



# COLLECTIVE SELF CONSUMPTION OVERVIEW IN FRANCE

MARCH 2<sup>nd</sup> 2021

- Libre
- Interne
- Restreinte
- Confidentielle

# AGENDA

1. INTRODUCTION
2. SELF CONSUMPTION PRINCIPLES
3. INDIVIDUAL VS COLLECTIVE SELF CONSUMPTION (CSC)
4. LEGAL AND REGULATORY FRAMEWORK OF THE CSC
5. STAKEHOLDERS INVOLVED IN A CSC OPERATION
6. PMO AND CONTRACT FRAMEWORK
7. KEY FIGURES AND USE CASES
8. EVOLUTION AND PERSPECTIVES

# 1. INTRODUCTION

## The Green Transition : *more than a promise, a reality*

### Rising social expectations

*More renewables, citizen empowerment,  
local distribution channel, ...*

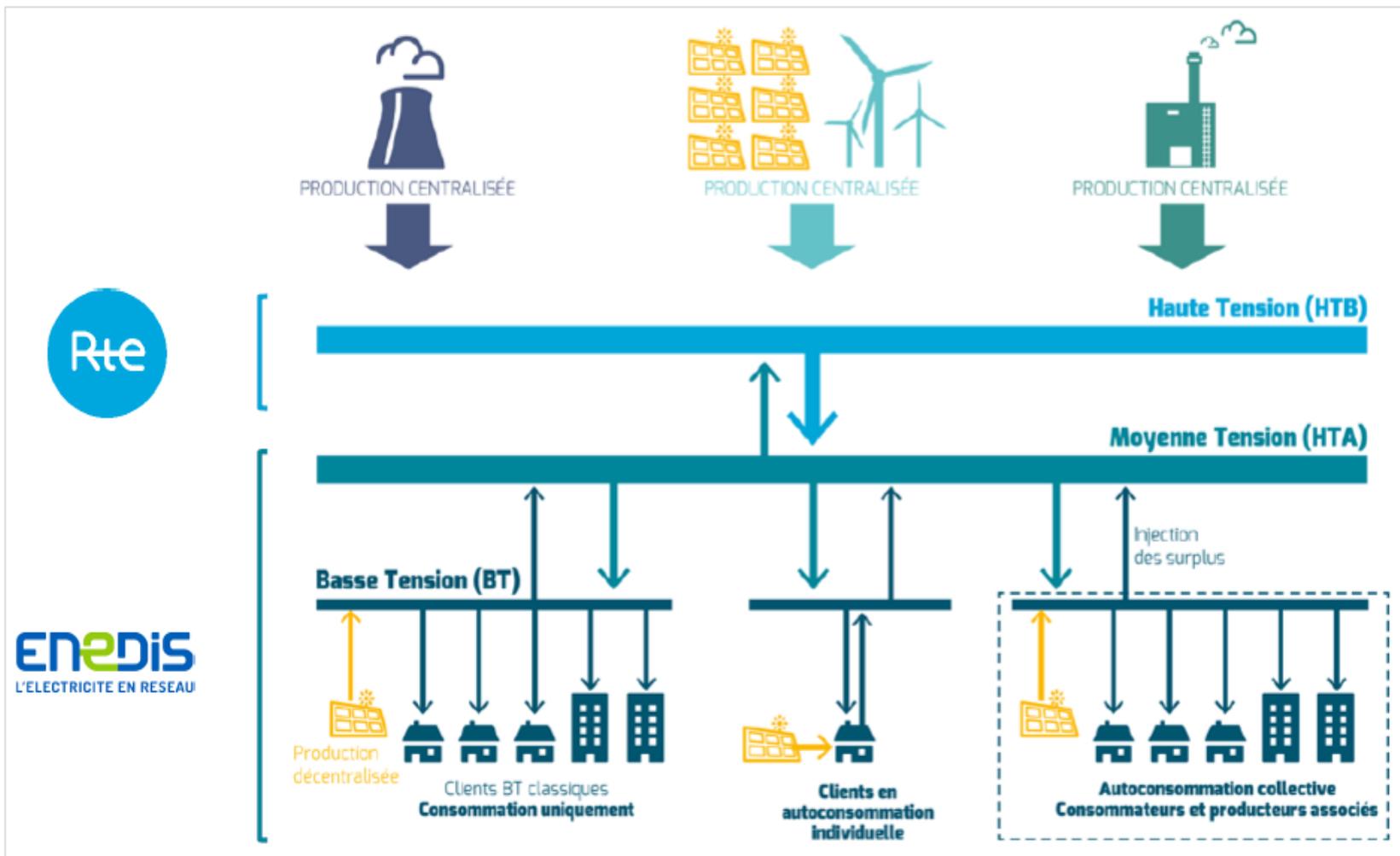
### A proactive policy

*Energy Transition Law, Energy and Climate  
Law, Clean Energy Package, ...*

**Enedis and  
the Industrial & Human Project**  
*Strengthen our know-how at the service of  
the Green Transition*



## 2. SELF-CONSUMPTION PRINCIPLES



Whether it is individual or collective, self-consumption is a growing way of consuming energy that is locally produced.

