

Residential energy supplier



Residential energy supplier

Belgian primary and final energy consumption 2019

Primary energy consumption

Source d'énergie		Mtep
Pétrole et produits pétroliers		21,9
Gaz naturel		15,1
Combustibles fossiles solides		3,1
Énergie nucléaire		11,3
Énergies renouvelables et déchets		5,0
Autres*		-0,2
Total		56,4

Final energy consumption

Source d'énergie		Mtep
Produits pétroliers		18,8
Gaz naturel		10,5
Combustibles fossiles solides		0,9
Électricité		7,1
Chaleur		0,4
Énergies renouvelables et déchets		2,1
Total		39,8

Primary -> Final:
Transport loss and transformation efficiency

Electricity -> **17.8 %** of the final energy consumption
Gas -> **26 %** of the final energy consumption

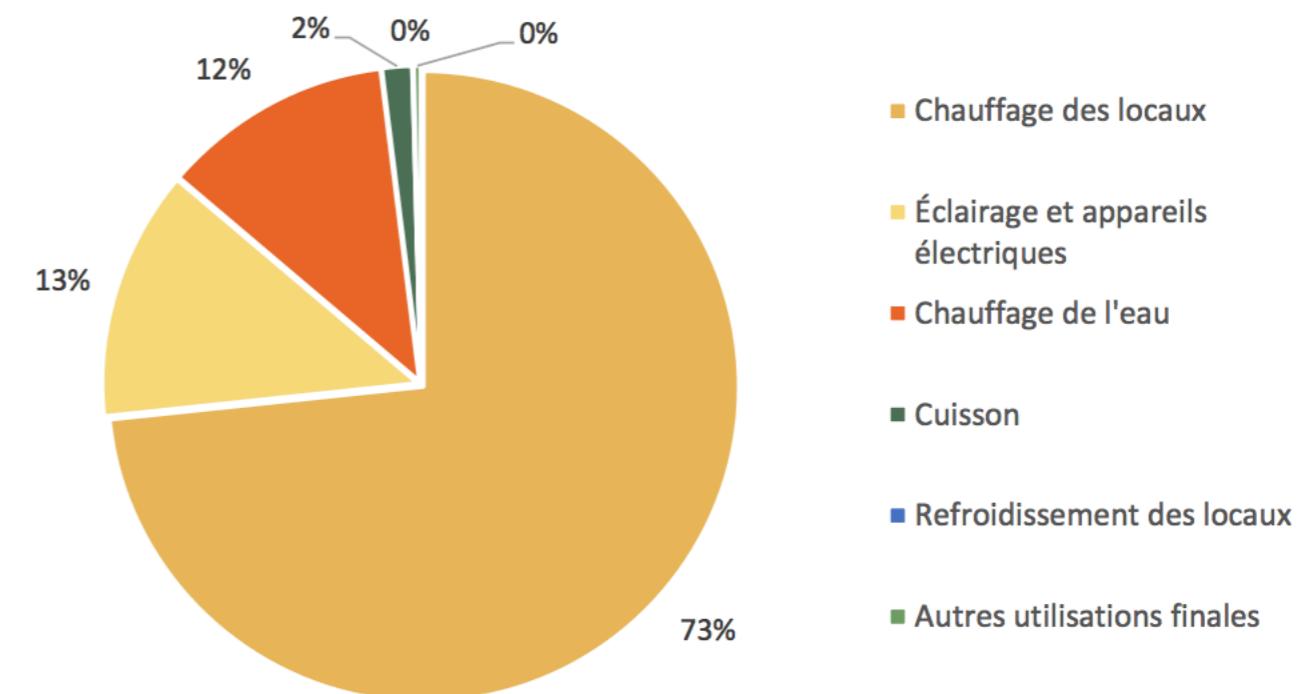
Source: <https://economie.fgov.be/fr/publications/energy-key-data-aout-2020>

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Belgian final energy consumption 2019 -> residential

Final energy consumption per sector

Secteur	Mtep
Industrie	10,3
Transport	8,8
Résidentiel	8,0
Services et équivalent	5,4
Usages non énergétiques	7,3
Total	39,8



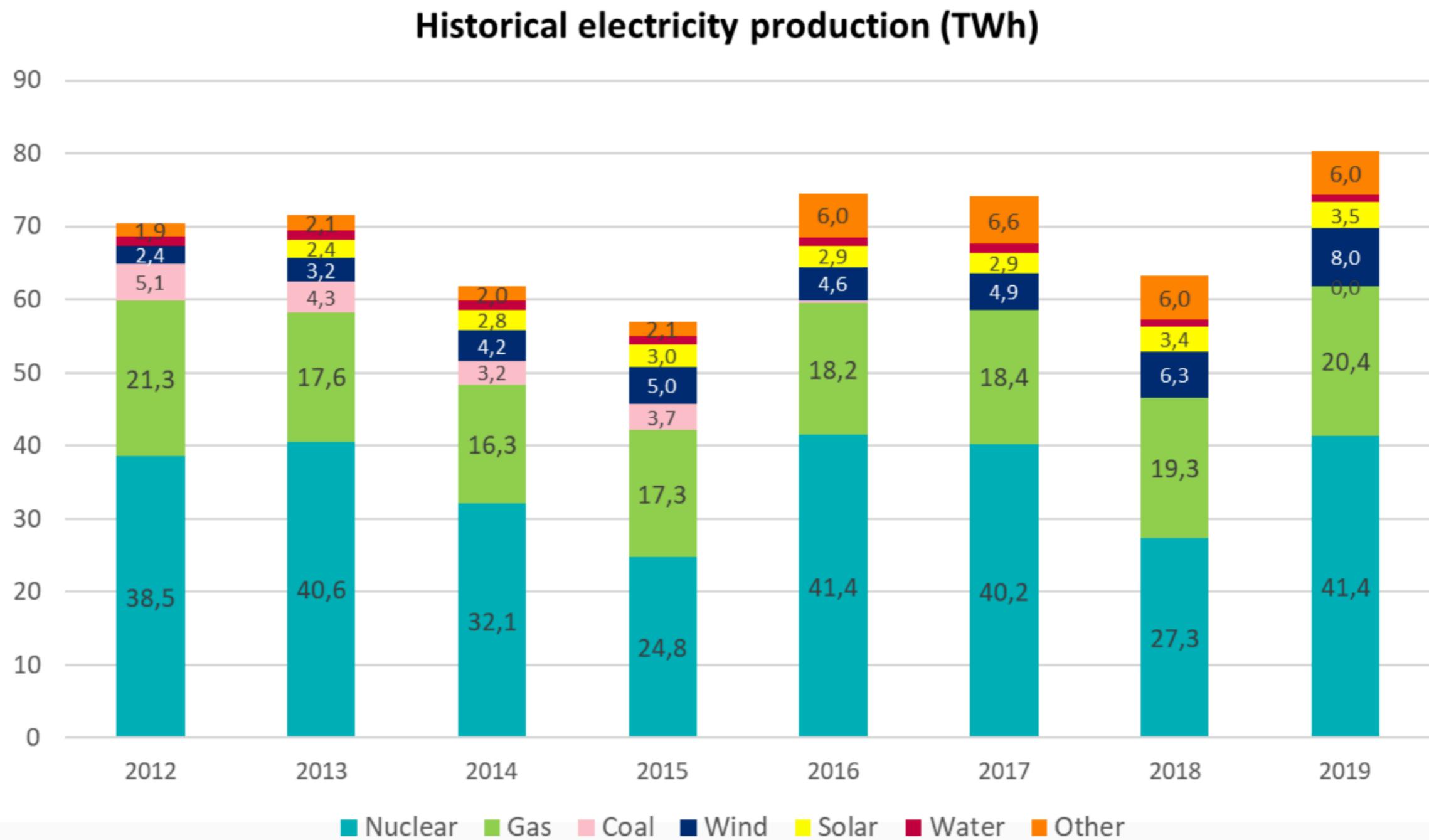
Residential: electricity + heat -> **20%**

Heat 2/3 of the energy consumption !!

