

Colloque

# BÂTIMENTS DÉCARBONÉS



## Transition énergétique des plex et unifamiliaux : Solutions et soutiens politiques

# **INTRODUCTION PASSIVHAUS**

**LE BÂTIMENT PASSIF  
OU LA MAISON  
PASSIVE?**

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Passivhaus

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Krankenhaus = hôpital

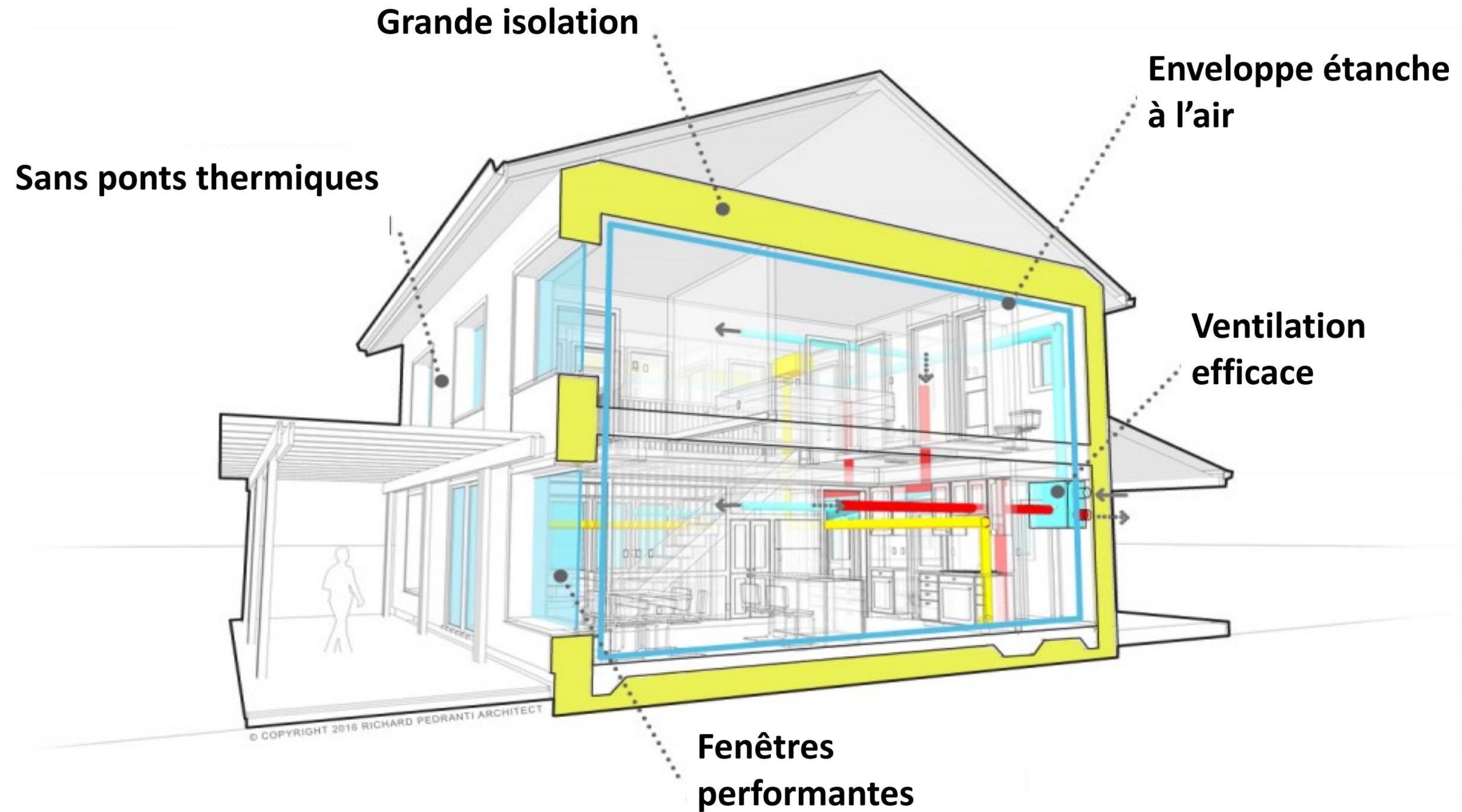
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Rathaus = hôtel de ville

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Parkhaus = garage de stationnement