**Main added values of self-consumption**

- +Savings on the energy bill*
- +More choice for the final customer*
- +Green Transition for local authorities*

# 3. COLLECTIVE VS INDIVIDUAL SELF CONSUMPTION (CSC)

1

## Individual self-consumption (ISC)



### Network

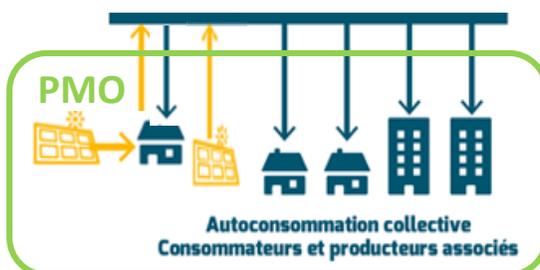
- The public grid does not see the energy that is 'self-consumed' by the user, only the surplus is injected into the public distribution network.

### Finance

- No supply nor distribution billing on the self-consumed part
- Feed-in tariffs and renewable obligation certificates qualified

2

## Collective self-consumption (CSC)



### Network

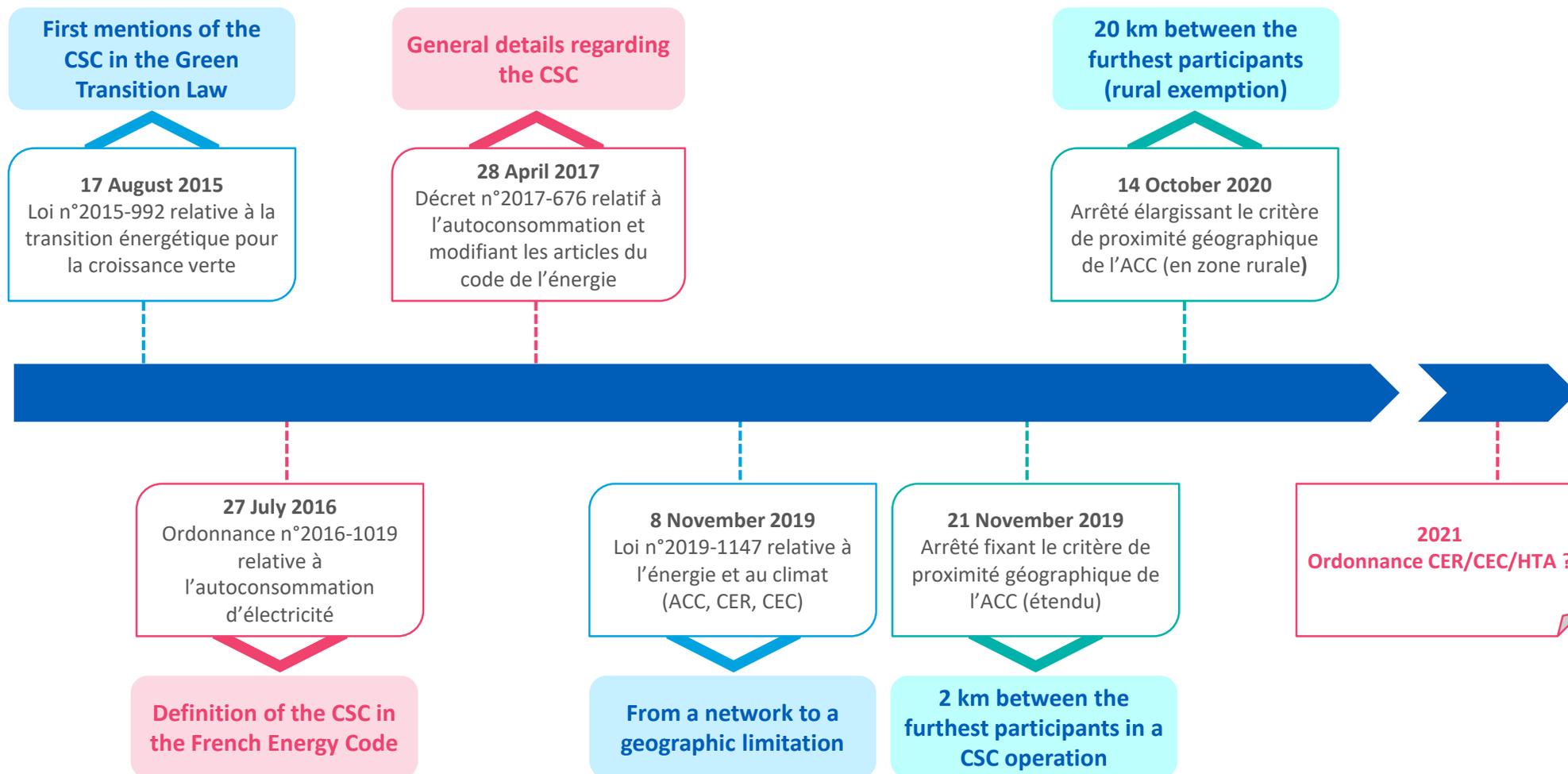
- All the streams, including the self-consumed ones (from the local production), pass through the public grid.

### Finance

- Distribution billing on self-consumed and allo-consumed parts of the bill
- Opportunity to subscribe to a specific distribution tariff
- Not yet qualified to feed-in tariffs and renewable obligation certificates

Thanks to an increasing demand in local distribution channel, combined with a growing rate of citizens willing to consume greener and responsibly, the collective self-consumption model represents a promising solution to reach these expectations.