Source: <https://economie.fgov.be/fr/publications/energy-key-data-aout-2020>

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Belgian electricity production mix from 2012 to 2019



Source: <https://www.creg.be/fr/consommateurs/le-marche-de-lenergie/chiffres-cles-du-marche-de-lenergie>

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Belgian household energy consumption

Average **electricity** consumption: 3 000 to 5 000 KWh

Average **gas** (heat) consumption: 10 000 to 20 000 KWh

1 kWh = energy to carry **100 kg** from sea level (0m) to **3 600 m !!**

1 kWh = 13 km by foot, 2 km by car, 1 kg of TNT, ...

1 L of oil = 10 kWh



Robert vs Iron Man (toaster)

1 Robert to toast a slice of bread
180 Robert to power a car
43 000 Robert to power an airplane

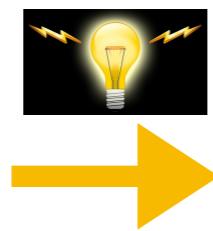
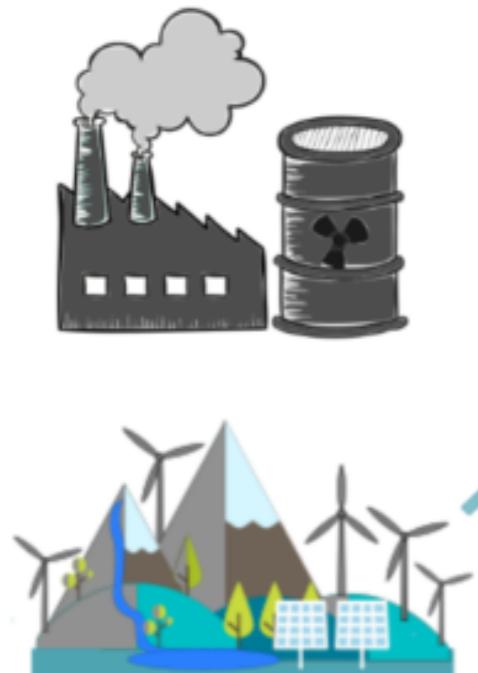


Toaster challenge: https://www.youtube.com/watch?v=S4O5voOCqAQ&feature=emb_title&ab_channel=TheToasterChallenge

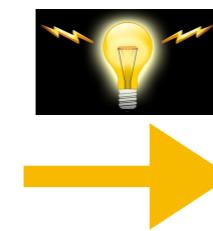
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Context: What are the energy market players ?

Energy producers



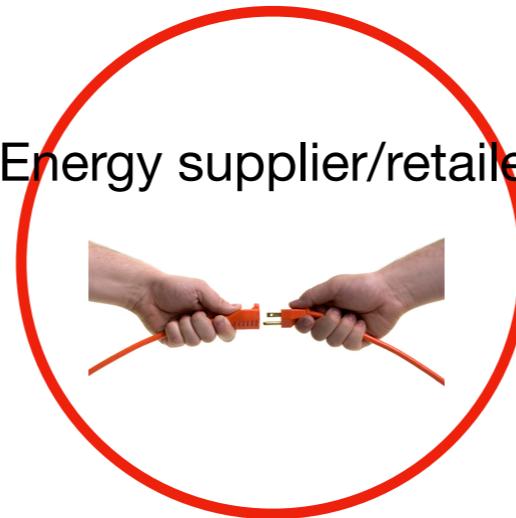
TSO / DSO



Residential Customers (small)



Energy supplier/retailer



Industrial/ Customers (large)



Regulator CREG
Commission for Electricity and Gas Regulation



Politie Police



Market operator: EEX, EPEXSPOT

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Goals

What **does** an energy supplier ?

How does an **energy supplier build** a residential electricity/gas offer ?

What is a **green** energy offer ?

How to **compare** energy suppliers ?

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Summary

1. Energy supplier perimeter
2. Building an energy offer
3. A « green » energy offer
4. Comparing energy suppliers

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Energy supplier perimeter

Trusted third party

Middleman between the customers & Distribution System Operator (DSO)

Customer care

Balancing responsible party

Buy/sell energy

Additional services: insurance, PV installation, etc

What is your DSO ? : <http://www.synergrid.be/index.cfm?PageID=16823>

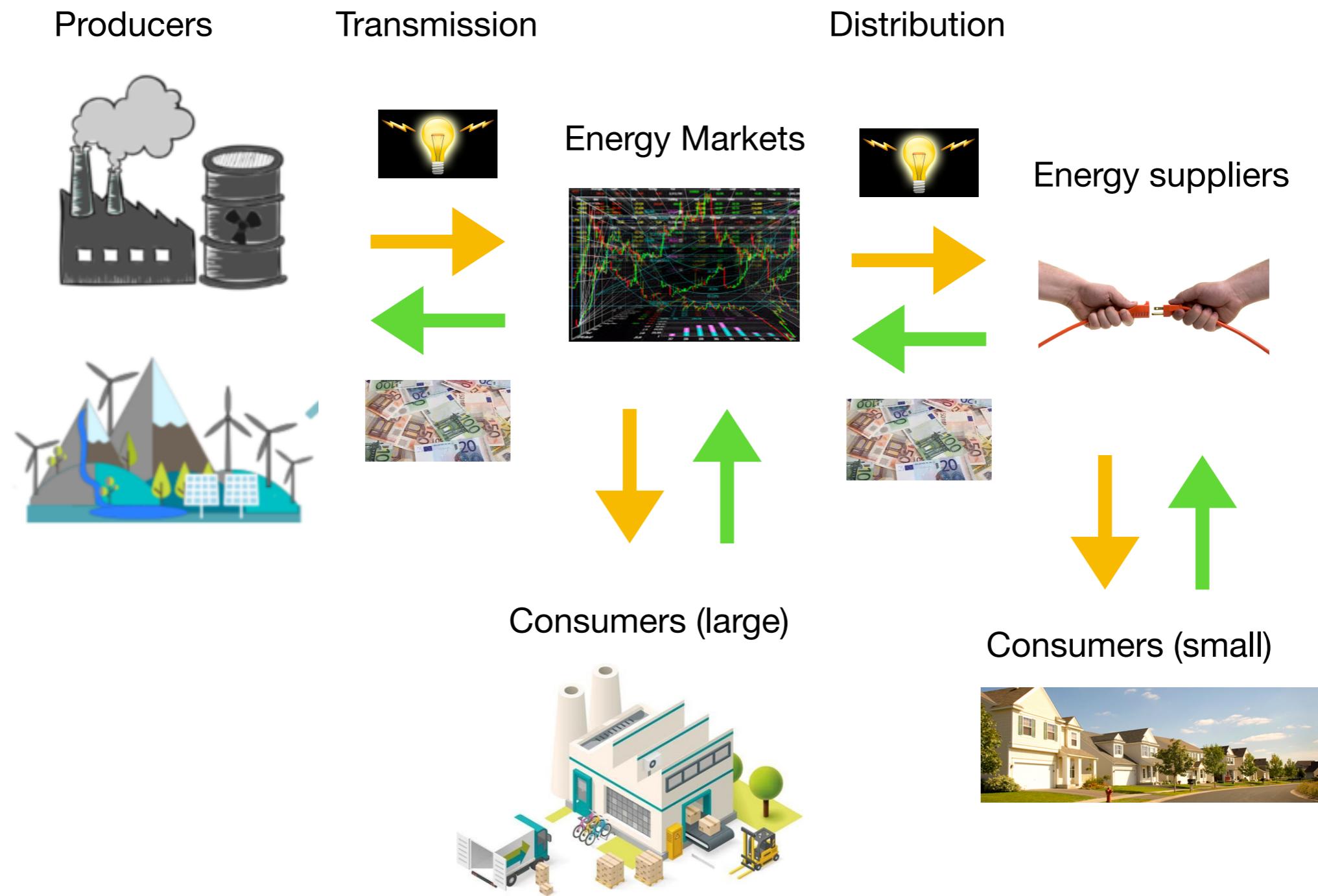
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Summary

