YOUR KLIMAHAUS?



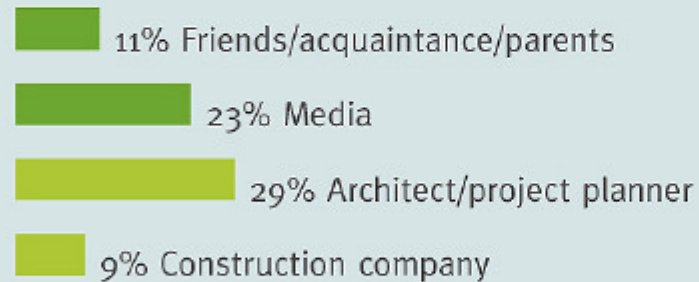
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HOW SATISFIED ARE YOU WITH YOUR KLIMAHAUS?



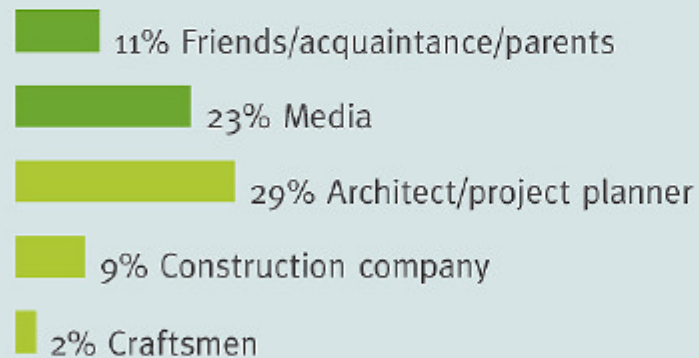
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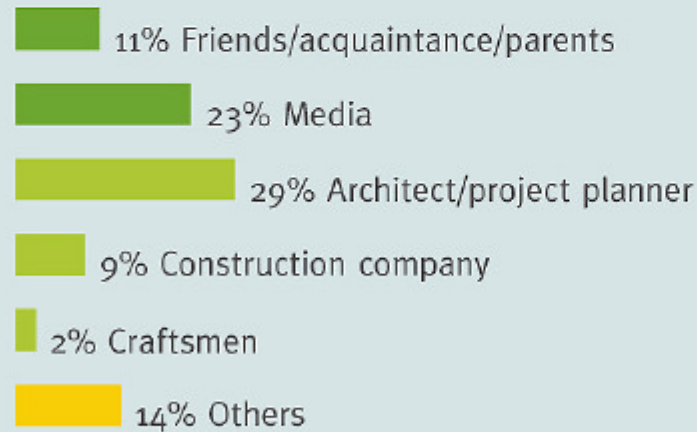
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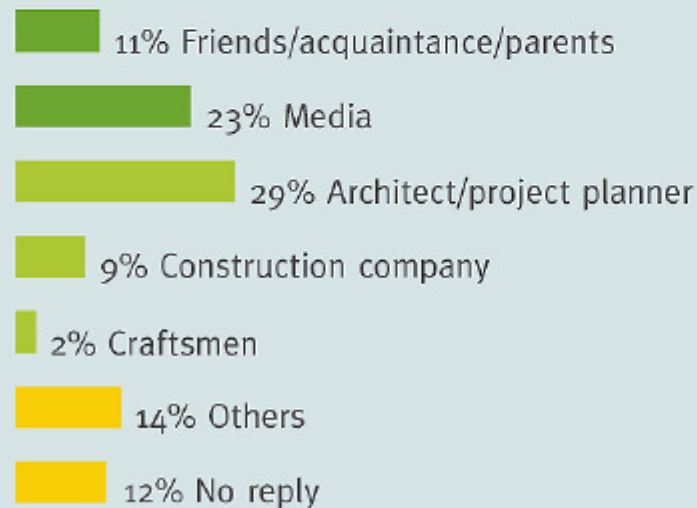
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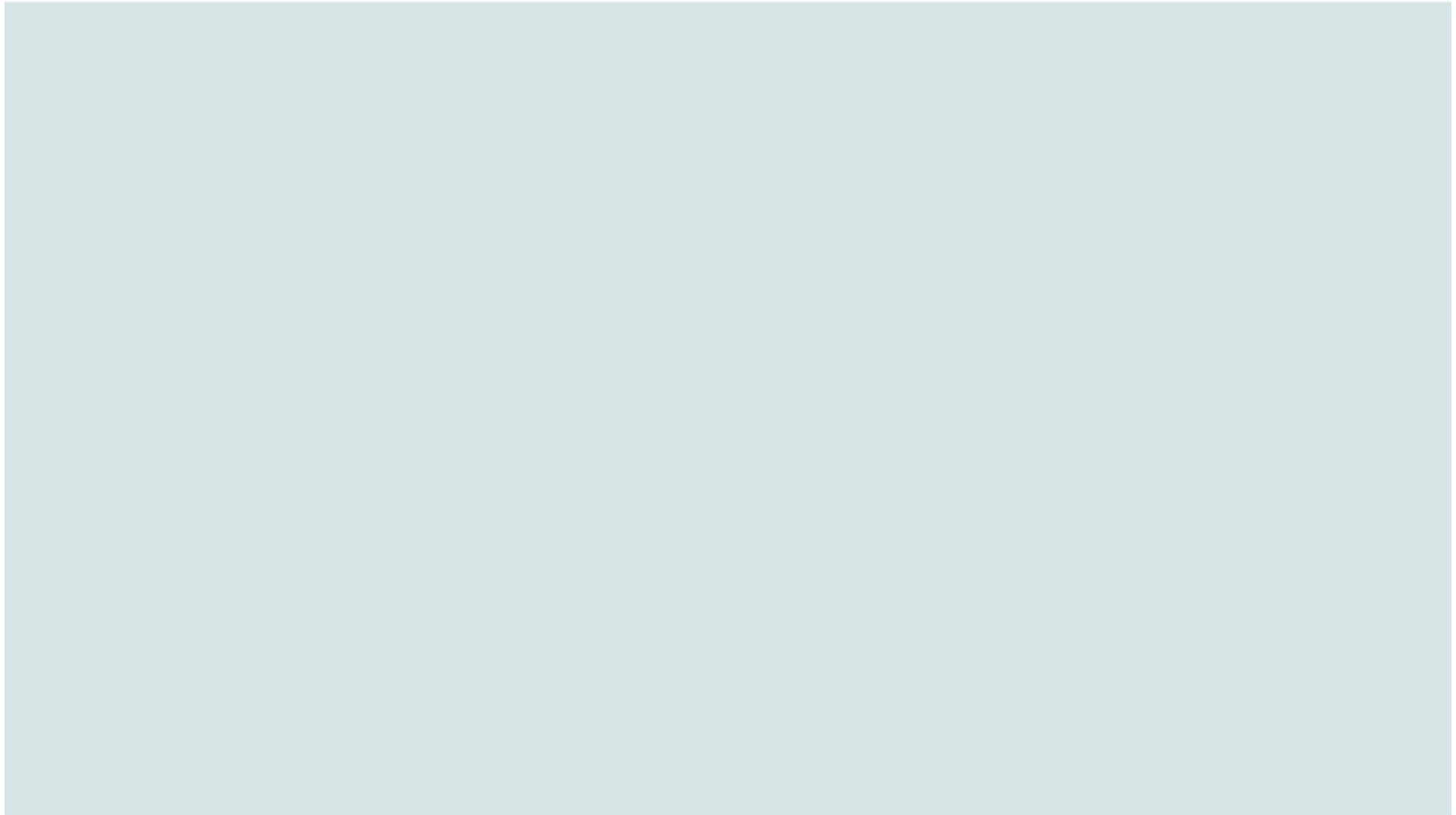
HOW DID YOU DISCOVER KLIMAHAUS?





KlimaHaus – Next steps and concluding remarks

15



R&D of new technologies for energy saving

R&D of new technologies for energy saving

Improving renewable energies

R&D of new technologies for energy saving

Improving renewable energies

Generate value production for local communities

R&D of new technologies for energy saving

Improving renewable energies

Generate value production for local communities

Expanding training and higher level education

R&D of new technologies for energy saving

Improving renewable energies

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Expanding training and higher level education

Know-how transfer to other regions of Italy

R&D of new technologies for energy saving

Improving renewable energies

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90% reduction of CO₂-Emissions

R&D of new technologies for energy saving

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90% reduction of CO₂-Emissions

Trading of CO₂-Emissions

R&D of new technologies for energy saving

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Generate value production for local communities

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Know-how transfer to other regions of Italy

90% reduction of CO₂-Emissions

Trading of CO₂-Emissions

In line with objectives of Kyoto Protocol against global warming