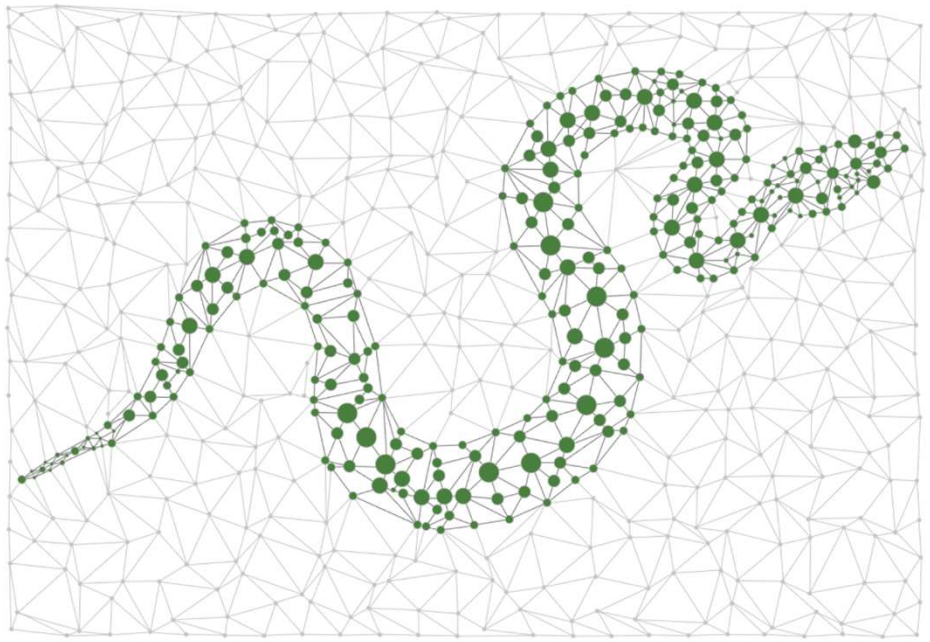
eFlower CO2 Forecast
22.03.2023

https://eflower.io

The leading provider for
electricity impact data

WIDE COMPETENCES FOR THE ENERGY TRANSITION



In partnership with Pythonian

- IT developers
- Statisticians
- Meteoroligsts
- Hydrologists
- Power market experts

OUR PRODUCTS

Timeseries Refinery

An Open Source data management platform to collect, clean, assemble time series, automate tasks and model calculations, calibration and backtesting.