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2. Building an energy offer
3. A « green » energy offer
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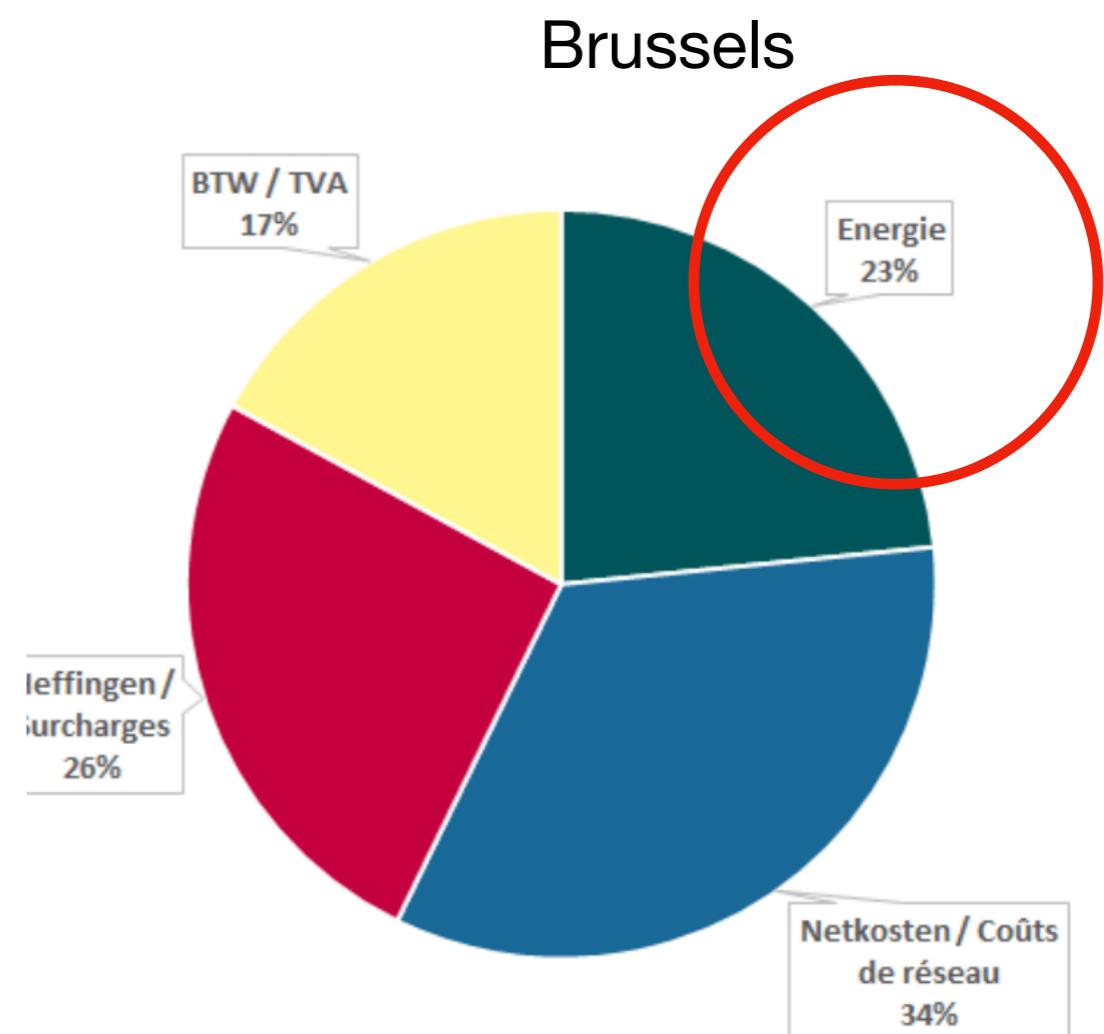
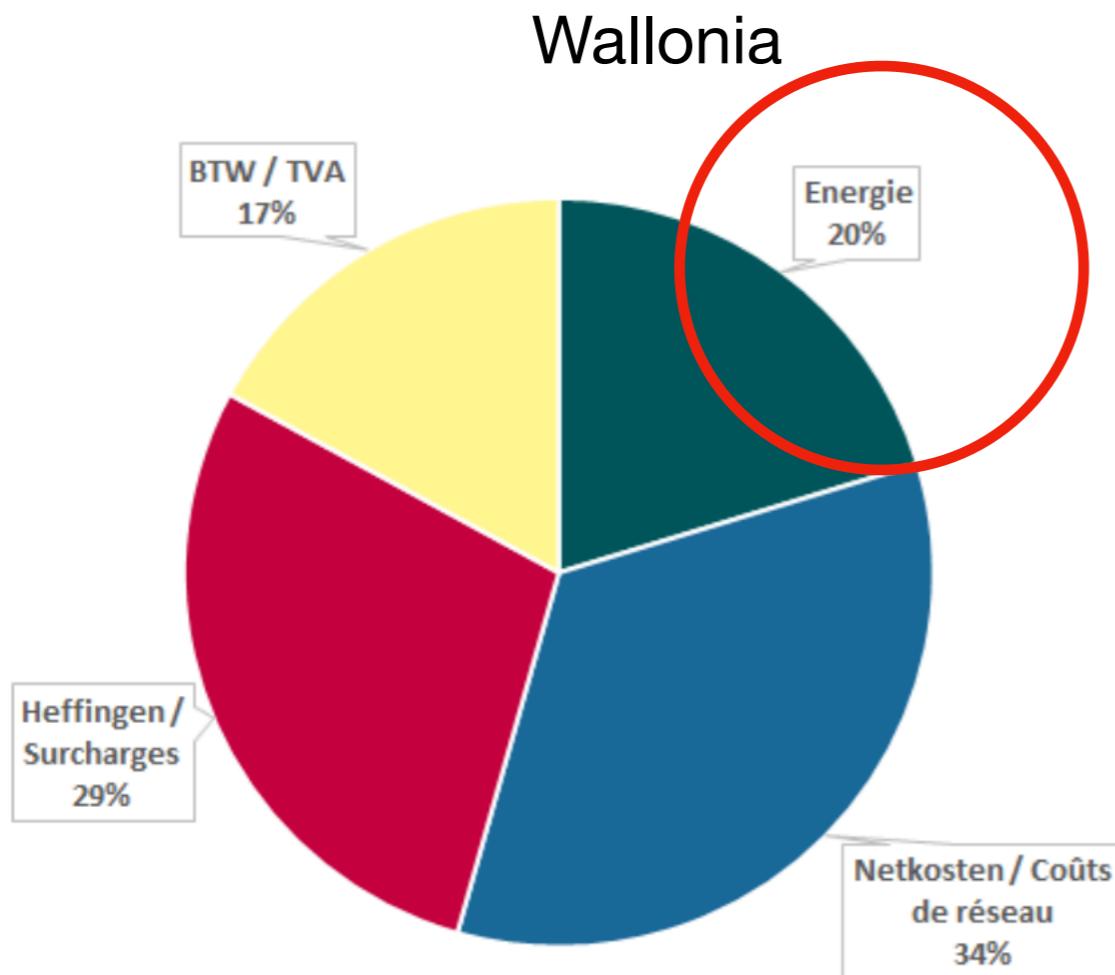
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Building a residential energy offer