# LES CINQ PRINCIPES



**LA NORME  
PASSIVHAUS**

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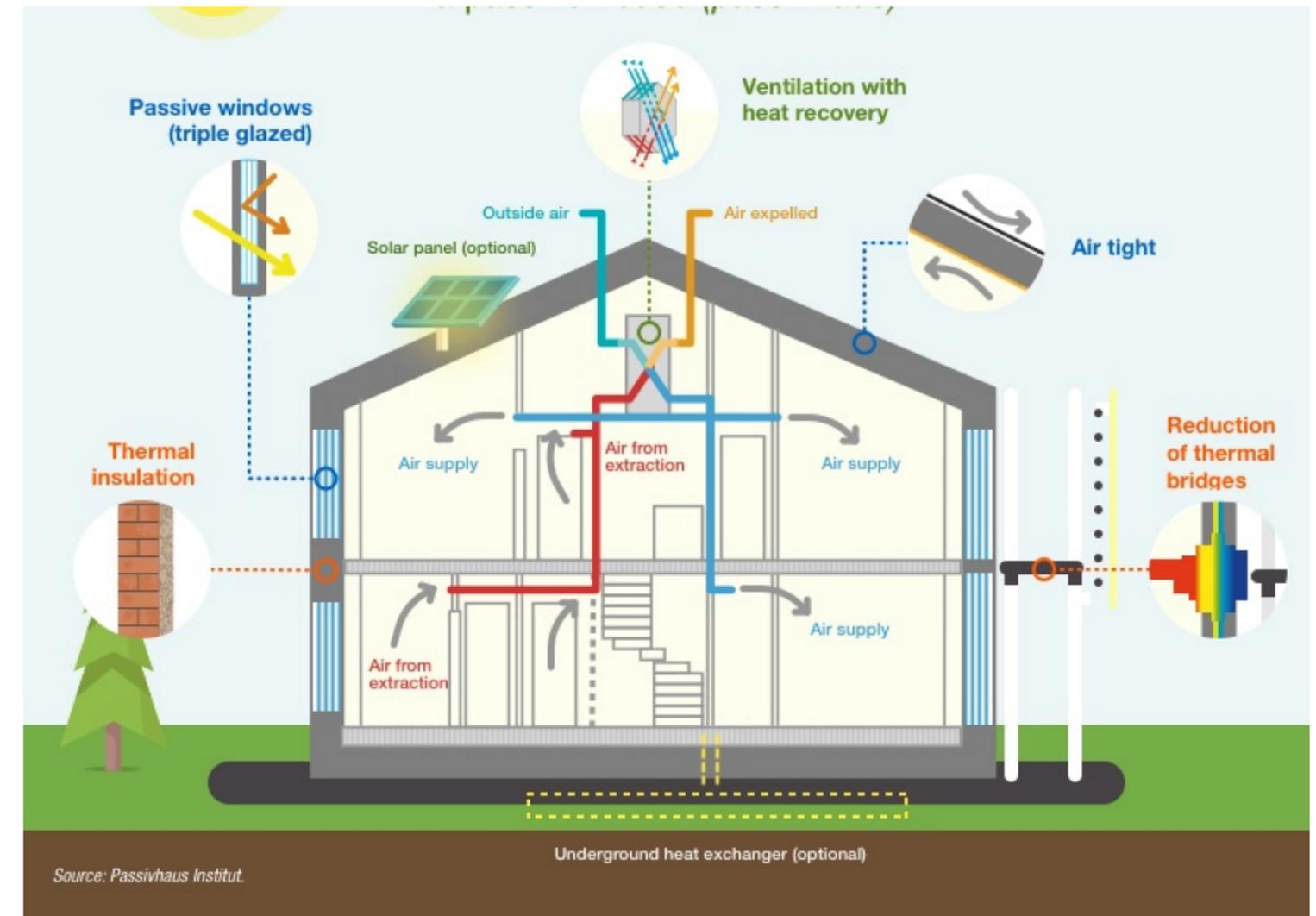
une norme  
non-prescriptif avec

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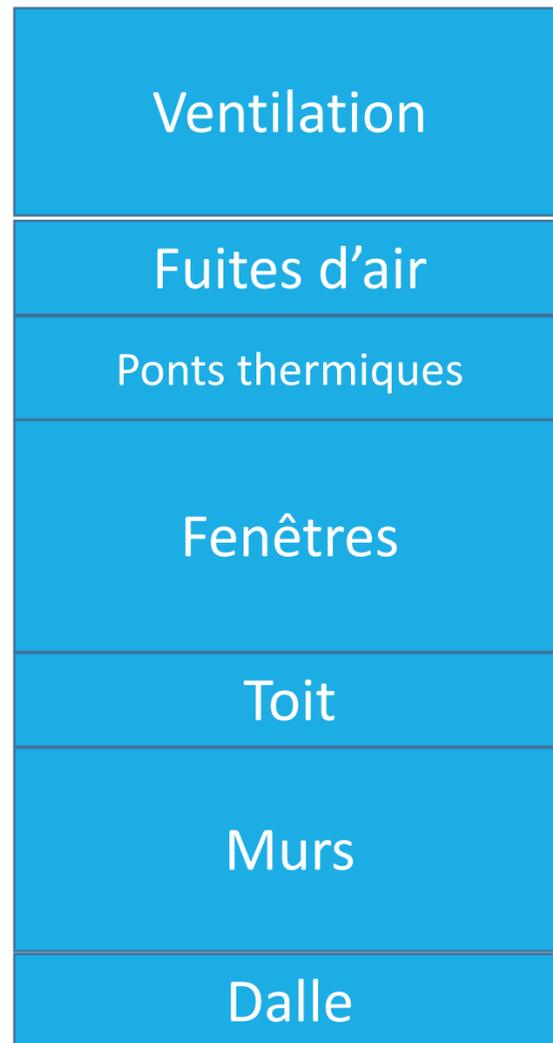
des critères de  
performance à  
atteindre