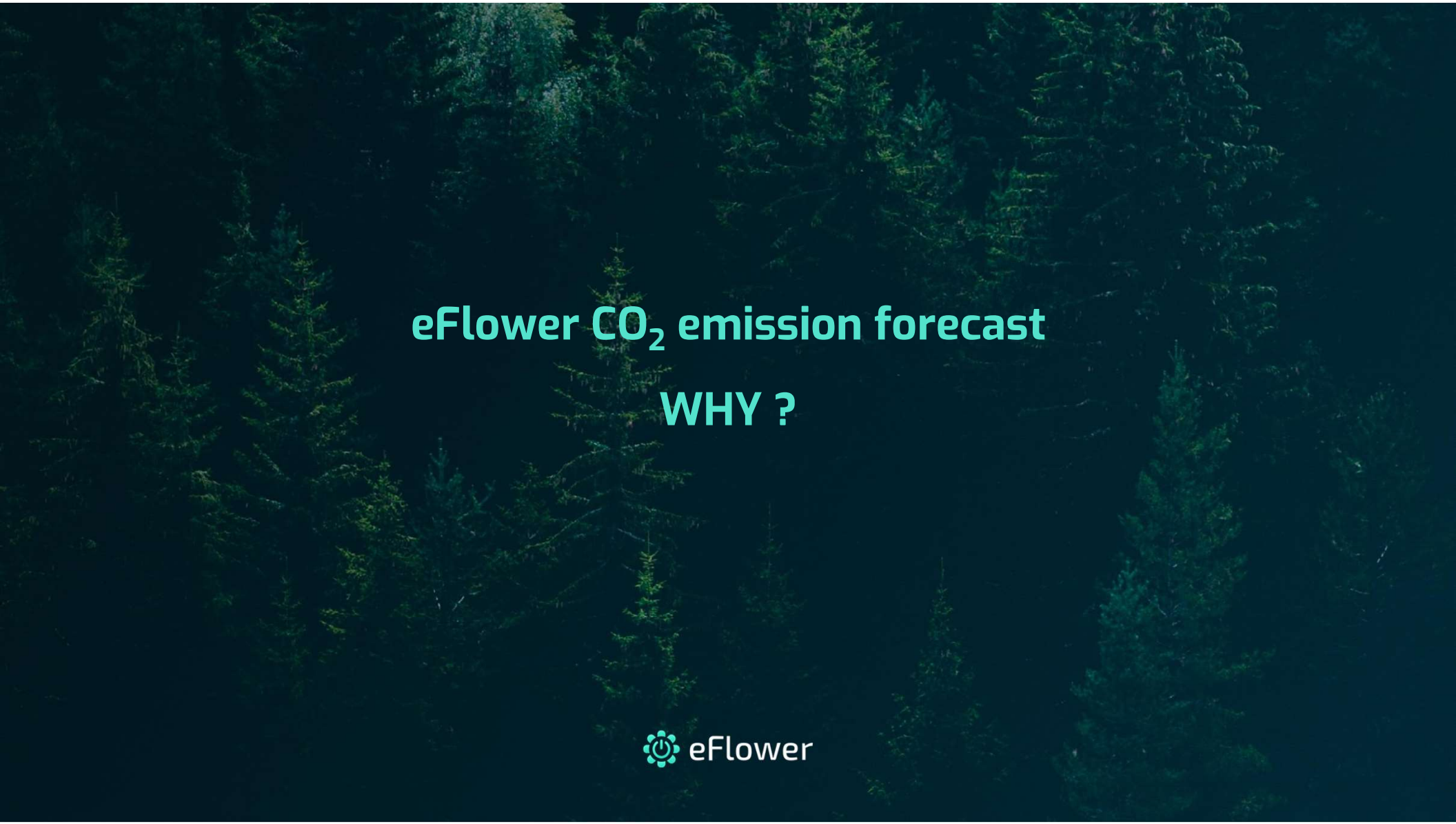
Data Forecast

An API for B2B as a tool to access weather forecast, power price forecasts, marginal technology forecast and marginal CO_2 forecasts for demand response

CO2 Electricity forecast

(Demonstrator)

A mobile APP to help B2C customers modify consumption behaviour


eFlower CO_2 emission forecast
WHY ?
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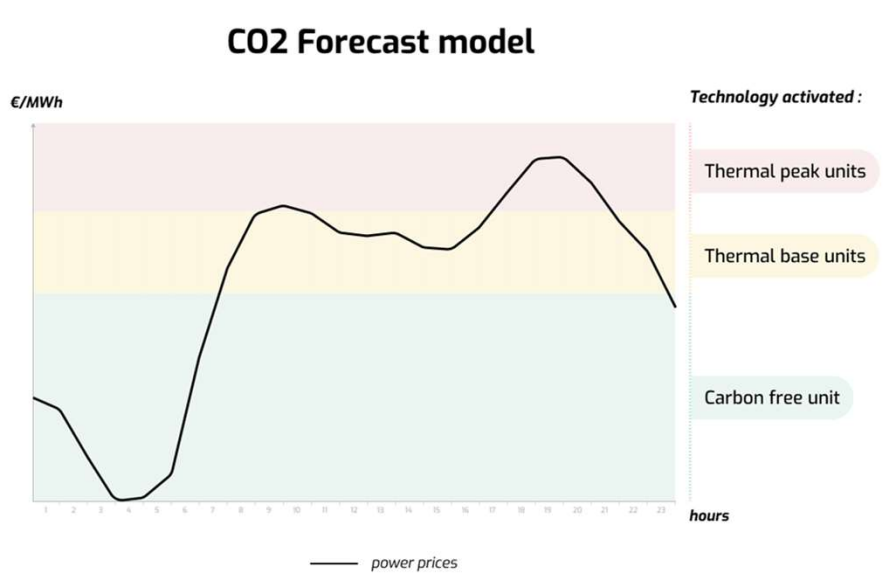
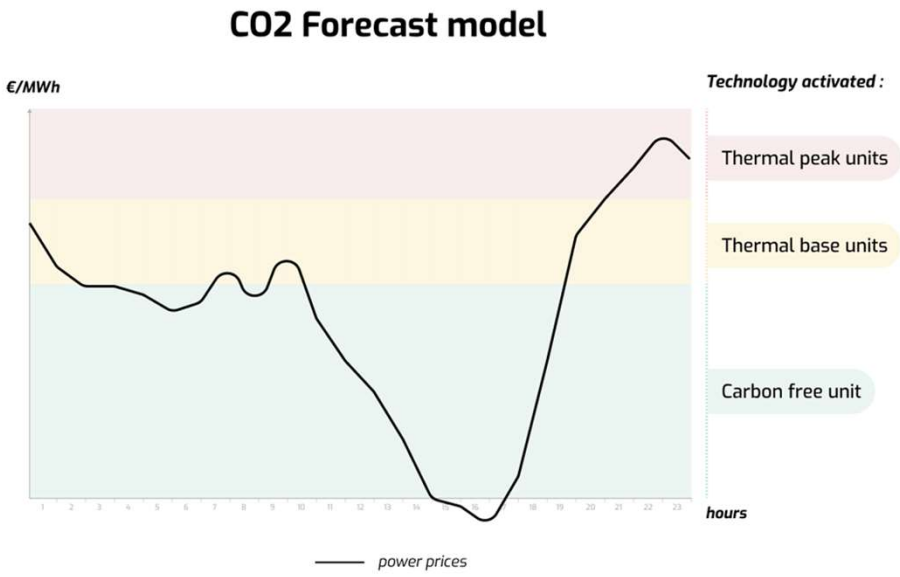
AT THE HEART OF OUR SOLUTIONS, AN OBSERVATION :