## 4. LEGISLATION AND REGULATION OF THE CSC



Since 2015, the French regulatory framework regarding the CSC has regularly evolved. The last years were characterised by the implementation of significant measures in order to stimulate the development of the CSC in France.

## 4. LEGISLATION AND REGULATION OF THE CSC



RÉPUBLIQUE  
FRANÇAISE

*Liberté  
Égalité  
Fraternité*

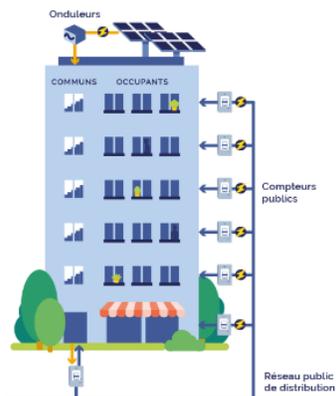
### Article L315-2 of the French Energy Code

- The self-consumption operation is collective when the electricity supply is made between **one or several producers and one or several consumers, gathered through a legal person. Injection and consumption points are located in the same building**, including residential properties.
- A collective self-consumption operation can be qualified as **'extended'** when the electricity supply is made between one or several producers and one or several consumers, gathered through a legal person. **Injection and consumption points are located on the low voltage network**, and must respect several criteria, **especially geographic proximity**, set by the Energy minister.

## 4. THE TWO MODELS OF CSC OPERATIONS

1

### Same building



- ✓ In a same building
- ✓ Distribution network (medium and low voltage)
- ✓ No power restrictions

2

### Extended area

#### Standard



- ✓ 2 km max between the furthest participants
- ✓ Distribution network (low voltage)
- ✓ 3 MW max of aggregated production

#### Rural exemption

- ✓ Special exemption delivered by the French Energy and Climate ministry
- ✓ 20 km between the furthest participants
- ✓ Provide supporting documents justifying the isolation of the project and the low population density of the area
- ✓ Distribution network (low voltage)
- ✓ 3 MW max of aggregated production

# 5. STAKEHOLDERS INVOLVED IN THE CSC OPERATIONS

## PARTICIPANTS



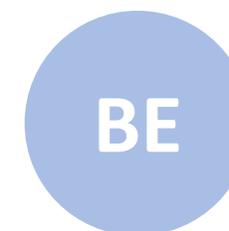
## PMO ASSISTANCE



*Legal consulting*



*Operational consulting*



*Design office*

## DSO



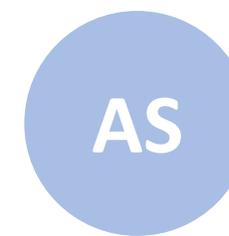
## LES ACTEURS DE MARCHÉ



*Suppliers*



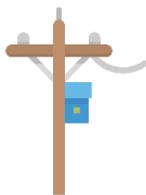
*Balance responsible entity*



*Surplus traders*

## 5. GRID ASPECTS AND LEGAL PERSON (PMO) FEATURES

### MAIN PREREQUISITES



All of the participants must be connected to the public distribution network (in standard conditions)



All of the participants must be equipped with smart meters (if not yet rolled-out, Enedis accelerates the deployment for the participant)

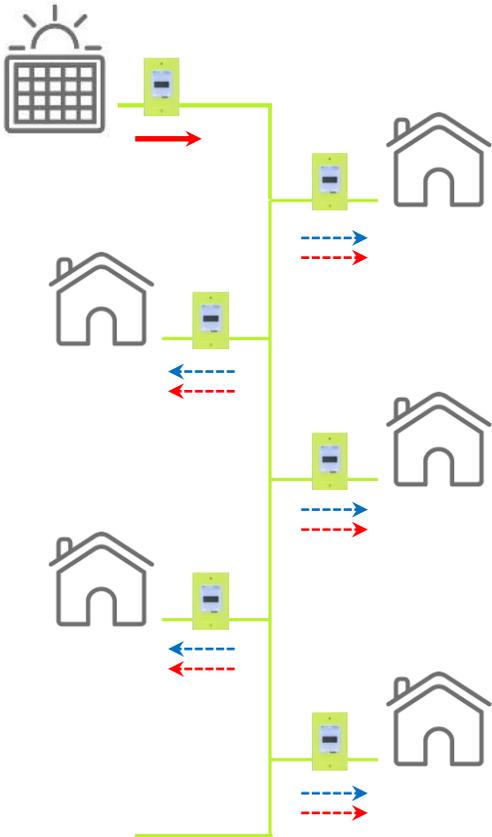


- All consumers must have a contract with a supplier
- All producers must have a contract with a balance responsible entity
- The PMO must sign a contract with Enedis

### THE PMO AND ITS LEGAL STRUCTURE

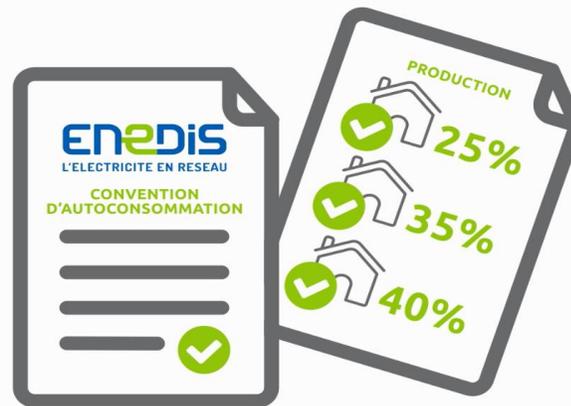
- ❖ All of the participants must be gathered through a legal person, also called PMO.
- ❖ The PMO does not have a specific and imposed legal structure. However, a legal balance needs to be found regarding the status of each entity and their compliance with the PMO activities.
- ❖ According to the type of operation, a legal analysis might be required to define the right legal structure of the PMO.
- ❖ The DSO ENEDIS does not provide the stakeholders with legal advice.

