

DEFINE THE COLOURS OF RESIDENTIAL AREAS

OBJECTIVE

To limit the overheating of building external surfaces.

DESCRIPTION

Solutions to overheating include the choice of colours for surfaces of residential areas. The colour of the external surface of a building can influence the inside thermal performance and even the outside ambiance. The amount of absorbed solar radiation depends on the colour of the surface: white surface absorbs about 40% of the solar irradiation, whereas dark green, brown and black surface absorb about 90%. The more a surface absorbs solar radiation the greater is the surface temperature. The reduction of the temperature of external surfaces decreases the heat flow entering the building and therefore decreases the inner room temperature, improving internal comfort. However, room air temperature depends on various other parameters. For buildings with low transmittance and high heat storage capacity, the effect of external colours is not particularly significant. At city/town level, lighter colours of the envelope could provide a means to alleviate air temperature, due to reduced absorption of radiation, improving outdoor thermal comfort and reducing the heat-island effect. It is recommended to avoid dark colours and rather prefer light colours for the porches. Curtains and covers must preferably be in canvas, even synthetic, of a light natural colour such as hemp, in tune with the colours of the building and proportionate with the dimensions and architectural partitions of the building.

EXPECTED RESULTS

Improvement of landscape and local microclimate quality; coordinated image of the urbanized areas from the urban-building point of view; increasing internal and external comfort.

RESULT INDICATORS

Decrease in temperature [°C]

INVOLVED ACTORS

Local government, local community.

EXPECTED TIMELINE FOR ACTION

- Short term (1-4 years)

BEST PRACTICES

- Unione dei Comuni Medio Brenta - Veneto Region - Italy
- Taipei - Taiwan

CRITICALITIES

Possible landscape constraints.

SCOPE OF THE ACTION

- Adaptation

TYPE OF PROPOSED ACTIONS

- Grey
- Soft

SECTOR OF ACTION

- Public health
- Urban settlement

CLIMATE IMPACTS

- Drought
- Extreme temperatures

IMPLEMENTATION SCALE

- Association of municipalities
- Municipality

SOURCE

<https://www.venetoadapt.it/wp-content/uploads/2020/03/Del%20A2%20-%20VenetoADAPT%20Adaptation%20State%20of%20the%20art%20assessment.pdf>