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The energy components of the electricity bill

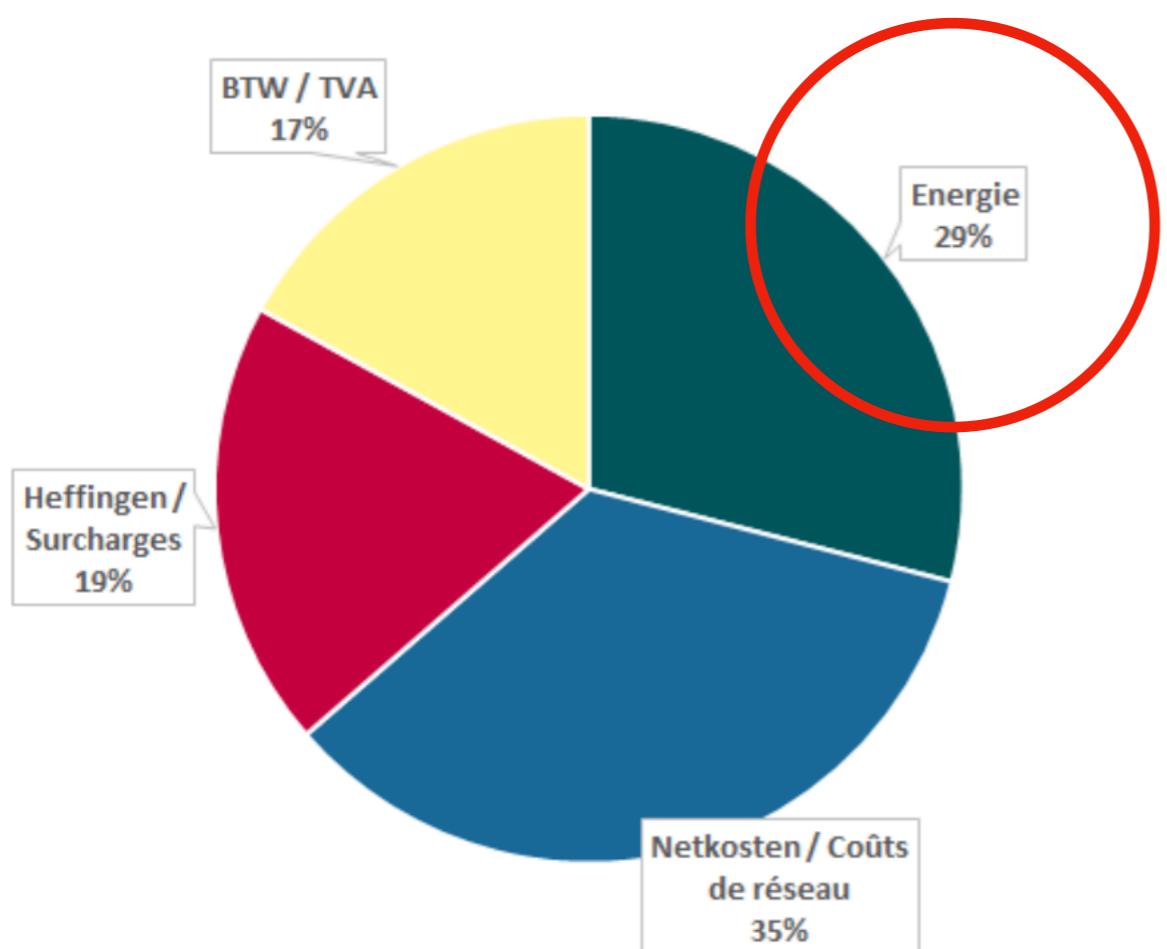


Source: <https://www.creg.be/fr/consommateurs/prix-et-tarifs/comment-est-compose-le-prix-de-lenergie>

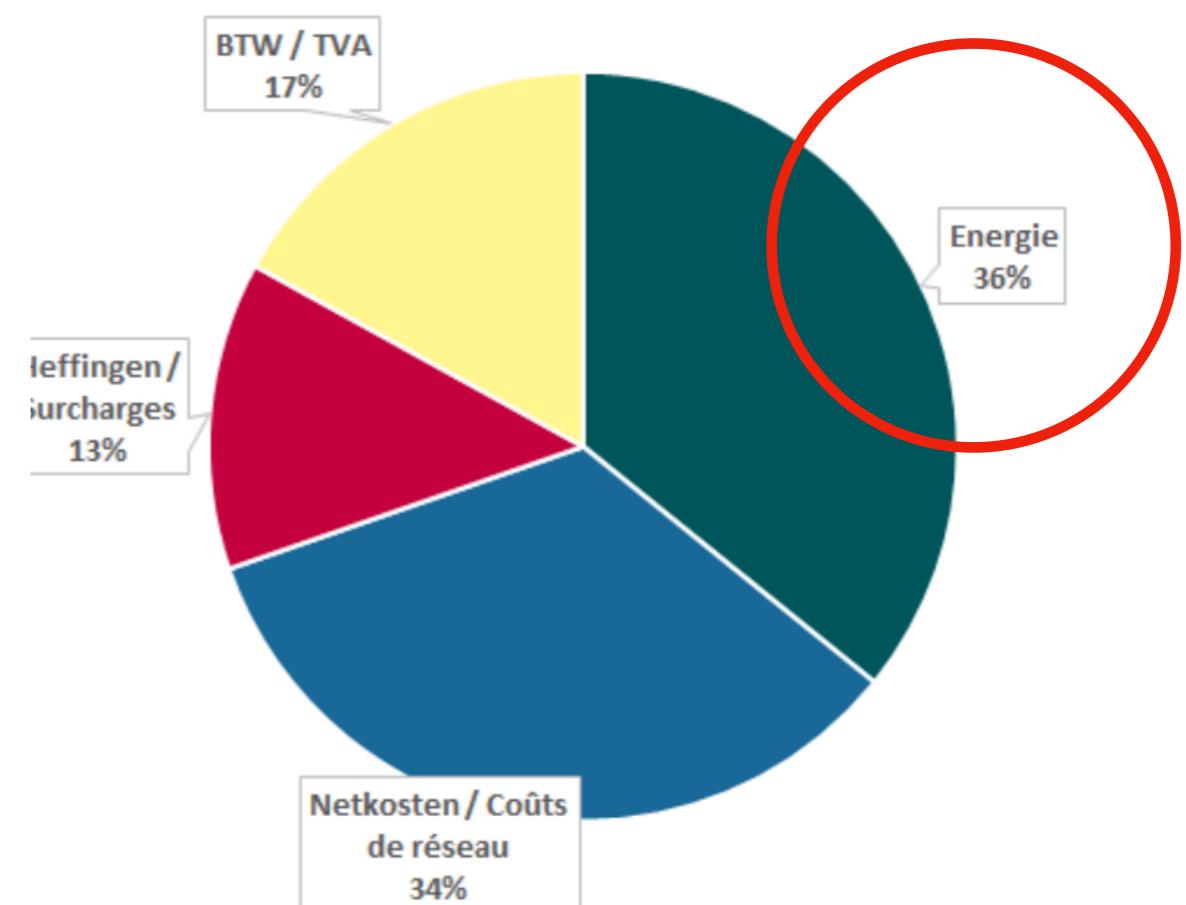
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The energy components of the gas bill

Wallonia



Brussels



Source: <https://www.creg.be/fr/consommateurs/prix-et-tarifs/comment-est-compose-le-prix-de-lenergie>