## 6. PMO and contract framework



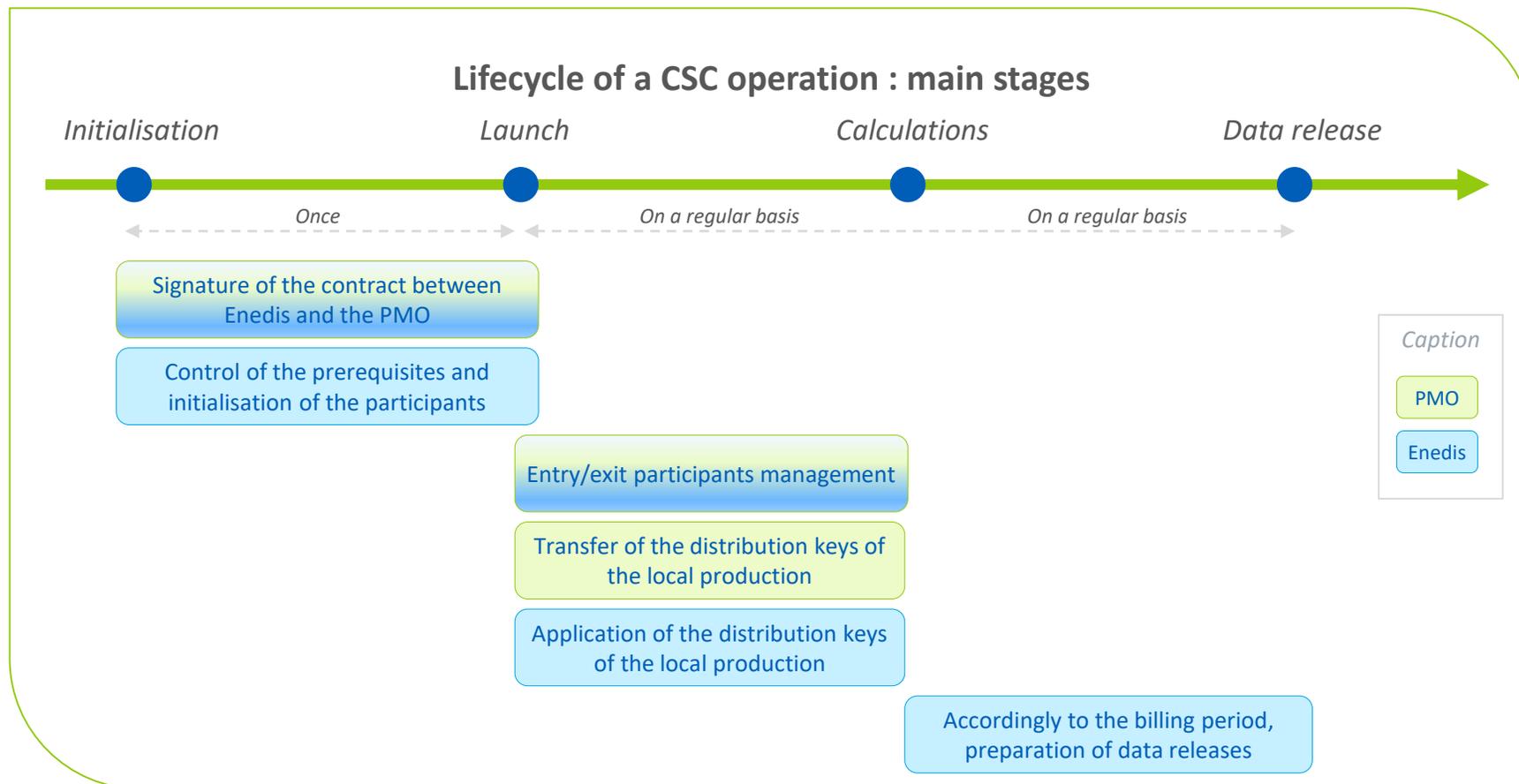
### The project is developed through:

- The creation of a legal entity, contractually binding producers (mainly PV) and consumers.
- The signature of a collective self-consumption contract between the legal entity and Enedis.

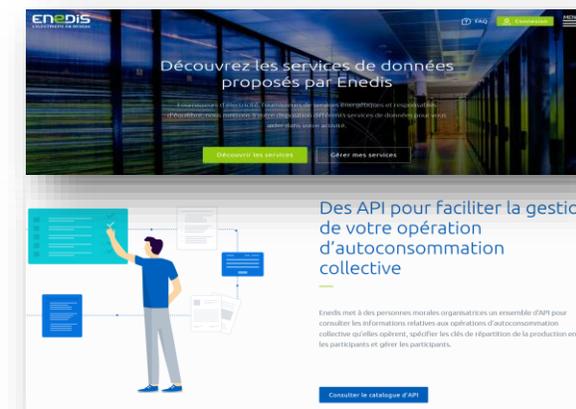


The collective self-consumption contract sets the practical details organizing the allocation (static or dynamic) of the electricity production between consumers.

