



Sustainable construction guide

# Bauhäremapp

Maacht  
mat beim  
Klimaschutz!

EN



Schëtter



# Schëtter

**Administration communale  
de Schuttrange**

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**KlimaPakt** | EUROPEAN  
ENERGY  
AWARD  
Meng Gemeng engagéiert sech



**Klima-Bündnis**  
Lëtzebuerg

**NaturPakt**  
Meng Gemeng engagéiert sech



The sustainable construction guide is a document intended for builders wishing to construct or renovate a building on the territory of the Schuttrange commune. The topics of the guide cover the different aspects of sustainable construction. Each of the topics summarises recommendations on techniques to be implemented, strategies to be followed, information on the various aids available and useful links to go deeper into the matter.

Français



Lëtzebuergesch



English



## Available financial aid

Throughout the guide, this pictogram means that financial aid is available.



The table below shows the actors who offer support for the different facilities listed in this guide.

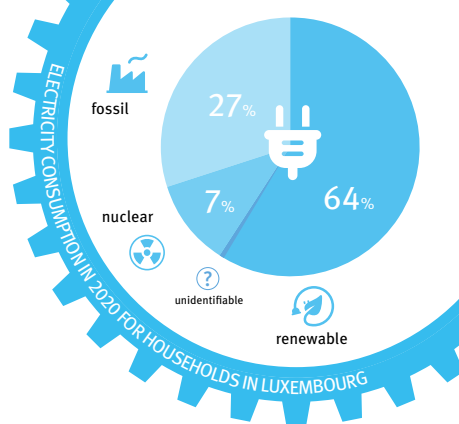
Topic	Subject	Financial aid			
		State	Energy supplier	Nova Natur-Stroum Fund	Schuttrange commune
General	Study and sustainable concept				
	Photovoltaic panel				
Energy - Electricity	Energy-efficient household appliances				
	System for self-consumption of electricity				
	Energy monitoring system				
Energy – Heat	Solar panel - Auxiliary solar heating				
	Solar panel – Solar hot water				
	Heat pump				
	Controlled mechanical ventilation with heat recovery unit				
	Energy monitoring system				
	Building insulation (renovation)				
Rainwater	Rainwater harvesting infrastructure				
Mobility	Charging station for electric vehicles				
	Intelligent management system for charging electric vehicles				
Environ-mental damage	Particle filter for a wood-burning stove or boiler				
Resources	LENOZ certification				
	New construction LENOZ certified				
	Compost implementation				

Aid simulator of Klima-Agence





## ” How to reduce one’s electricity costs while saving CO<sub>2</sub>?



### Getting advice



☎ 8002 1190 (free hotline)

### Choosing appropriate installations such as ...



photovoltaic panels with the possibility if appropriate to self-consume the produced electricity



### Making good use of electricity while ...



opting for energy-efficient household appliances



investing in the local energy cooperative EnerCoop Syrdall

### Acting on buildings ...



opting for LED lighting with presence detectors



installing solar protections that decrease air conditioning requirements



avoiding to place heat-producing appliances next to refrigeration appliances

### Taking a step further by ...



subscribing to a green electricity contract



installing an electricity consumption monitoring system

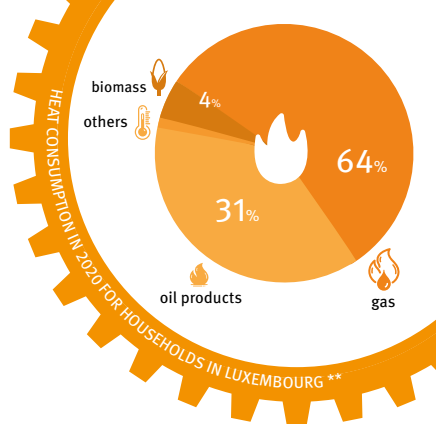
### Useful links

[www.klimaagence.lu](http://www.klimaagence.lu) | [www.oekotopten.lu](http://www.oekotopten.lu) | [www.calculix.lu](http://www.calculix.lu)

\*Source: Statec - Composition du mix national de l'électricité fournie aux clients finals (2020)