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Summary

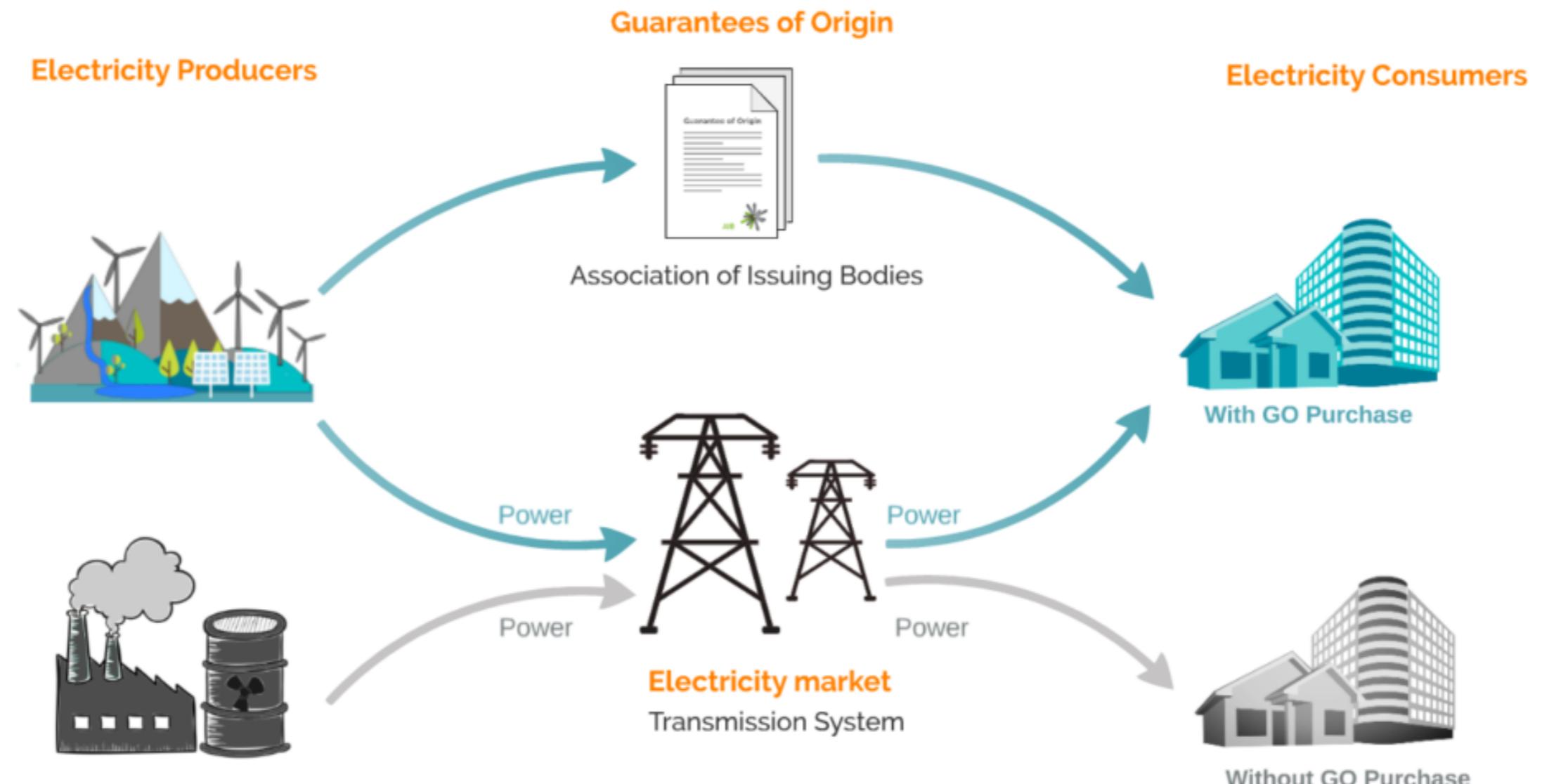
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« Green » energy ? -> Guarantees of Origin (GO)

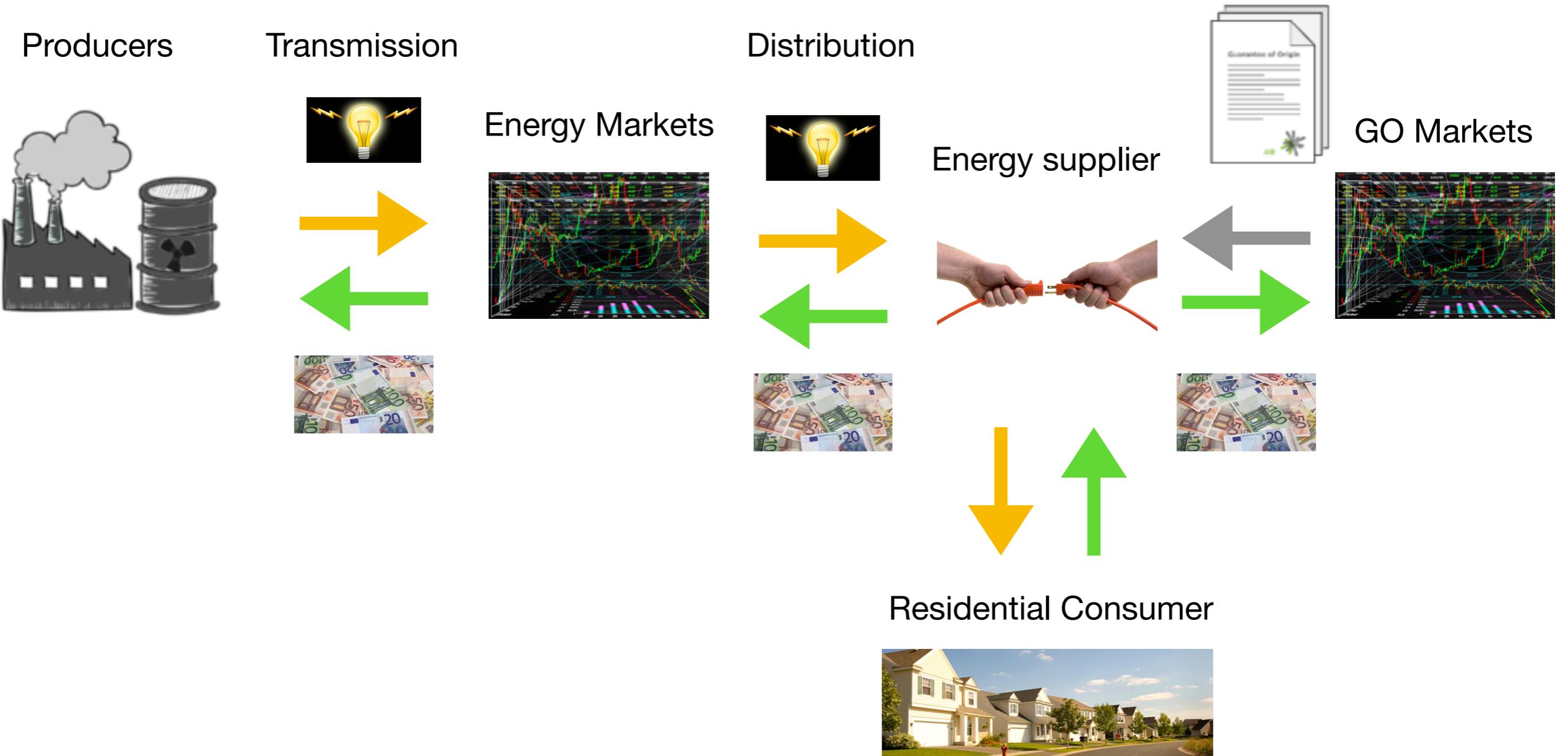
A Guarantee of Origin (GO or GoO) is a **tracking instrument** defined in article 15 of the **European Directive 2009/28/EC**