# LES CRITÈRES PASSIVHAUS

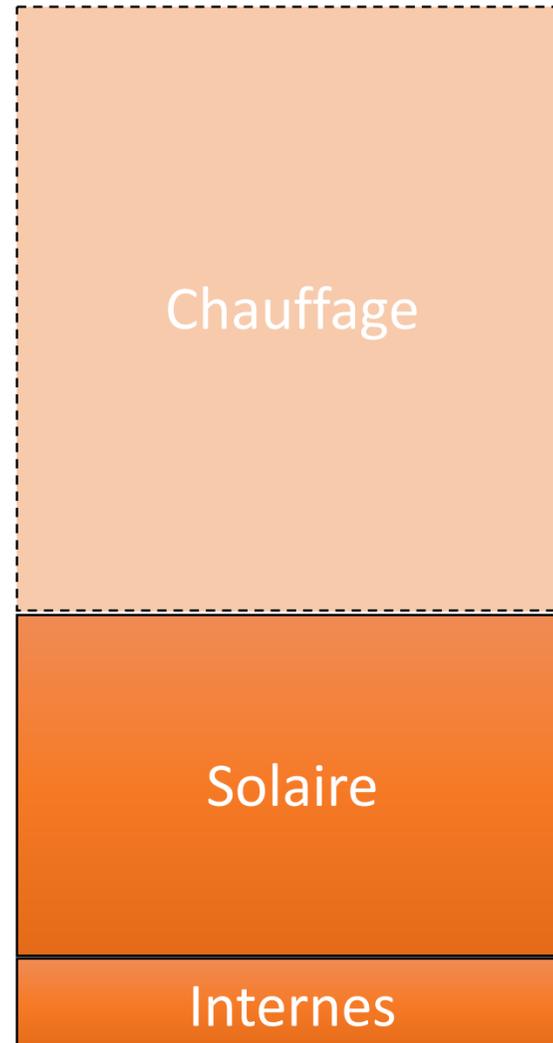
- **Énergie de chauffage**
  - $\leq 15 \text{ kWh/m}^2$  par an
- **Étanchéité à l'air**
  - test d'infiltrométrie de  $n_{50} \leq 0,6$  /h
- **Consommation totale d'énergie**
  - $\leq 120 \text{ kWh/m}^2$  par an
- **Surchauffe**
  - $>25^\circ\text{C} \leq 10\%$  de l'année