## 6. PMO'S INTERACTIONS WITH ENEDIS



- ❖ In order to facilitate the access to the data of the CSC operation and ease the data transfers with the PMO, Enedis has developed a set of APIs on its portal [Enedis-datahub.fr](https://enedis-datahub.fr)



In close relationships with the PMO, Enedis assists the initialisation, the launch and the follow-up of the CSC operation. So as to simplify the data interactions with the PMO, Enedis improves its IS tools dedicated to the CSC and its interfaces destined to all types of PMO

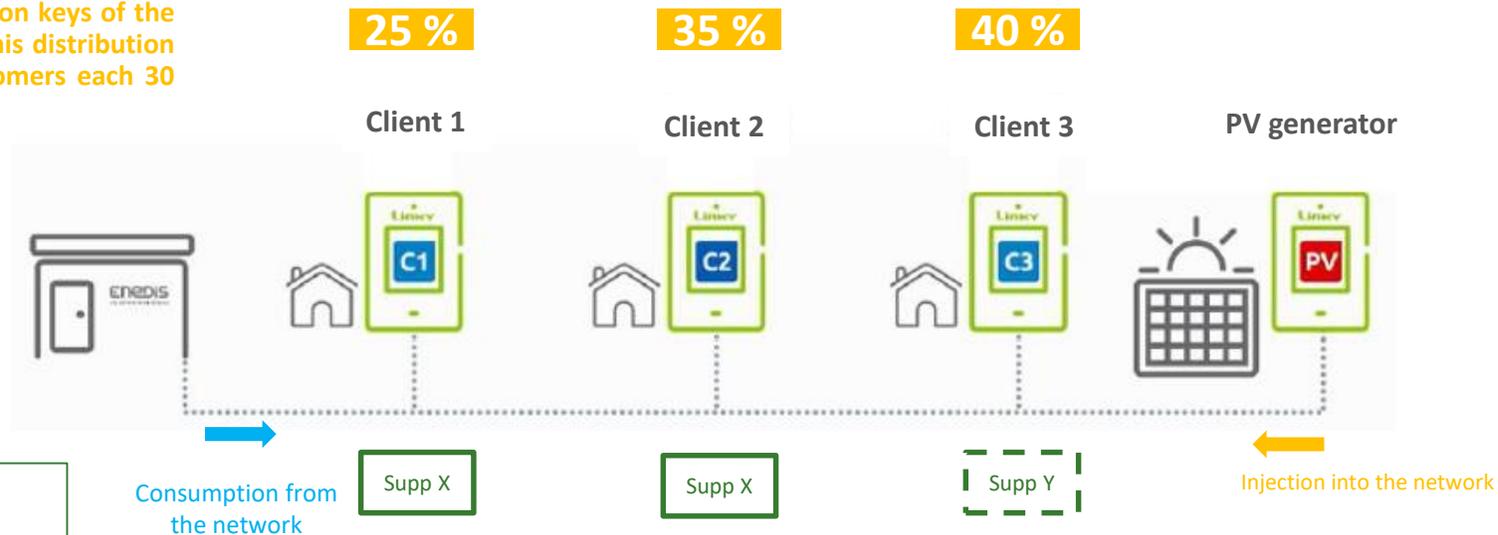
# 7. USE CASE : THE DISTRIBUTION OF PRODUCTION THROUGH THE CSC OPERATION

Each month.....

- ② The PMO sends the distribution keys of the local production to Enedis. This distribution must be applied to the customers each 30 minutes.

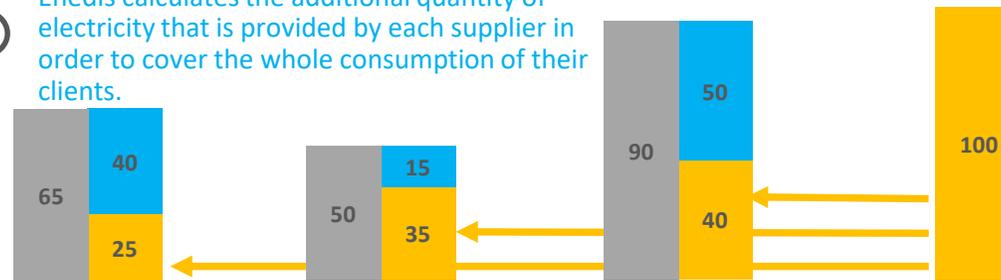


Example



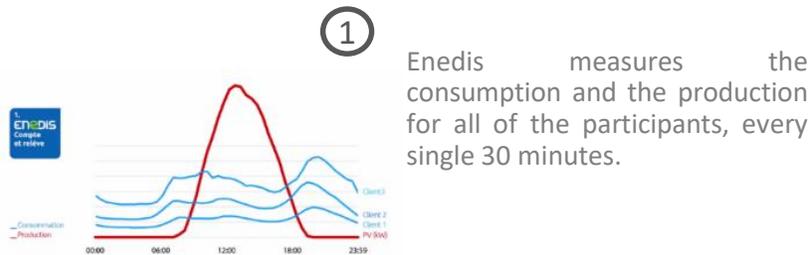
Liberty of choice of supplier for each customer (L.331-1 du Code de l'Énergie)  
The CSC is not an exception to this rule !