Wind & solar production have changed the game !



Before



Now

ECONOMICAL INCENTIVES HAVE LIMITS

1. End **consumers** are mostly **not exposed to dynamic pricing in EU**

*Classical **peak / off-peak pricing are obsolete** with increasing wind and solar production.*

2. Consumers **cannot manage highly volatile prices**, it **frightens**, lack of **pedagogy, technology, services & trust.**

3. The **majority of consumers are not exposed to prices at all !**

Ex :In households there is only 1 person responsible for the bill … who generally doesn't even know his electricity cost


eFlower CO_2 emissions
B2C use case
eFlower

A BUSINESS OPPORTUNITY

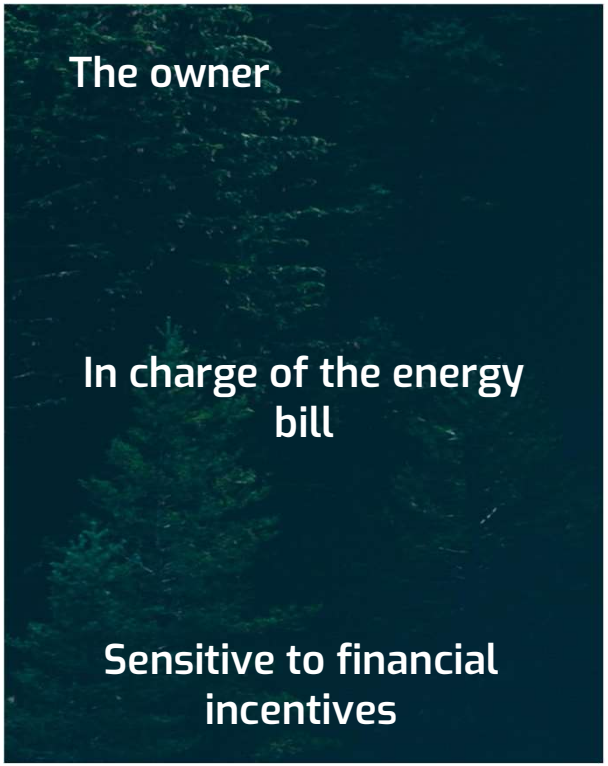
- **High incentive in carbon reduction for behaviour changes**.
- **strong correlation between wholesale market prices and marginal CO_2 emissions**.
- **Methodology is « Dynamic Pricing » ready**
- **Consumers who modify their behavior are cheaper**