## ” How to reduce one’s heating costs while saving CO<sub>2</sub>?



### Getting advice



optimising solar gains by directing the glass parts of the building to the south

### Acting on buildings by ...



aiming the thermal insulation class A\* on the energy performance certificate  
(new construction)  
insulating in an appropriate way  
(renovation)



ensuring the compactness of the building

### Choosing appropriate installations such as ...



geothermal heat pumps



mechanical ventilation control systems with:



thermal solar panels



- Canadian wells  
- heat recovery units



### Taking a step further by ...

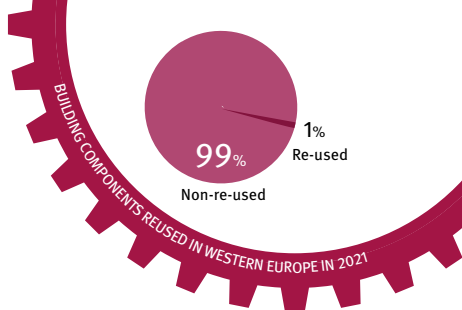


installing a smart monitoring and regulation system for the consumption of heat and the mechanical ventilation control system





## ” How to build according to circular economy principles and anticipate future resource flows ?



### Getting advice



### Certify one's building by ...



opting for certification



LENOZ



### Separating ...

#### biological products *(regenerated by nature)*



wood

- biosourced
- biodegradable
- untreated



straw



cork



hemp

*Sustainable material labels:  
Cradle2Cradle, FSC, PEFC, Blauer Engel*

#### and technical products *(recycled by humans)*



metal



glass



plastic



concrete

*Sustainable material labels:  
Cradle2Cradle, Blauer Engel, NF Environnement,  
Nordic Swan, Umweltzeichen, European Ecolabel*

### ... and ensuring their disassembly

### Correctly anticipating future resource flows by ...



providing the necessary  
sorting facilities  
in the kitchen



Providing space  
for waste bins



setting up  
a compost



carrying out individual  
reporting of waste quantities  
per household in  
residential buildings

### Wondering if ...

- the techniques are sufficiently accessible to facilitate their maintenance?
- the used materials and products are necessary and useful?
- the existing building can be preserved and/or restored?
- spaces and equipments can be multifunctional, adaptable and modular?
- materials and products can be easily disassembled ?

### Useful links

[lenoz.ehs.lu](http://lenoz.ehs.lu) | [www.logement.lu](http://www.logement.lu) | [www.oekozenler.lu](http://www.oekozenler.lu) | [www.klimaagence.lu](http://www.klimaagence.lu)

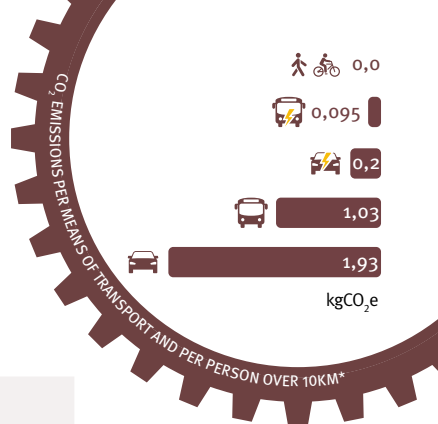
\*Source: Projet Interreg NWE - FCRBE (2021)

# sustainable mobility



”

*How to adopt a more sustainable mobility?*



## Providing bicycle parking

indoors

or

outdoors

on the ground floor,  
easily accessible  
and secure



sheltered, easily  
accessible and secure



## Installing charging stations for electric cars by ...

Single-family building



providing capacity  
for at least 1 charging  
station

Residential building



providing capacity  
for each household

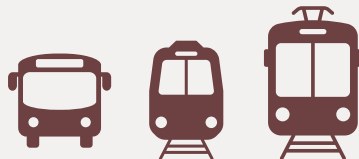
## Anticipating the Vehicle2Grid by planning ...



to buy electric vehicles  
that allow charging  
and discharging  
from/to the grid