- ④ Enedis calculates the additional quantity of electricity that is provided by each supplier in order to cover the whole consumption of their clients.

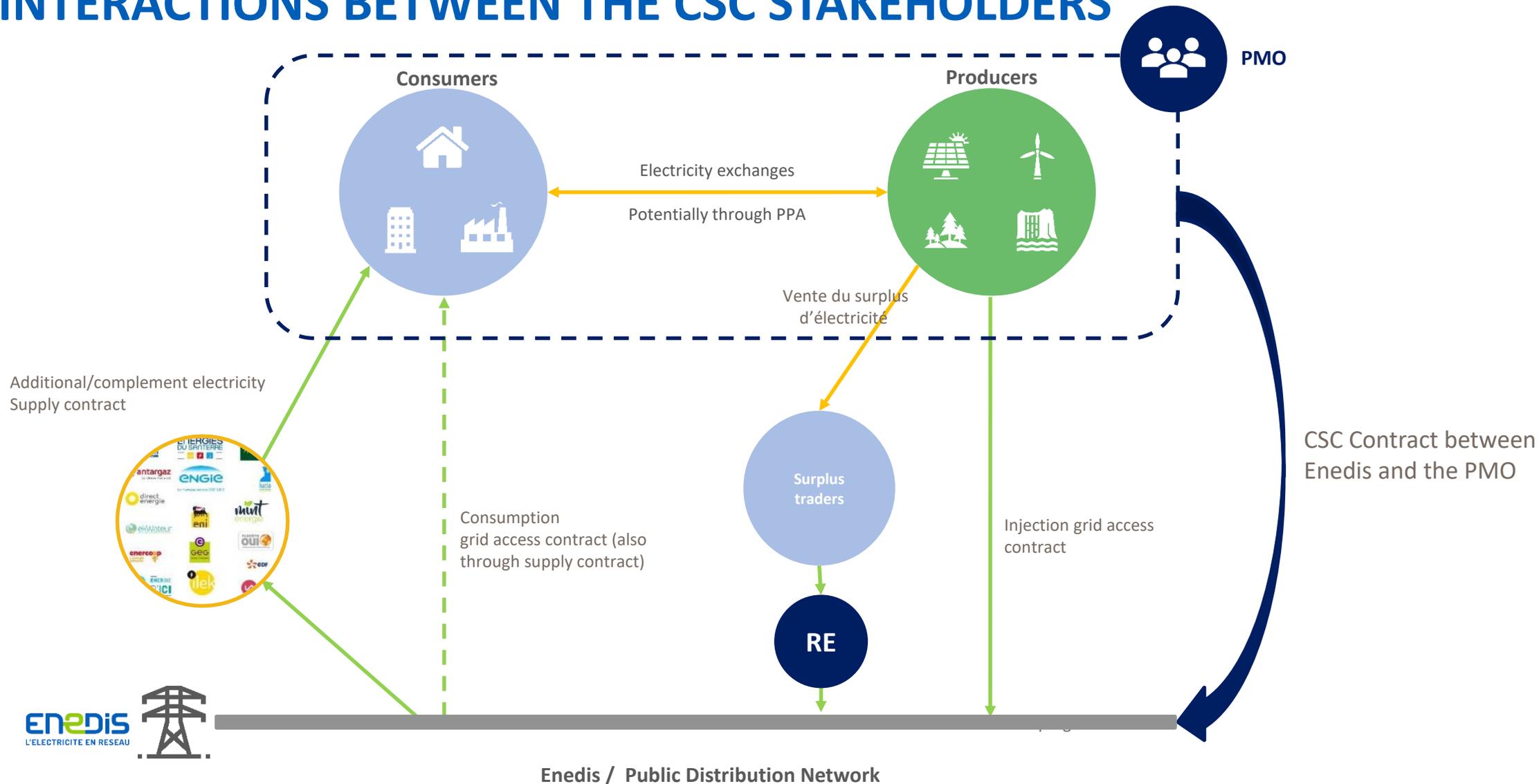


- ③ Every 30 minutes, Enedis applies the fraction of the production to each consumer of the operation, accordingly to the distribution keys sent by the PMO

- ⑤ Finally, each month, Enedis sends the relevant data (loads, ...) to the PMO, suppliers, producers and balance responsible entities.