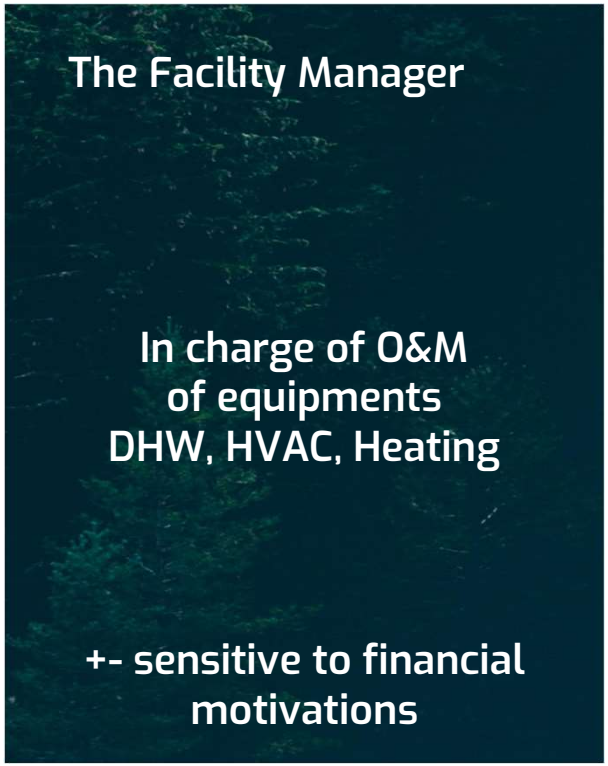
ENGIE Trusts us

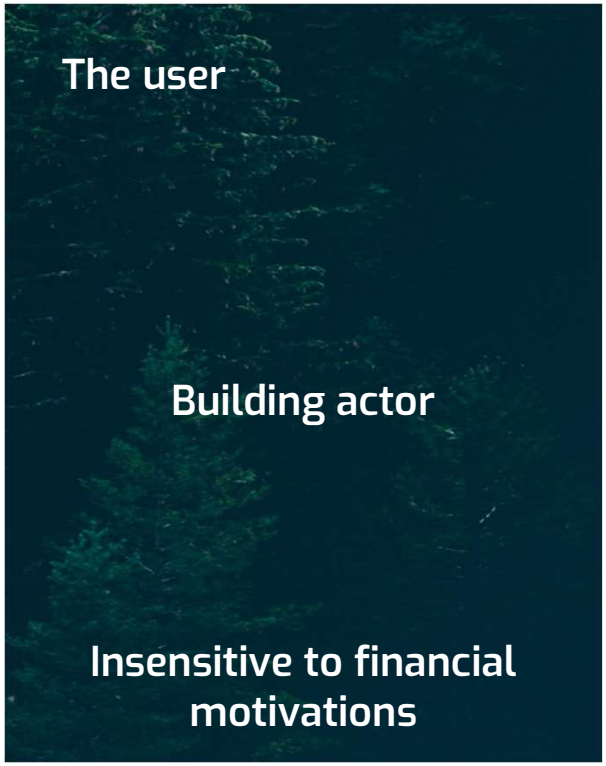

eFlower CO_2 emissions
B2B use case
eFlower

BUILDINGS: A MULTILEVEL ECOSYSTEM

The environmental communication from eFlower aligns the interests of the whole ecosystem.







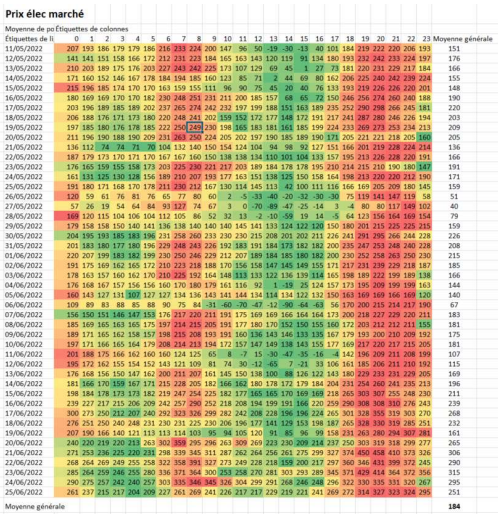
EXAMPLE : OPTIMIZING THE CONSUMPTION OF A COMPANY

Reference :
Company in Belgium
Study over 46 days
Consumption of 700 kw/h on average *(6GWh/year)*
Equipped with solar panels

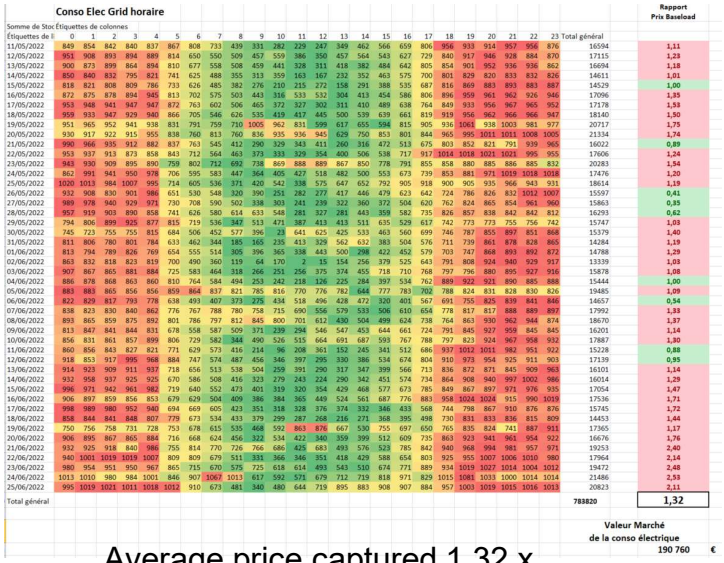
Estimated opportunity:
(Cal 24 @ 22/02/2023 = 133,85 €/MWh)

- 344 k€/year on an energy share of 1,1 M€/year
- 313 tons CO_2 / year on pillar B

