

Tuesday, September 8th, 2020

WEBINAR

Building Energy Efficiency: A comparative analysis of energy renovation policies in Germany and France



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FRANCO-GERMAN ENERGY PLATFORM

Coordinated by dena and ADEME in cooperation with politics, business, science and society



Goals of the Franco-German Energy Platform

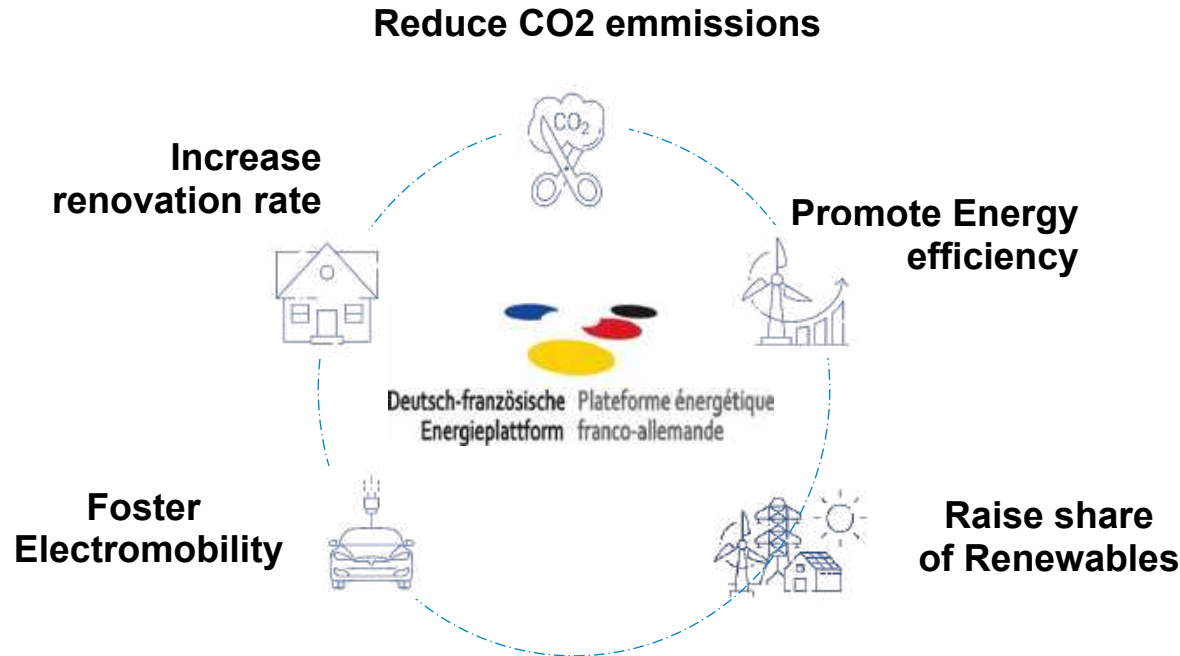


- Establishing a long-term cooperation between Germany and France in the energy domain
- Transferring joint political goals in concrete cooperation projects
 - Pooling of expertise and networks of the energy agencies of both countries
 - Project initiation and project conception in close cooperation with actors from both countries
 - Support during project implementation (preparation of financing concepts project communication, etc.)
- Demonstrate the added value of a Franco-German approach in practice by increasing the visibility of project results and ongoing initiatives

LA TRANSITION ÉNERGÉTIQUE pour la
CROISSANCE VERTE



Platform builds on joint energy policy targets.



Report on efficiency policy buildings France - Germany



■ Content

- Similarities and differences in political and regulatory framework conditions in the building sector (focus residential buildings)

■ Target:

- Deeper understanding
- thematically broad overview
- Exchange of know-how
- Showing examples of best practice



Report on efficiency policy buildings France - Germany

■ Content: Chapter overview

- Foundations for climate protection strategies
- Commitments and objectives
- Regulatory framework
- Instruments for stimulating the energetic renovation of buildings
- Initiatives, innovations and good practices



Report on efficiency policy buildings France - Germany

■ Report is available online

- in French:

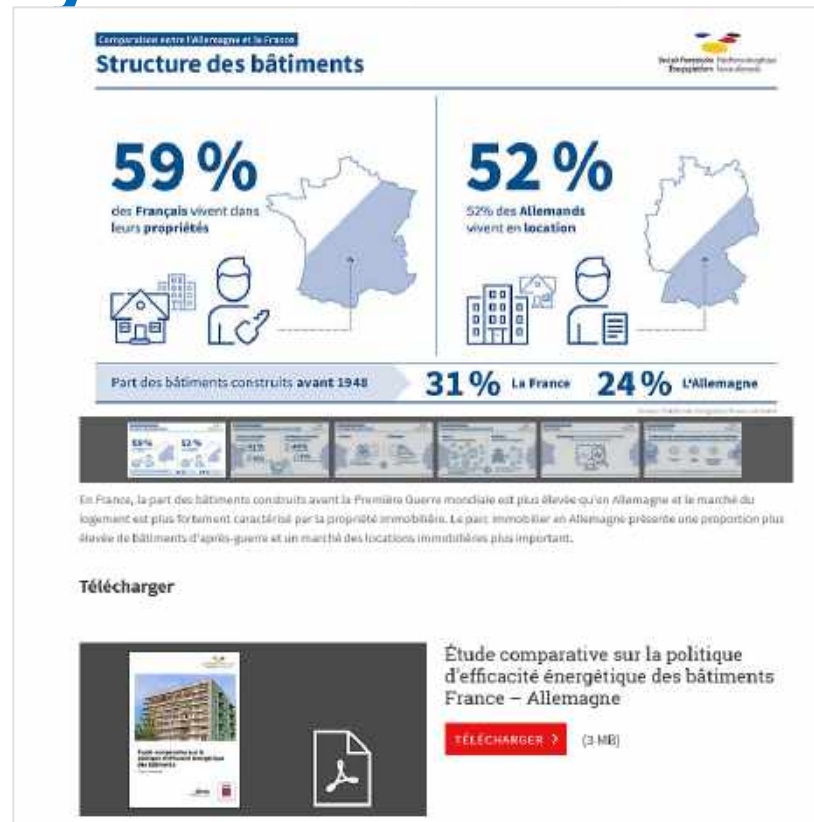
<https://www.d-f-plattform.de/fr/unsere-projekte/etude-comparative-des-batiments/>