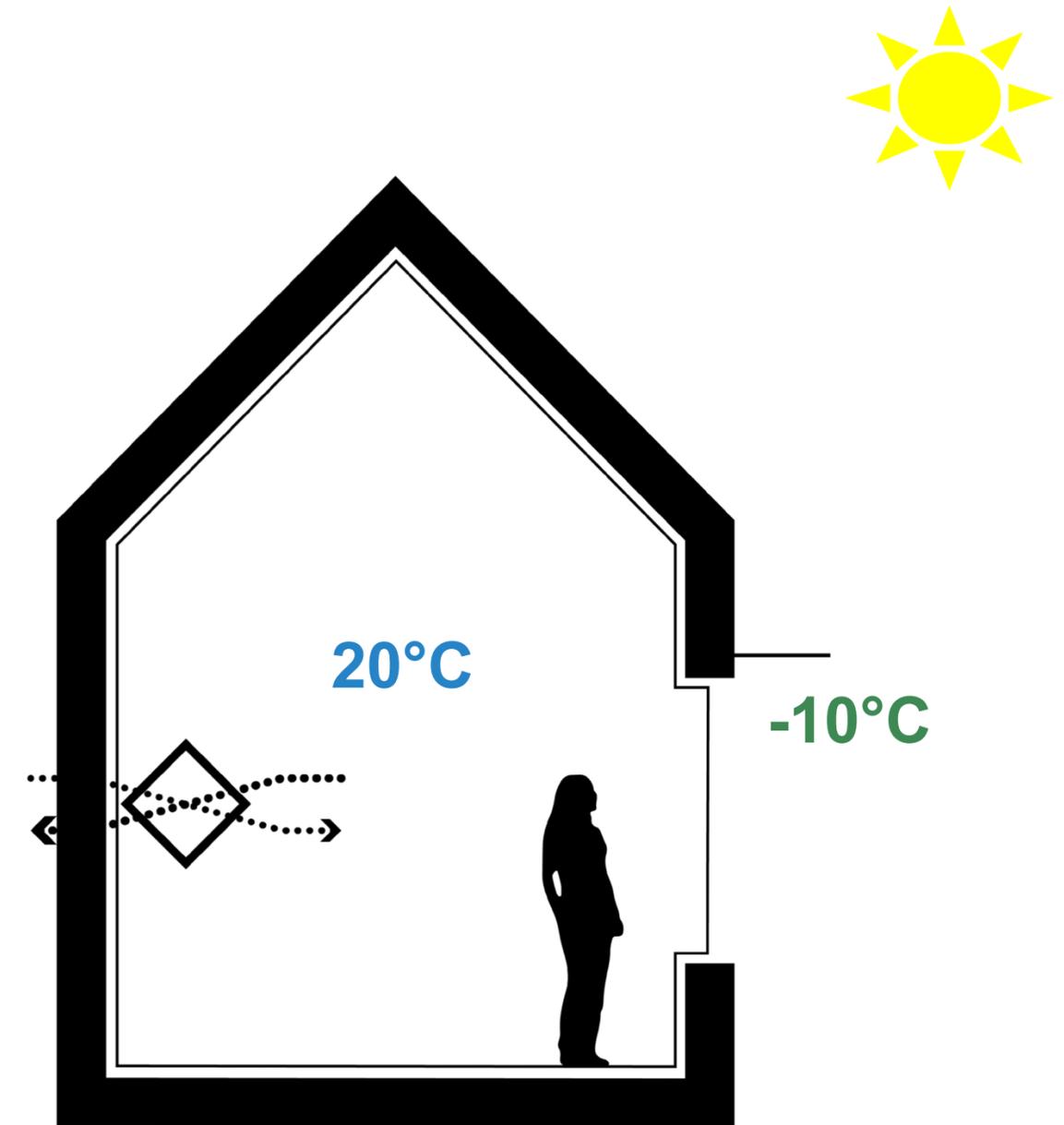
# BILANS ÉNERGÉTIQUES



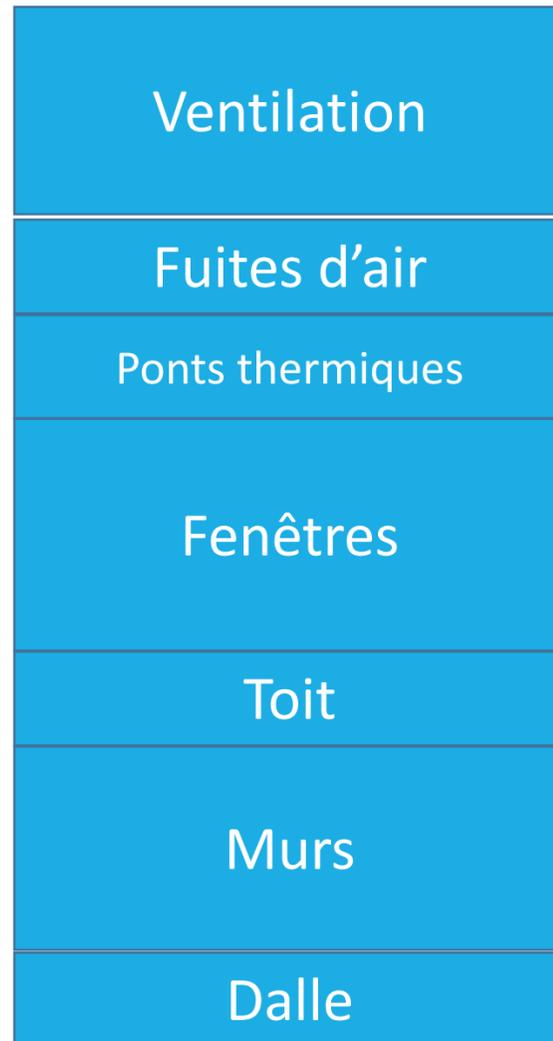
Pertes



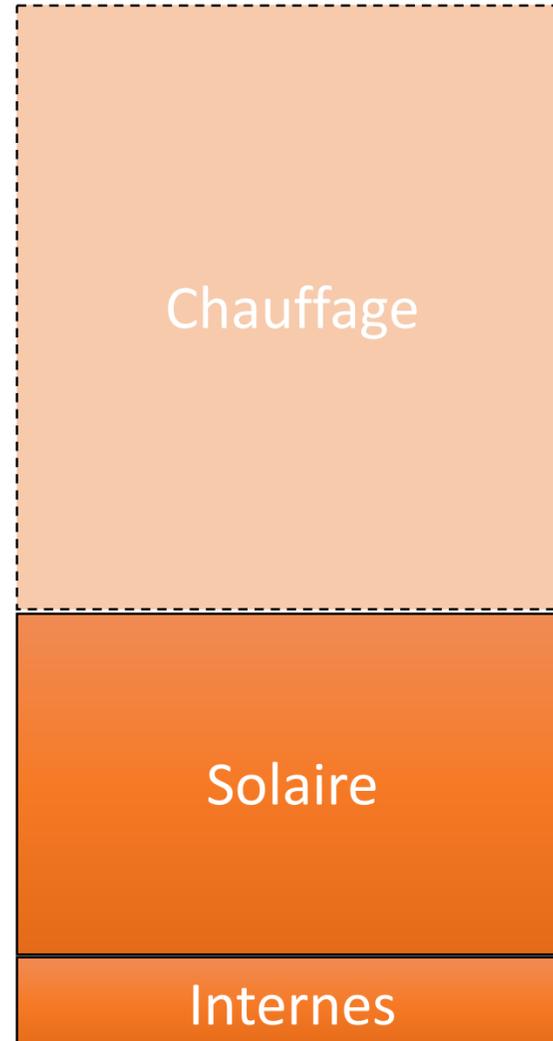
Gains



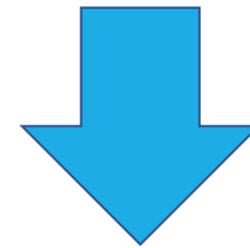
# BILANS ÉNERGÉTIQUES



**Pertes**

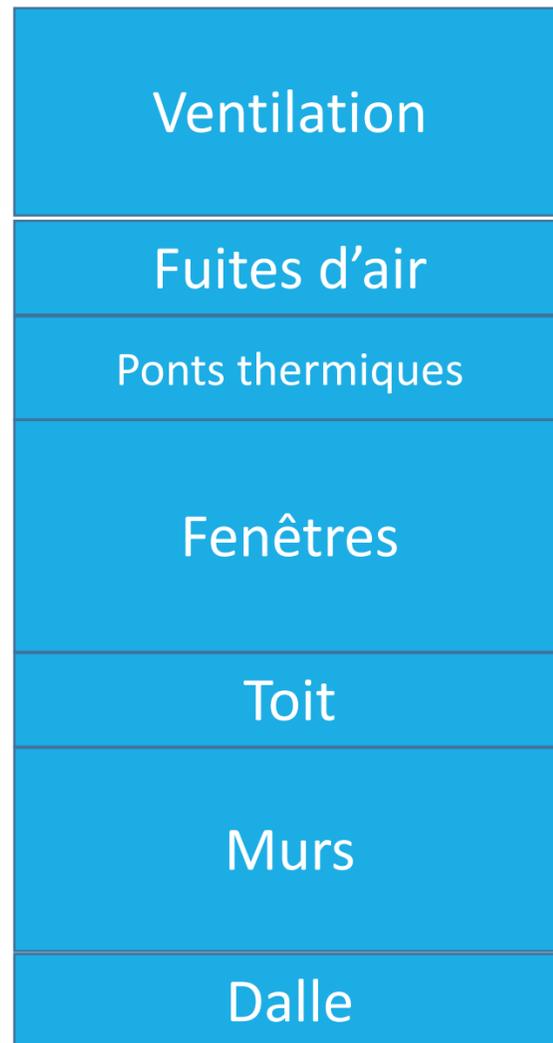


**Gains**

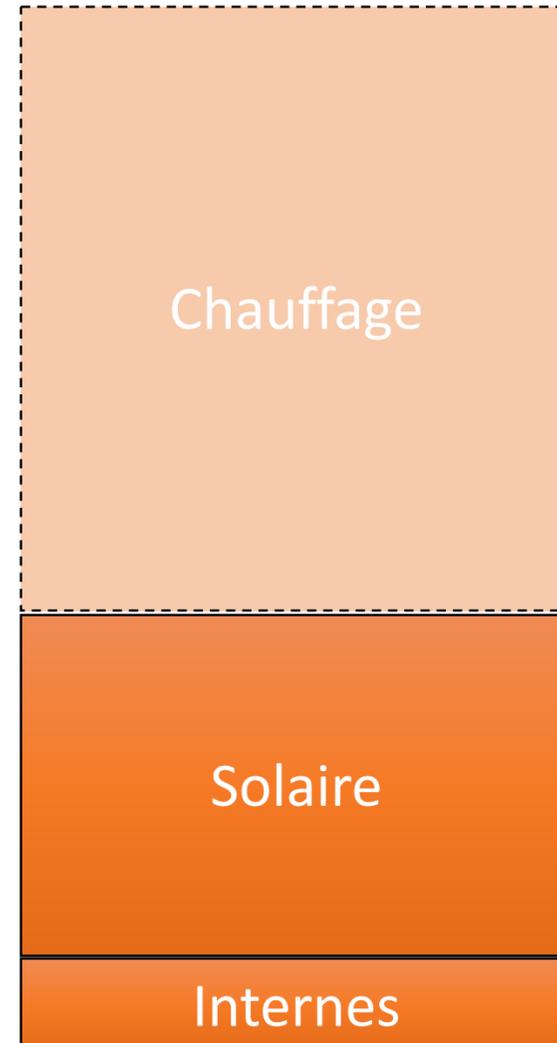


**Pertes**

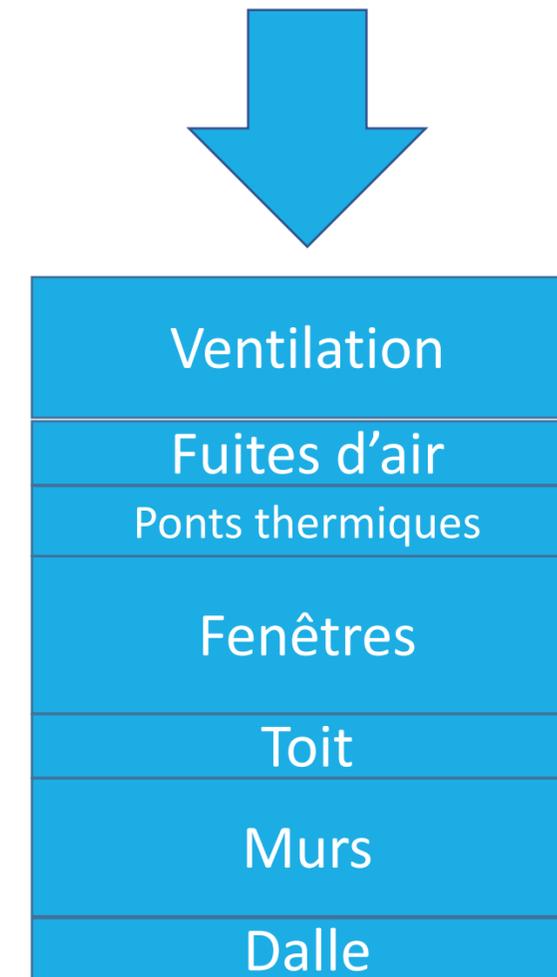