Wholesale power market price

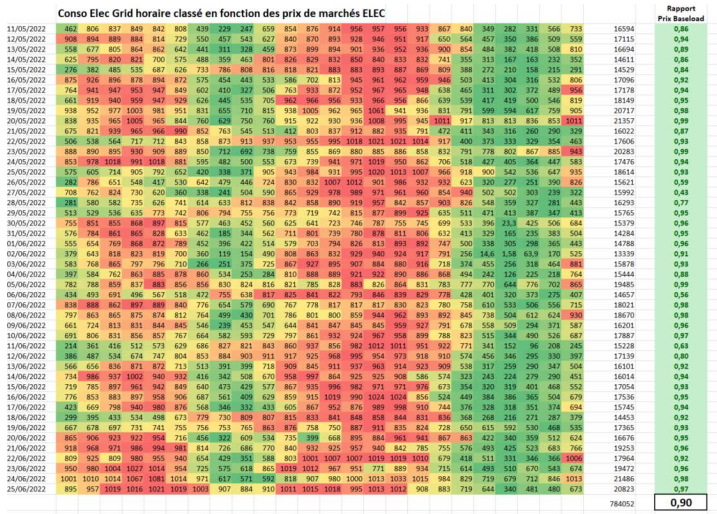


Electric consumption



Average price captured 1,32 x baseload

Optimized electricity consumption



Average price captured 0,9 x baseload

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GEOGRAPHIC COVERAGE

Marginal CO_2 emission forecast for demand response across 12 countries in Europe

FR, BE, NL, DE, AT, DK, ES, IT, HU, CH, GR, PT

Power systems are screened daily by automatic algorithms to produce best forecast estimations of marginal CO_2 emissions


eFlower Model
HOW ?
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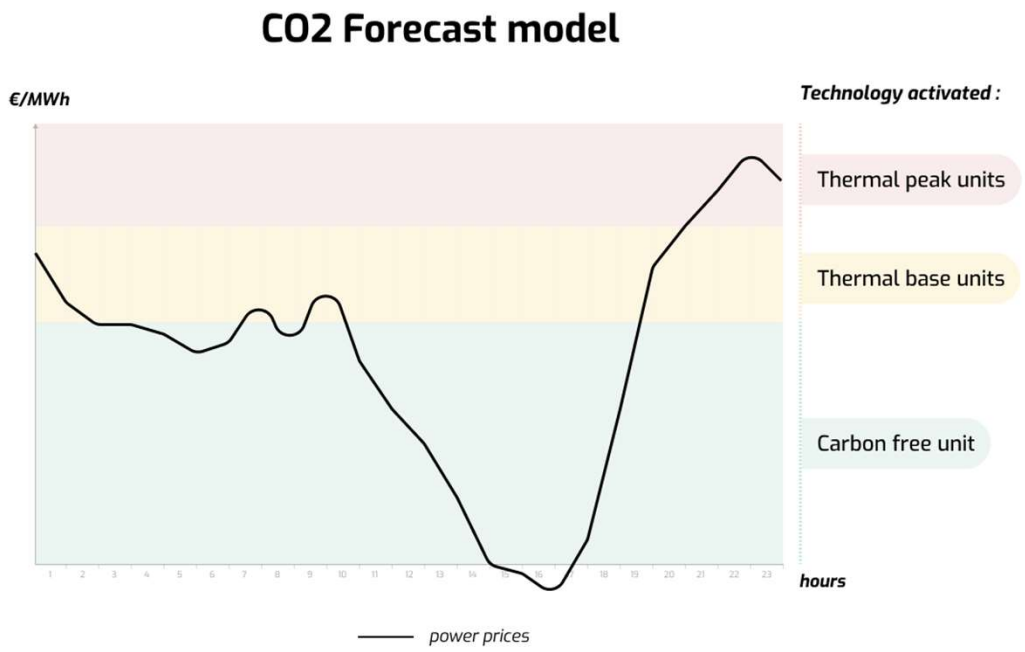
MARGINAL CO2 EMISSIONS DERIVED FROM A MARKET BASED MODEL