Source: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0028>



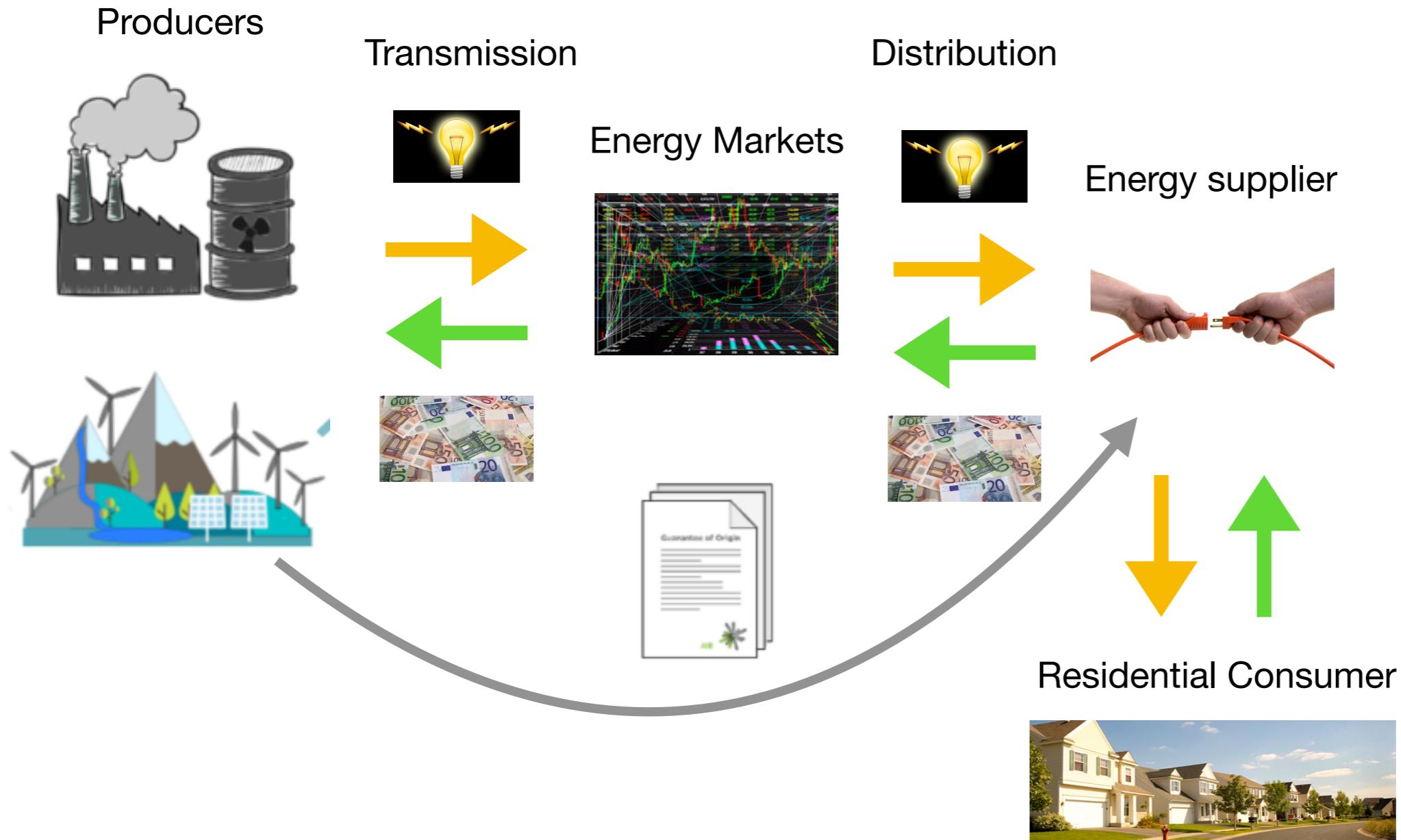
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Non-« green » to « green » market offer



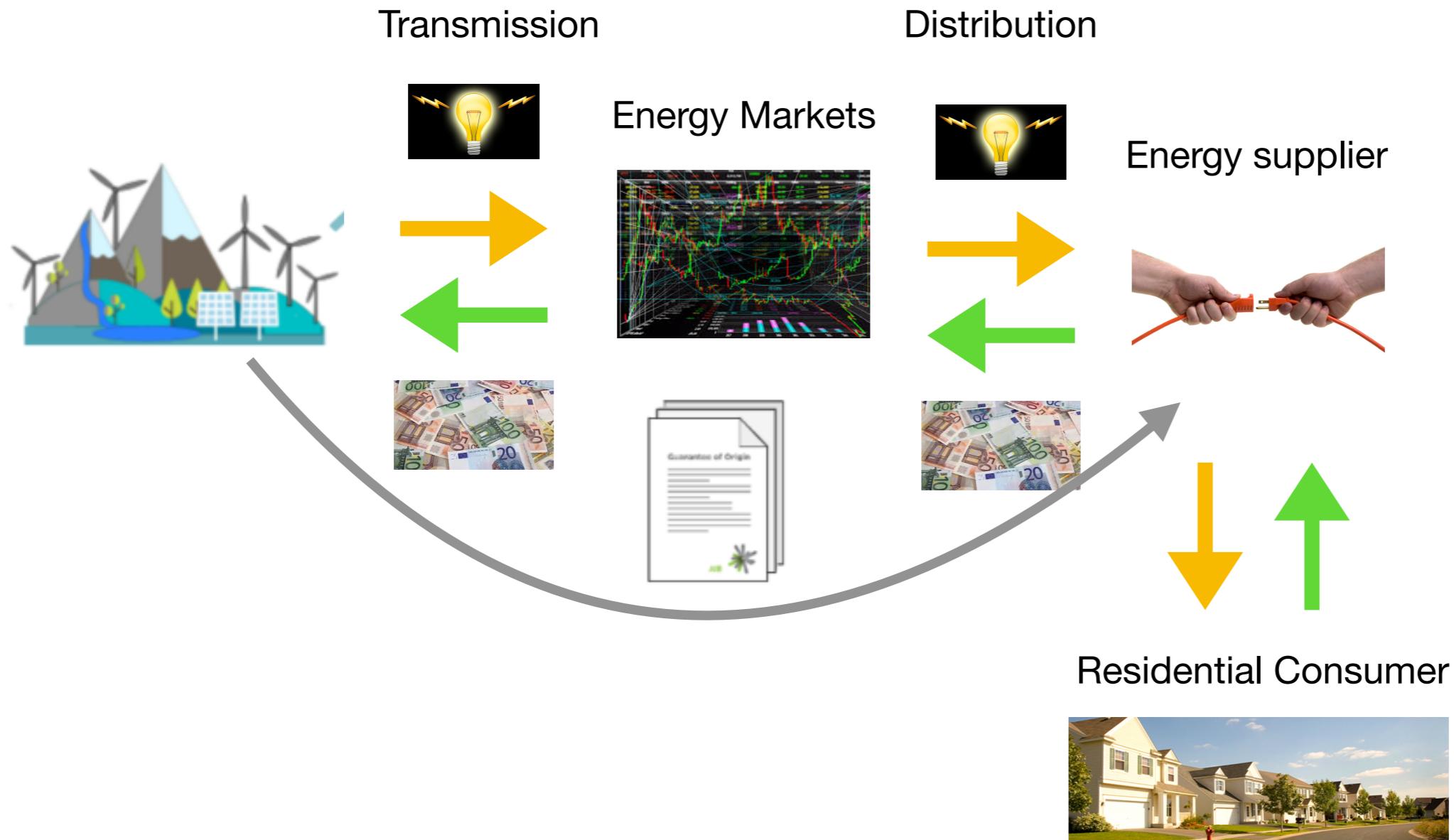
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Mix « green » to « green » market offer