# BILANS ÉNERGÉTIQUES



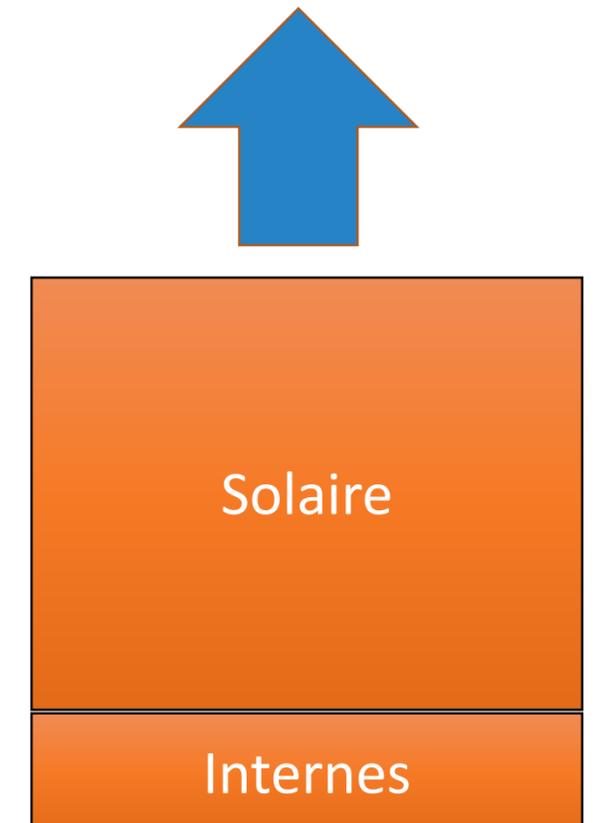
Pertes



Gains

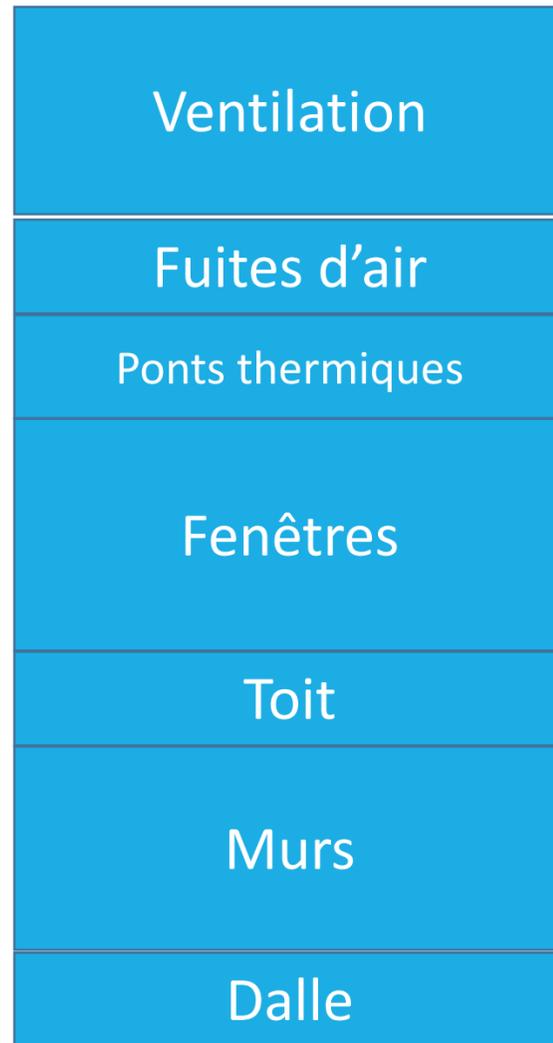


Pertes

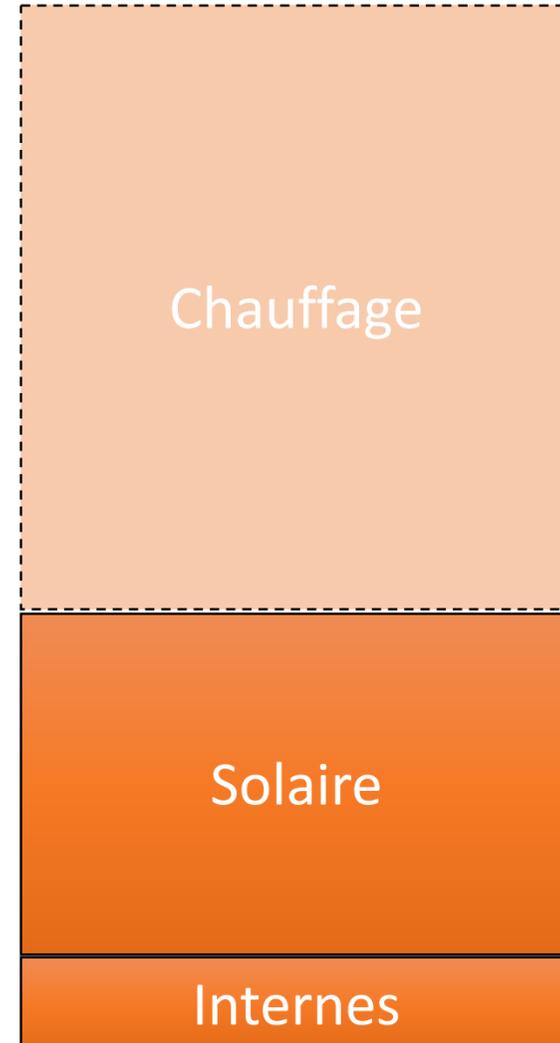


Gains

# BILANS ÉNERGÉTIQUES



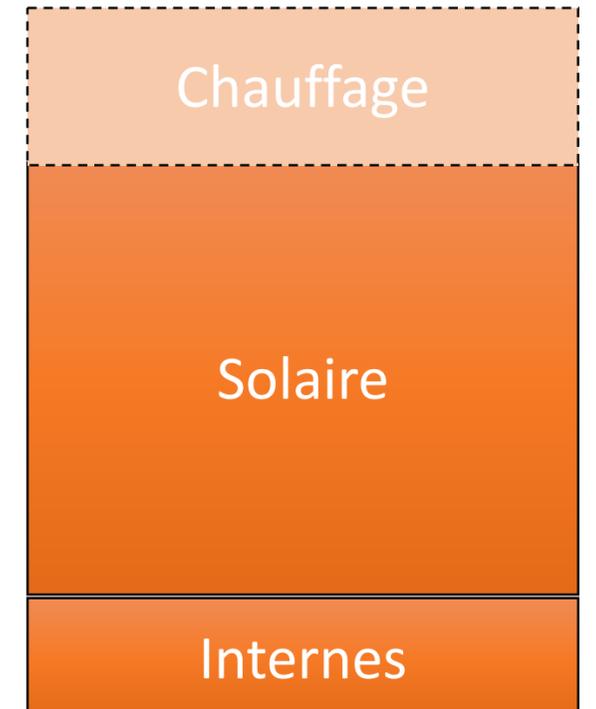
**Pertes**



**Gains**

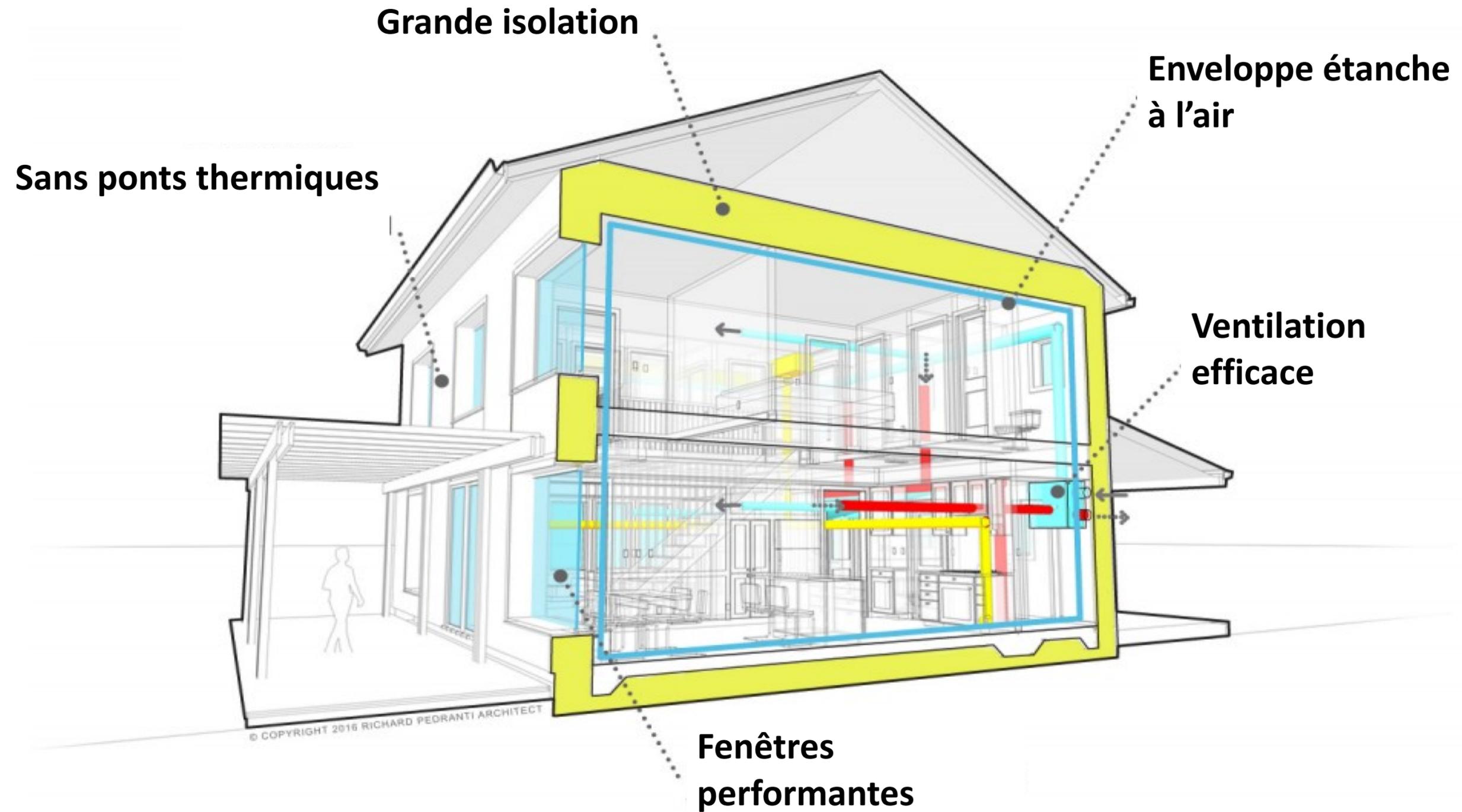


**Pertes**



**Gains**

# LES CINQ PRINCIPES

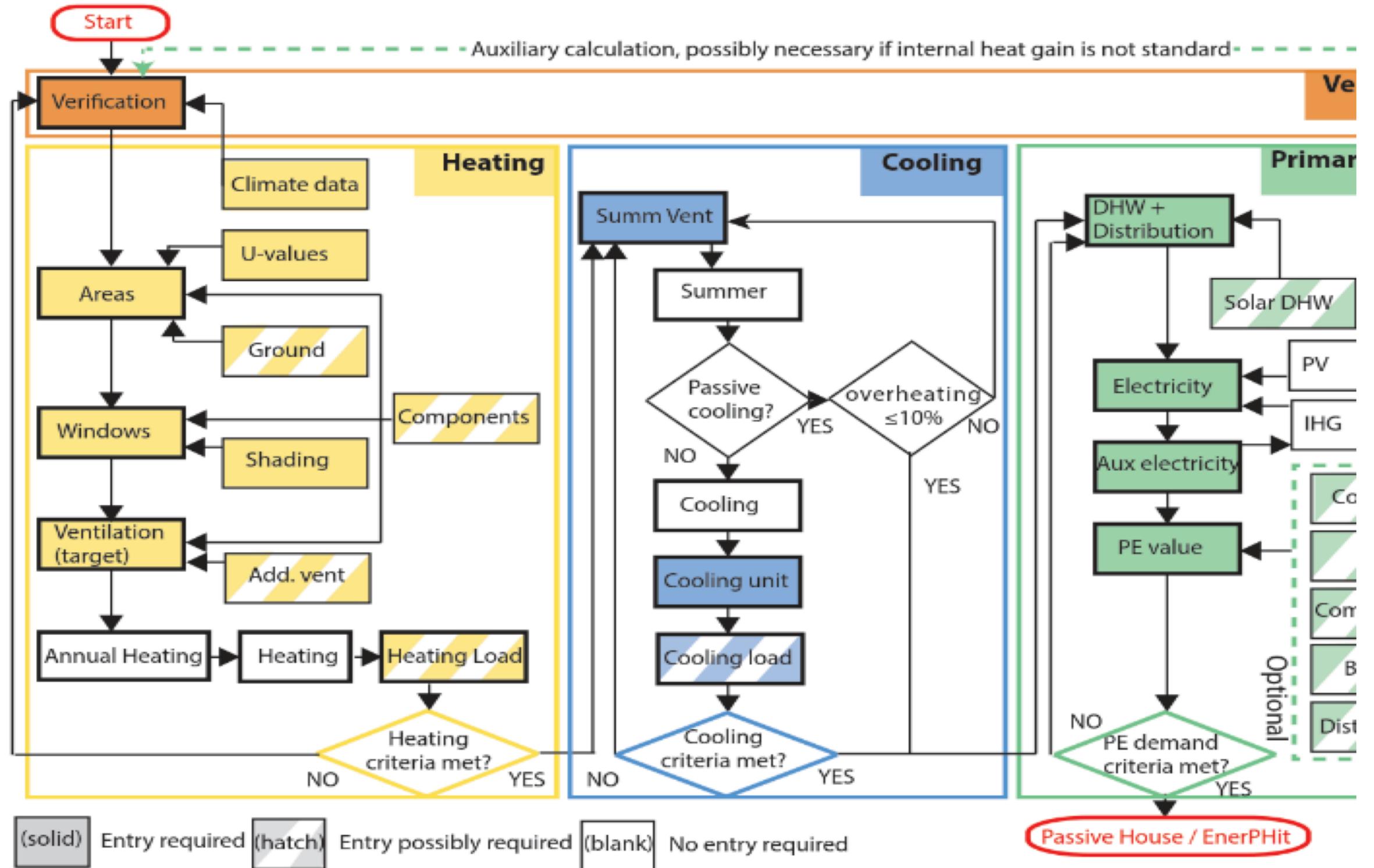