# 7. INTERACTIONS BETWEEN THE CSC STAKEHOLDERS



Enedis / Public Distribution Network

## 7. CSC KEY FIGURES (as of January 2021)

41

Active CSC operations

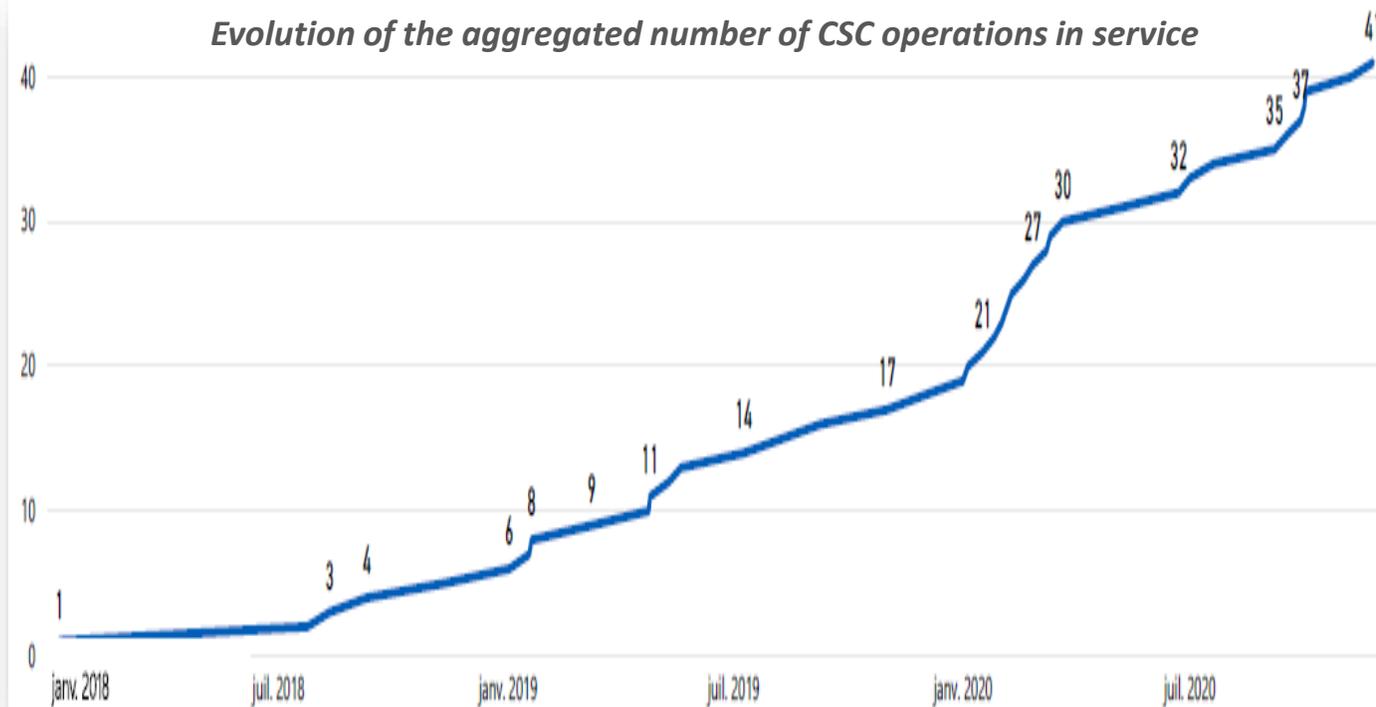
607

Participants  
78 producers  
529 customers

45

In project CSC operations

Evolution of the aggregated number of CSC operations in service

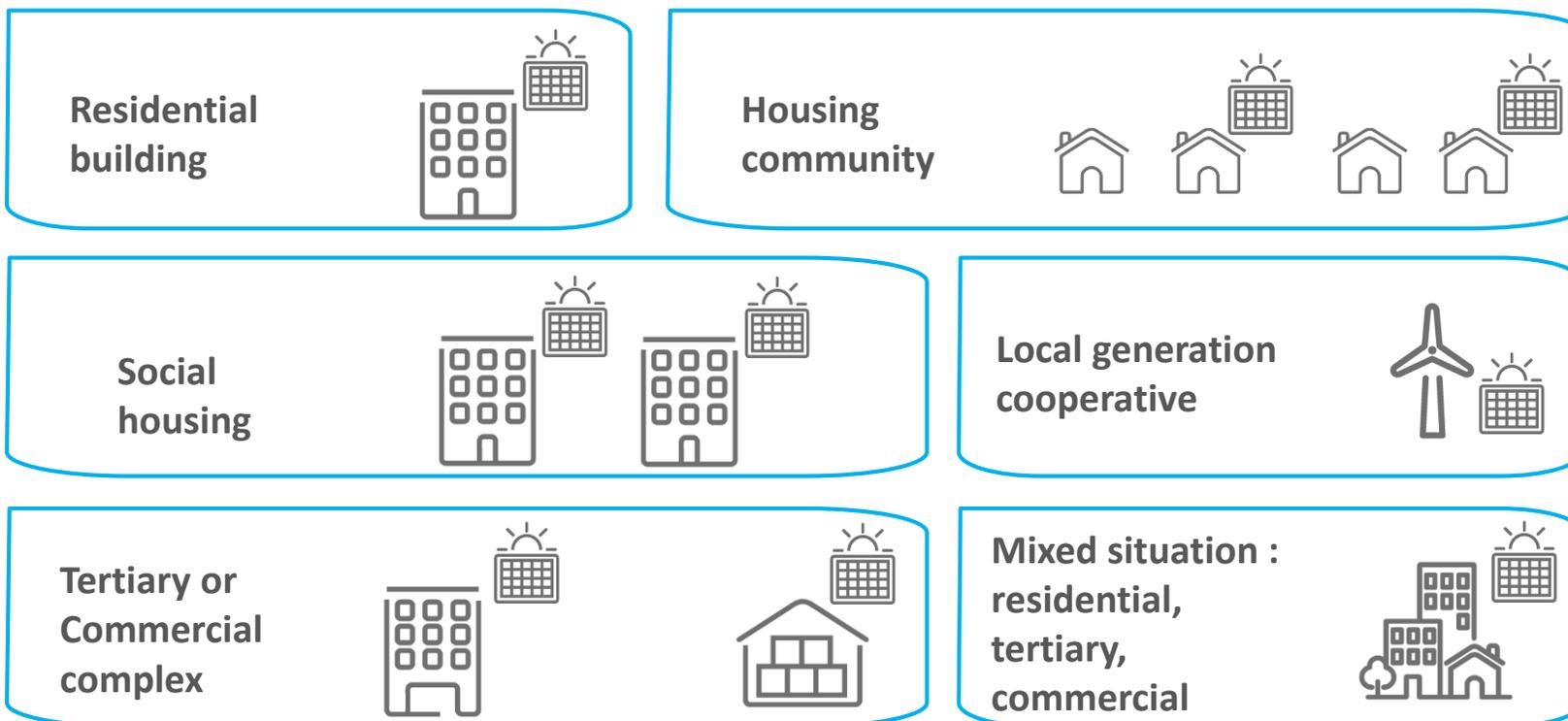


Despite of the health crisis in 2020, the number of CSC operations have more than doubled compared with 2019.

The latest regulatory evolutions, with the extension of the geographical perimeter and the opening of CSC operations to medium voltage, are likely to confirm this trend.

# 7. USE CASES OF CSC OPERATIONS IN FRANCE

Enedis' industrial solution can be adapted to different cases



# 8. HURDLES TO DEVELOPMENT AND EVOLUTION PERSPECTIVES

## Hurdles to development

### Finance

- *Contrary to Individual self-consumption which benefits from low tax regimes and subsidies (feed in tariffs, ROC, ...), CSC is not yet opened to these supporting mechanisms.*
- *Owing to this reason, it is difficult for producers to design their installations and make it profitable in decent payback periods.*
- *The surplus selling is also complex to forecast for them (intermittency of PV generation, ...)*

### Foisonnement

- *The distance criterion between the furthest participants (=2km) may be restrictive so as to enroll consumers and producers within the CSC operation.*
- *At the moment, medium voltage connected sites are not allowed to participate in CSC operations.*

### Administrative

- *Creation of the legal person*
- *Contractualisation between small producers and balance responsible entities*

## Recent and forthcoming evolutions

### Finance

- *Negotiation in progress in order to open the surplus production of the CSC operation to supporting mechanisms*
- *Implementation of a specific distribution tariff for CSC operations*