## Don't forget public transport !



Mobiliteit.lu portal

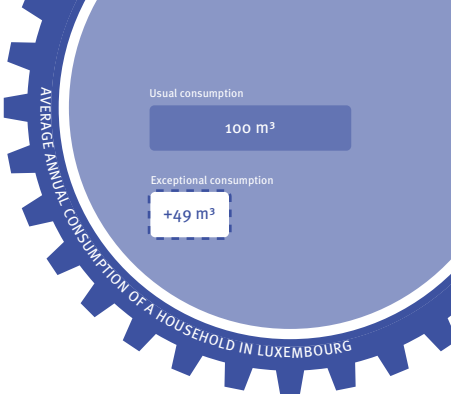
## Useful links

\*Source: Ademe - My Transport Impact (2018)

[www.carboncounter.lu](http://www.carboncounter.lu) | [www.klimaagence.lu](http://www.klimaagence.lu) | [www.mobiliteit.lu](http://www.mobiliteit.lu) | [www.schuttrange.lu](http://www.schuttrange.lu)



” How to reduce one’s water bill by using rainwater ?



**Harvesting rainwater by ...**

installing a tank fed by roof gutters

installing separate rainwater and drinking water systems inside the building

**Using rainwater for the following purposes**

12m³	30m³	10m³	15m³	31m³	3m³	5m³	7m³	36m³
52m³			49m³			48m³		



## ” How to reduce one's water bill by reducing its consumption ?

### Monitoring leaks



### Did you know !



A family pool of about 30m<sup>2</sup>  
can consume up to 260 L/day of use  
(hygienic renewal + filter rinsing + evaporation)

### Taking ownership of simple gestures



### Saving water by ...



- **40%**

installing energy-saving dual flushes



- **40%**

opting for water-saving appliances



- **50%**

installing energy-saving shower heads



- **50%**

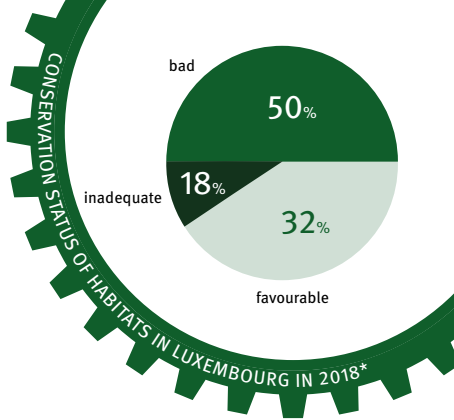
adding flow restrictors to taps and showers

### Useful links

# outdoor areas



” *How to increase the ecological quality of outdoor areas ?*



**Getting advice**

☎ 34 94 10 - 1    ✉ [sias@sias.lu](mailto:sias@sias.lu)

**Limiting**

parking spaces with coatings

earthwork

floor sealing

mineral or synthetic flooring in gardens

**Developing and strengthening the green network by ...**

planting trees and hedges

installing green roofs and facades

favouring indigenous and diversified flora

integrating nesting boxes into the building

**... to restore habitats and increase biodiversity**

**Avoiding pesticides**

**Promoting late mowing**

**Adapting outdoor lighting\*\***

Adapting outdoor lighting  
(max. 2700K)

## Useful links



[www.sias.lu](http://www.sias.lu) | [www.ounipestiziden.lu](http://www.ounipestiziden.lu)  
[www.emwelt.lu](http://www.emwelt.lu) | [www.naturemwelt.lu](http://www.naturemwelt.lu)

\*Source: AEE - Conservation status and trends in Luxembourg (2019)

\*\*see the full recommendations in the "environmental damage" topic

# environmental damage



” How to avoid damage to oneself  and the environment  ?



Wrap external technical installations (e.g. heat pumps) with acoustic protection

## Noise



Ensure the airtightness of the building



Install triple glazing



Place acoustic screens during the building period



Respect working hours on construction sites as stipulated in the communal regulation

## Outdoor lighting



Directing lights towards the ground



Favouring "warm white" lights (max. 2700K)



Turn off between midnight and 6 a.m.



Apply dimming from 10 p.m.



Install presence detectors



## Air



Use healthy materials inside and outside the building



Keep odours\* away from buildings without disturbing the neighbours



Put filters on mechanical ventilators



Put filters on chimneys of wood-burning stoves and boilers



Protect the surrounding areas of the construction site from dust and other particles



## Useful links

[www.schuttrange.lu](http://www.schuttrange.lu) | [www.emwelt.lu](http://www.emwelt.lu)

\* Compost and animals