Specific building demands with reference to the treated floor area						
		Treated floor area	156,0	m <sup>2</sup>	Requirements	Fulfilled?*
Space heating		Heating demand	14	kWh/(m <sup>2</sup> a)	15 kWh/(m <sup>2</sup> a)	yes
		Heating load	10	W/m <sup>2</sup>	10 W/m <sup>2</sup>	yes
Space cooling		Overall specif. space cooling demand		kWh/(m <sup>2</sup> a)	-	-
		Cooling load		W/m <sup>2</sup>	-	-
		Frequency of overheating (> 25 °C)	1,6	%	-	-
Primary energy		Heating, cooling, auxiliary electricity, dehumidification, DHW, lighting, electrical appliances	60	kWh/(m <sup>2</sup> a)	120 kWh/(m <sup>2</sup> a)	yes
		DHW, space heating and auxiliary electricity	33	kWh/(m <sup>2</sup> a)	-	-
		Specific primary energy reduction through solar electricity	25	kWh/(m <sup>2</sup> a)	-	-
Airtightness		Pressurization test result n <sub>50</sub>	0,2	1/h	0,6 1/h	yes

\* empty field: data missing; '-': no requirement

# PHPP - PASSIVE HOUSE PLANNING PACKAGE

# PHPP - PASSIVE HOUSE PLANNING PACKAGE



## Certification de bâtiments



## Certification de composantes



## Certification de personnes



**PLUSIEURS NIVEAUX  
DE CERTIFICATION**