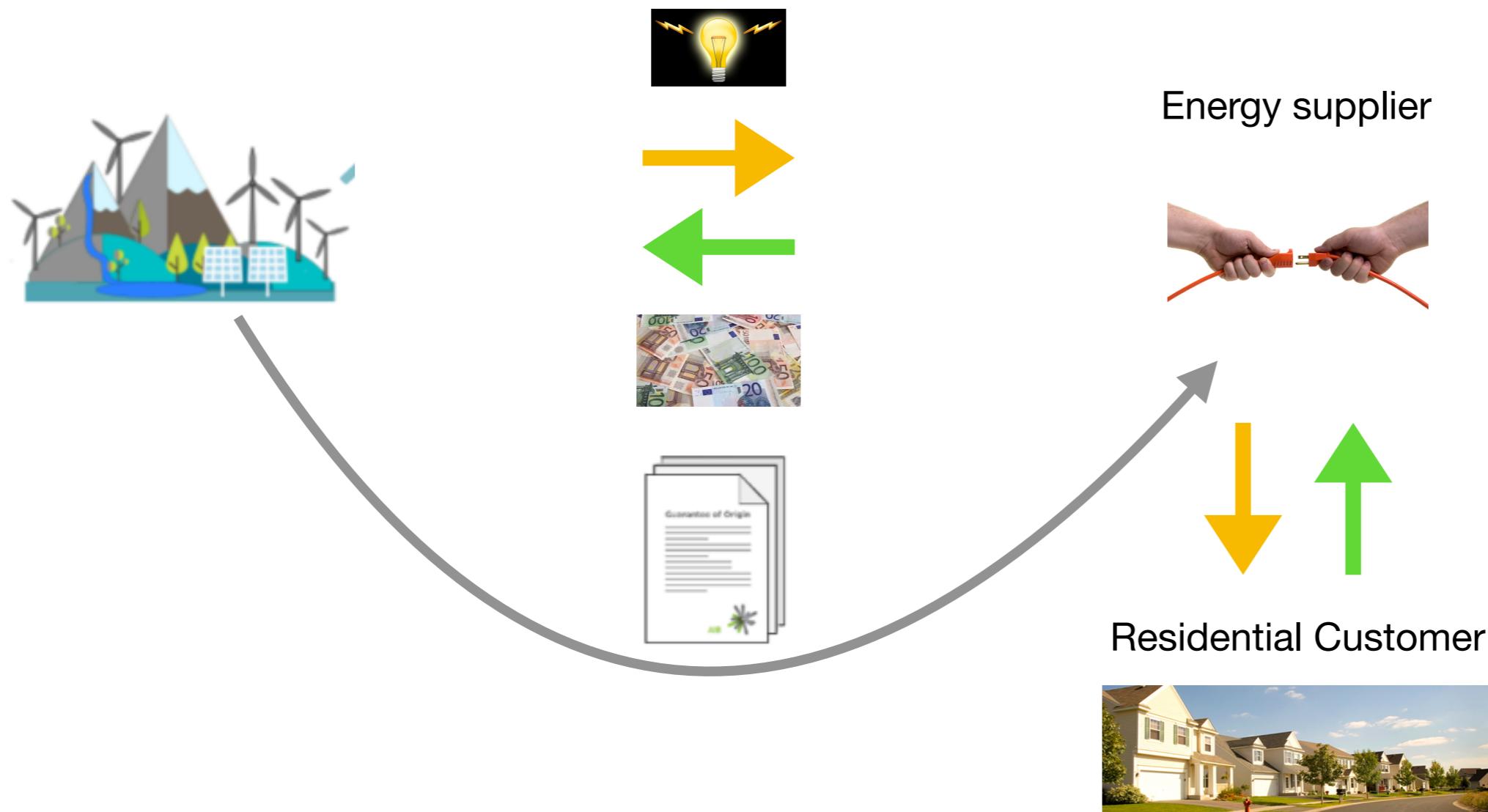
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« Green » market offer



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Direct « green » offer



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Small recap

How an **energy supplier** **builds** a residential electricity offer ?

- **direct** to the producer -> money into the pockets of the producer
- **market** based offer -> money to a lot of market players
- **mix direct - market** based offer

What is a « **green** » energy offer ?

- **Guarantees of Origin (GO)**



« green » does not mean low carbon footprint !!!

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Comparing energy suppliers

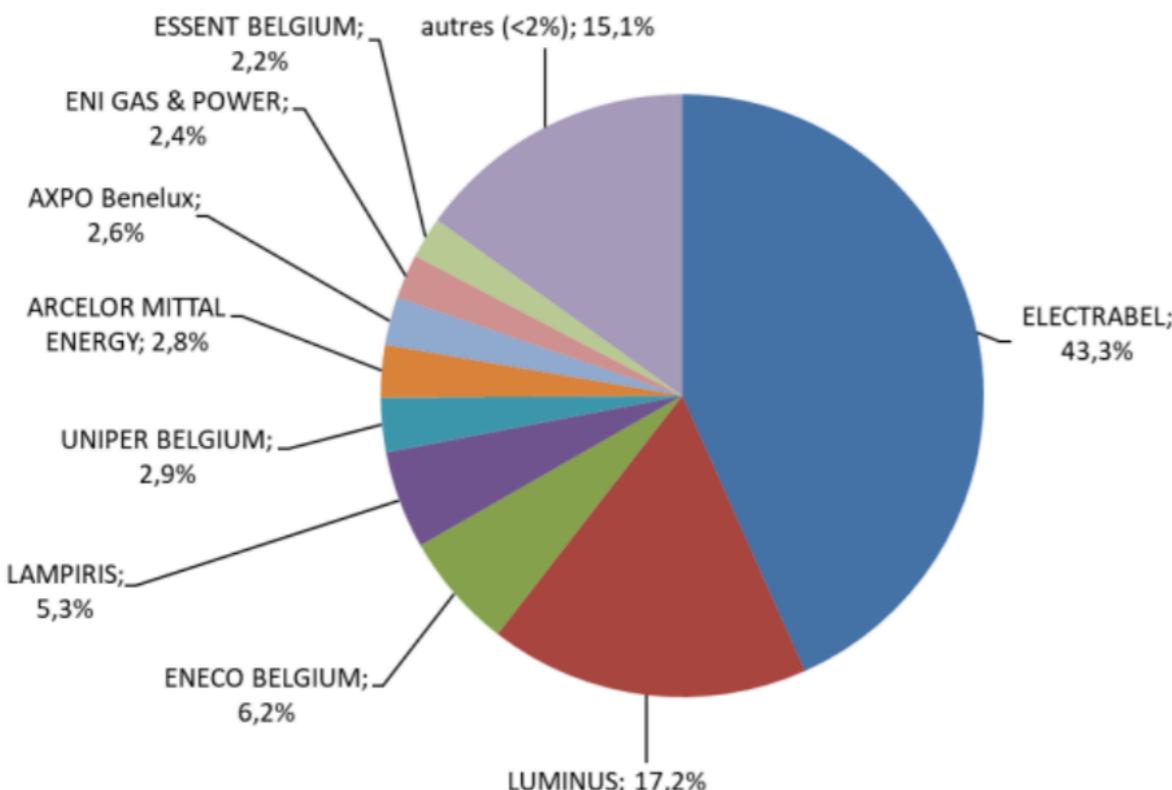
Société	Elec.	Gaz	Contact	Site
ANTARGAZ BELGIUM	V	V	Email	https://www.antargaz.be
BOLT (BOLT ENERGIE)	V	V	Email	https://www.boltenergie.be
COCTER	V		Email	http://www.cociter.be
ENECO BELGIUM	V	V	Formulaire	http://eneco.be
ENERGIE 2030	V	V	Email	http://www.energie2030.be
ENGIE - ELECTRABEL	V	V	Formulaire	https://www.engie-electrabel.be
ESSENT BELGIUM	V	V	Formulaire	https://www.essent.be
LAMPIRIS	V	V	Email	https://www.lampiris.be
LUMINUS	V	V	Email	http://www.luminus.be
OCTA+ ENERGIE	V	V	Formulaire	https://www.octaplus.be
MEGA (POWER ONLINE)	V	V	Email	http://www.mega.be
WATZ	V	V	Email	https://www.watz.be