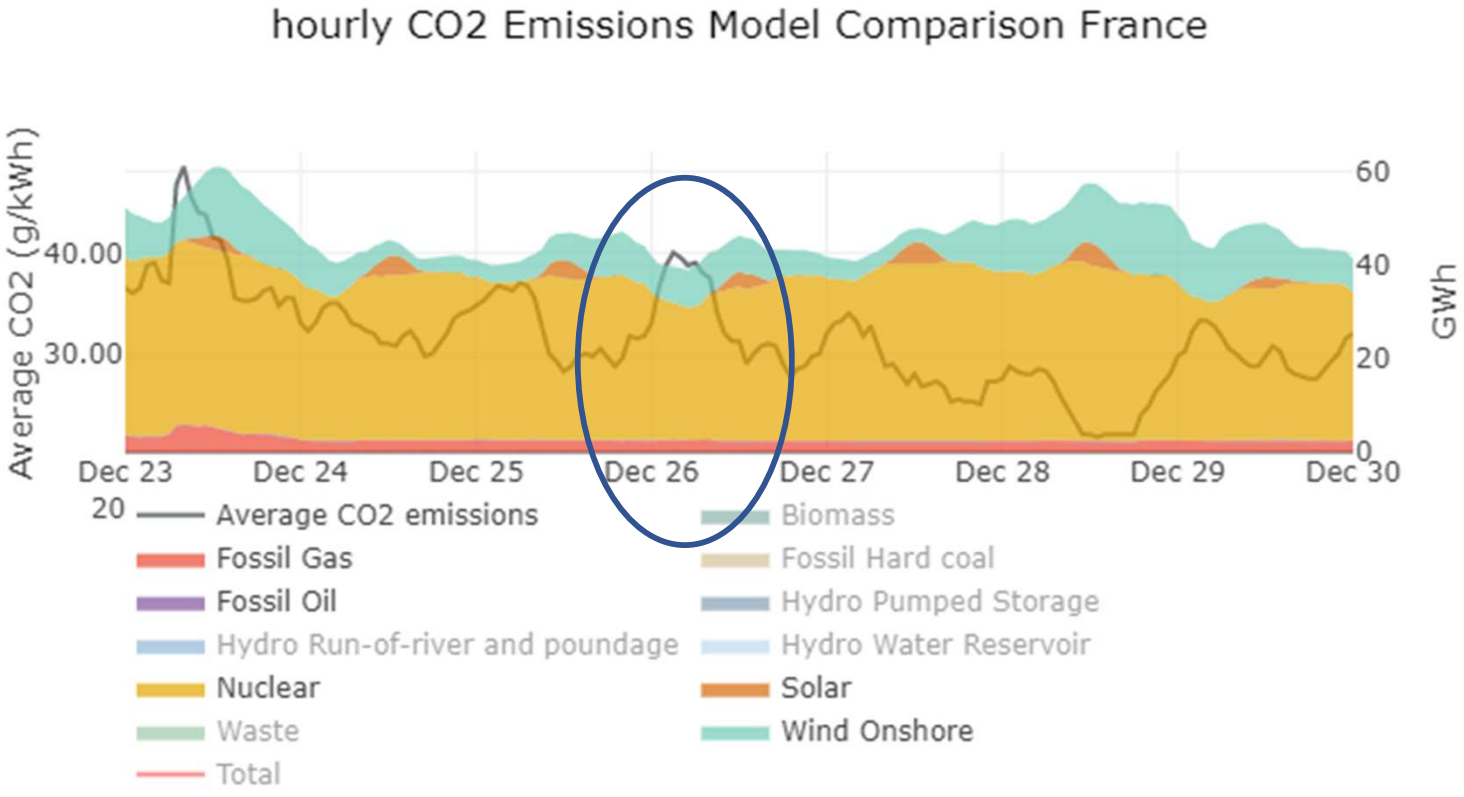
Replicating the dispatch decision process to identify the marginal technology guarantees the coherence of **correct environmental incentives with the interests of the grid and overall economy.**



MARGINAL CO2 EMISSIONS DERIVED FROM A MARKET BASED MODEL

Average CO2 emission forecast cannot be used as incentive for Demand Response

(RTE/Electricity MAP/BARRY are confusing incentives)



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B2C communication
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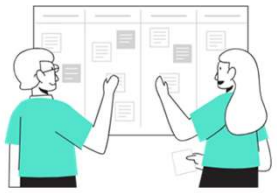
METHODOLOGY COMPATIBLE WITH 100% GREEN SUPPLY