### Foisonnement

- *Under specific conditions and exemption in rural area, it is now possible to participate in operations where the furthest producers and consumers are separated by 20 km.*
- *Over the next weeks, a new order will authorise, medium voltage sites to participate in CSC operations.*

### Administrative

- *Social landlords are now able to be PMO of CSC operations*

The regulatory framework regularly evolves in order to facilitate to development of the CSC in France and overall the introduction of Energy Communities, at the instigation of the European Commission.

# CSC BY ENEDIS AT A GLANCE

## THE DSO AS A PILLAR OF THE CSC



- All of the participants are connected to the public distribution network in standard conditions, the energy exchanges are simply virtual and do not necessitate any specific or direct join.
- A reliable and high quality electricity supply, even in the absence of local production.

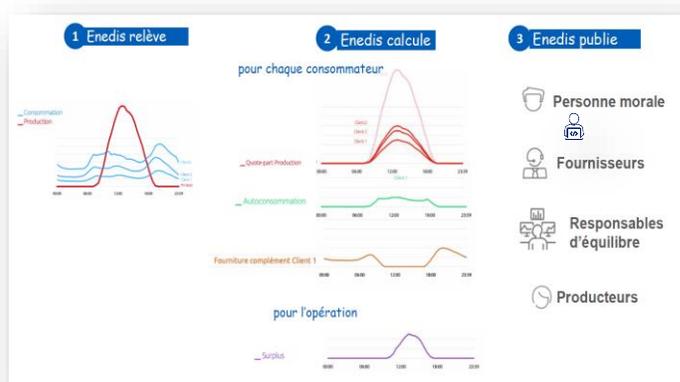


- All of the participants are equipped with smart meters.
- If the area is not yet rolled-out, Enedis accelerates the deployment planification for the CSC operation.



- All consumers must have a contract with a supplier
- All producers must have a contract with a balance responsible entity
- The PMO must sign a contract with Enedis

## CERTIFICATION AND DATA EXCHANGES WITH THE STAKEHOLDERS



- ❖ Thanks to Enedis' measures, calculations (self consumption, supplier complement and surplus production), and data releases to the main stakeholders of the CSC operation, the final customers can save money on their energy bill.
- ❖ So as to simplify the data interactions with the PMO, Enedis improves its IS tools dedicated to the CSC and its interfaces destined to all types of PMO.

## EVERYWHERE IN FRANCE



- ❖ In close relationships with the PMO, Enedis assists the initiation, the launch and the follow-up of the CSC operation.
- ❖ A reception desk by administrative department for all kind of question about a CSC project.
- ❖ A regular monitoring of the active operations thanks to dedicated and trained points of contact.