Source: <https://www.cwape.be/?dir=2.1.03>

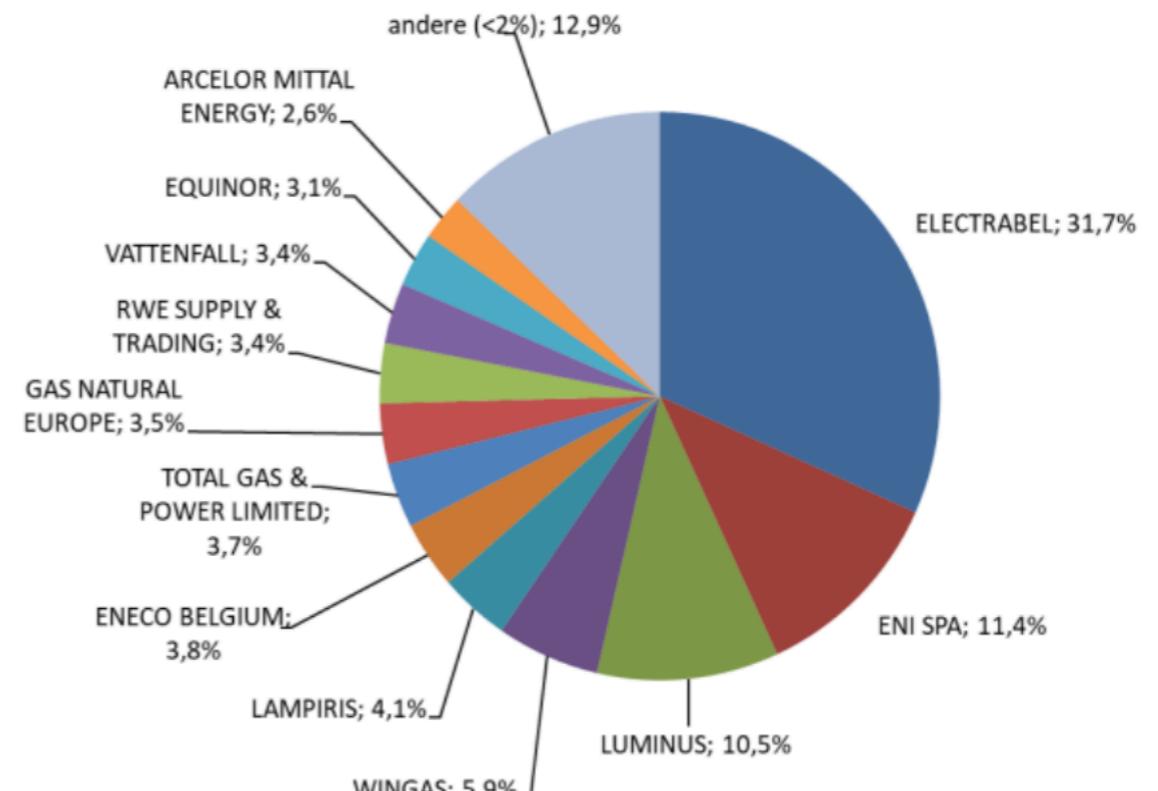
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Energy share per supplier

Electricity 2018



Gas 2018

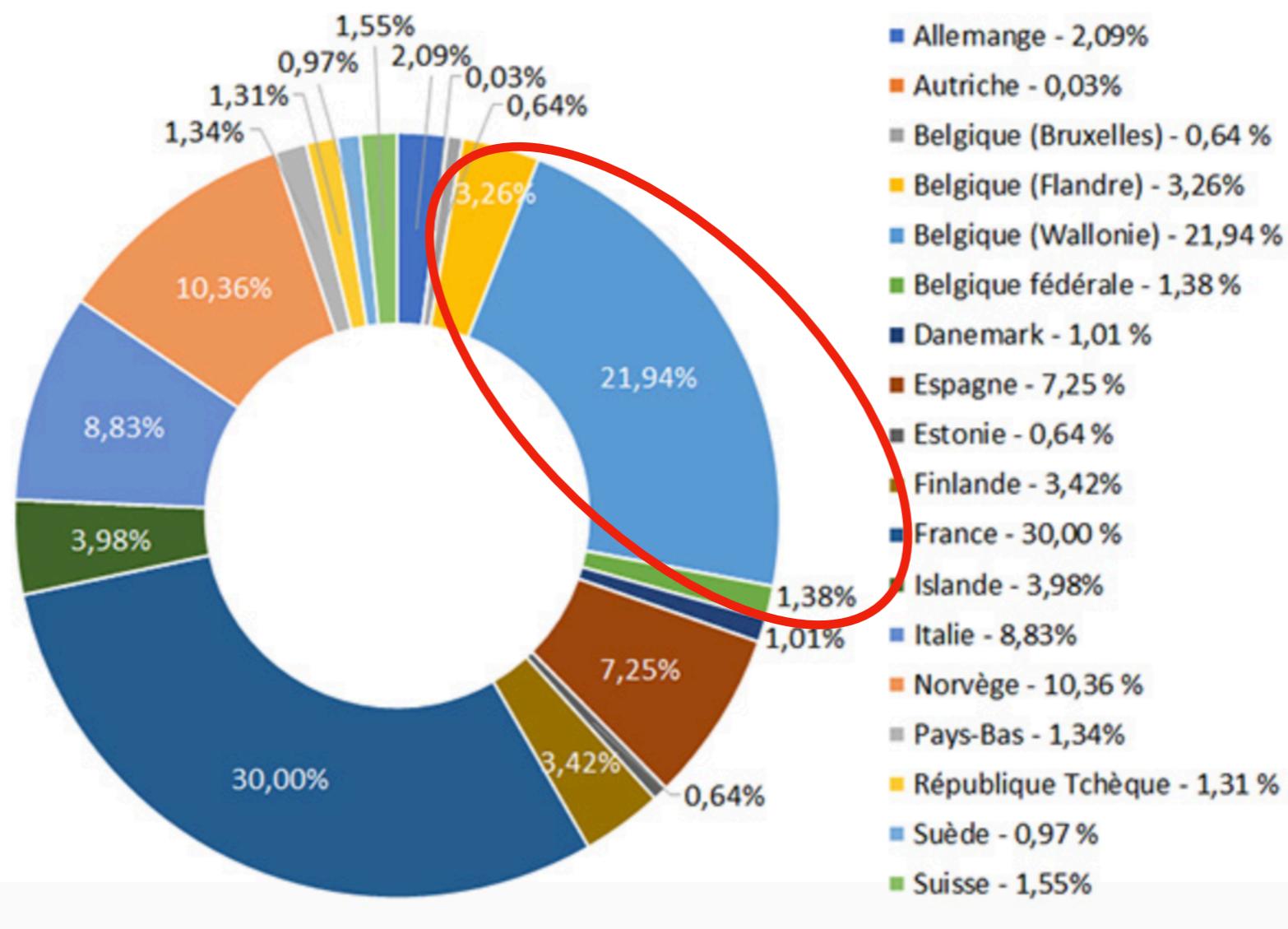


Source: <https://www.cwape.be/?dir=4&news=1032>

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Walloon 2019 GO distribution per country

30% GO from Belgium



Source: <https://www.cwape.be/?dir=4.12.1>

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Conclusion

It is impossible to compare energy suppliers on GOs ...

Some possible criteria:

- energy mix
- **carbon footprint** of the energy mix
- financial **transparency**
- **Belgian GO** vs GO from other countries, etc
- direct, market-based offer ?
- Etc



« green » does not mean low carbon footprint !!!

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Annex