Supplier's efforts

Power provided from 100% renewable energy

+

Consumer's efforts

Behaviour change with impact on the global power system

=

< Emission Reductions

Avoided CO_2 emissions

METHODOLOGY COMPATIBLE WITH 100% GREEN SUPPLY

Supplier's efforts

+

Consumer's efforts

=

< Emission Reductions

When renewable power is not consumed it is nevertheless injected in the power system and help reduce carbon emissions from the power system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B2B extra-financial communication
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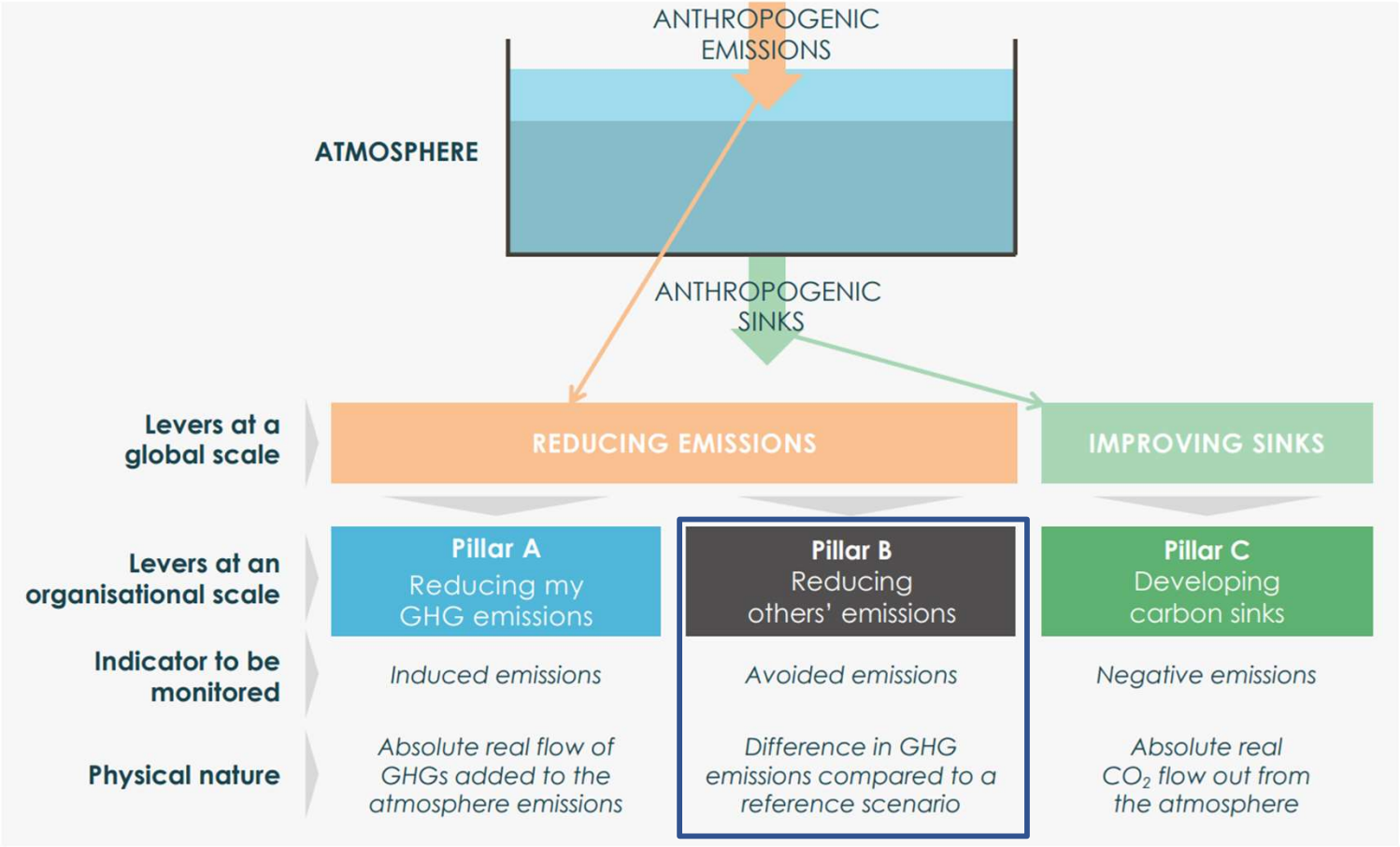
CO_2 Reporting on Pilar B of Net Zero methodology

carbone4



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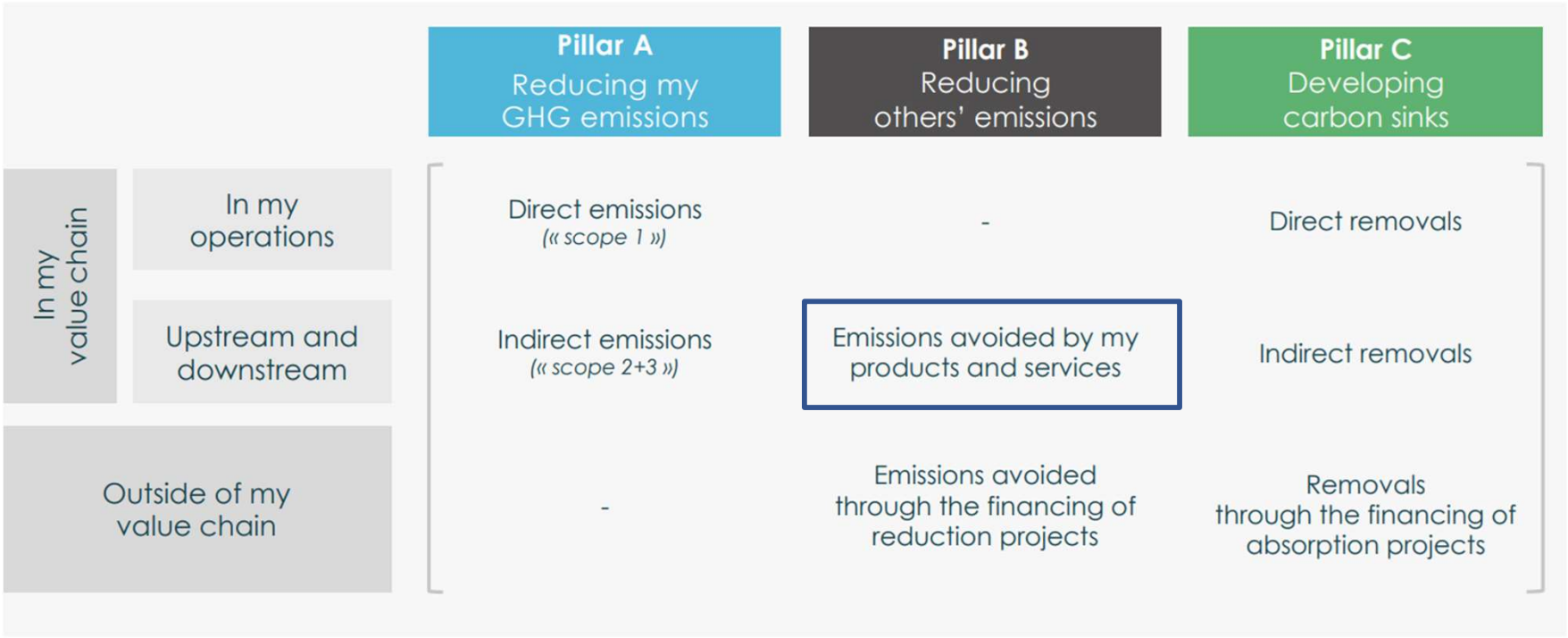
CO_2 Reporting on Pilar B of Net Zero methodology

carbone4



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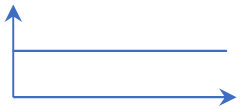
EXAMPLE

Reference :
system average CO2 emission (FR) = 50 g/kWh
marginal CO2 emission (CCGT) = 350 g/kWh



Situation 1: total consumption = 10 kWh

Situation 2: total consumption = 9 kWh

GHG Protocol	500 g CO2 (= 10 x 50)	450 g CO2 (= 9 x 50)
+		
eFlower reporting	- 0 g CO2 (= - 0 x 350)	- 350 g CO2 (= -(10 – 9) x 350)
=		
Global CO2 impact	500 g CO2	450 g CO2 *"Induced" Pillar A* ***Mandatory GHG standard*** – 350 g CO2 *"Avoided" Pillar B* ***Voluntary basis***

eFlower

Why us?

Good for your clients

Highly empower their efforts with concrete feedback

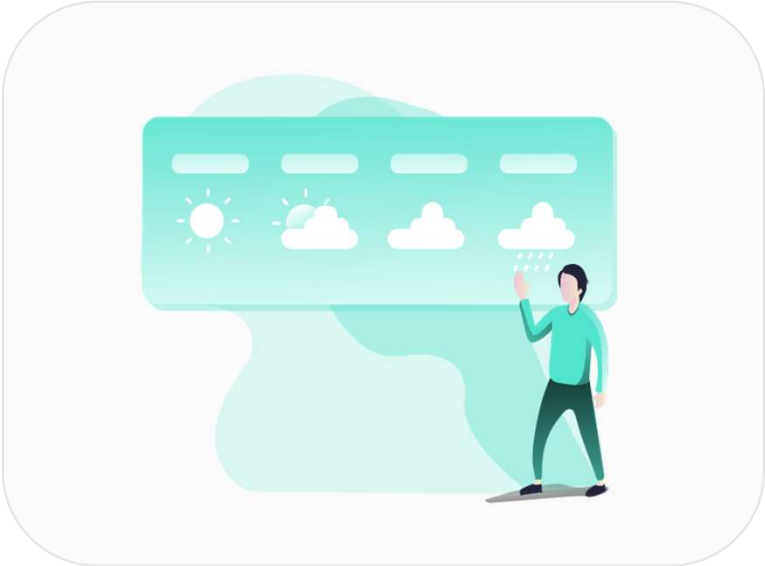
Good for your business

Improve your power sourcing and valorize the flexibility

Good for the planet

Onboard all the stakeholders behind a common goal

CONTACT



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