- in German:

<https://www.d-f-plattform.de/unsere-projekte/vergleichsstudie-gebäude/>

■ Executive Summary (in English)

■ Updated version will be available shortly



Structure of the building sector

59 %

of **French people** live in
a property they **own**



52 %

of **Germans** live in
rented premises



Proportion of buildings constructed **before 1948**

31 % France

24 % Germany

Heating and energy supply

France heats
above all with:



41 %

gas heating



36 %

electric heating

Germany heats
above all with:



44 %

gas heating



27 %

oil heating

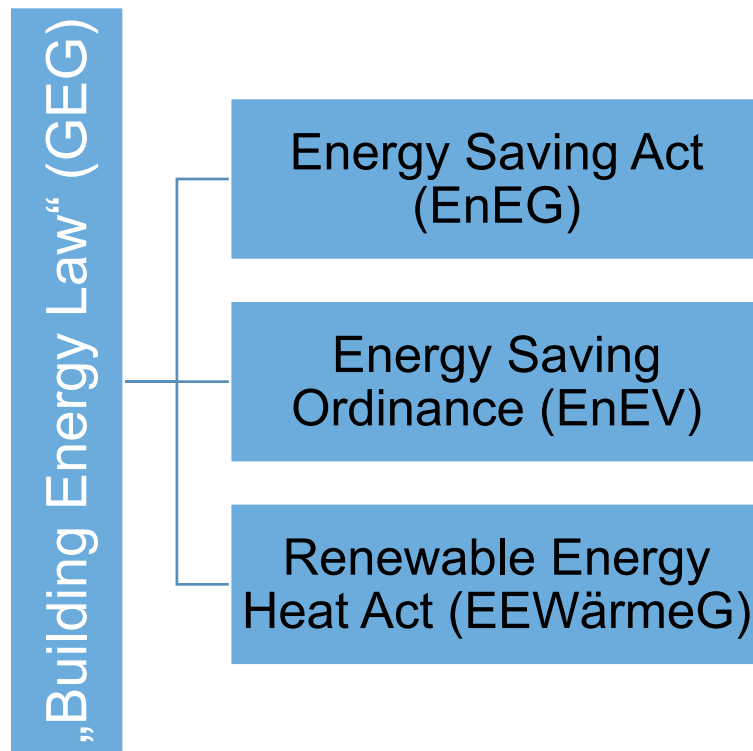


Report on efficiency policy buildings France - Germany

- Common features - National commitments and objectives
 - Target: (almost) climate-neutral building stock by 2050
 - National implementation of the European framework Increase of the renovation rate targeted
 - Challenge: Increase refurbishment rate



Regulatory framework - Germany



- Implementation of European requirements mainly through Energy Saving Ordinance (EnEV) and Renewable Energy Heat Act (EEWärmeG)
- New “Building Energy Law” (GEG) will come into force on 1st November 2020

Regulatory framework France

ENERGY TRANSITION FOR GREEN GROWTH ACT (TEPCV 2015)

- ✓ Fight against climate change
- ✓ Reinforce energy independence
- ✓ Access to energy at competitive costs.

NATIONAL LOW CARBON STRATEGY (SNBC)

The SNBC scenario draws a carbon neutral future in 2050 and proposes a path to achieve it

- ✓ **Decarbonize energy production:** biomass resources, heat from the environment and low-carbon electricity.
- ✓ **Halve energy consumption for all sectors**
- ✓ **Reduce non-energy emissions** (agriculture and industrial processes)
- ✓ **Increase carbon sinks** : forests, wood products and agricultural land) and to develop technologies of carbon capture and storage

MULTI-YEAR ENERGY PROGRAMMING (PPE)

Sets the priorities for actions for energy policy which will allow France to achieve carbon neutrality in 2050

FRENCH STRATEGY FOR ENERGY AND CLIMATE

Regulatory framework France



FRENCH STRATEGY FOR ENERGY AND CLIMATE

Today adjusted to consider the climate energy law (November 2019) and the several consultations



Cross-cutting actions to reduce the final energy consumption of the entire economy

- ✓ Energy saving certificate system (CEE) : define in 2020 the objective of the next 5 years
- ✓ Eco-design of energy-related products and energy labeling of products: support effective EU policy
- ✓ Promote a minimum carbon price at EU level, carbon price for all sectors outside the EU and quotas, pricing at EU borders
- ✓ Additional measures based on work by new governance bodies



Specific actions by sector

Regulatory framework France



FRENCH STRATEGY FOR ENERGY AND CLIMATE

Today adjusted to consider the climate energy law (November 2019) and the various consultations



BUILDING SECTOR

- ✓ Implementation of the energy renovation plan
- ✓ Fight against the very low energy performance buildings (EPC F and G)
 1. phase 1:
 - Interdiction from 2021 on freely increasing the rent without having renovated the F and G buildings
 - Obligation from 2022 to carry out an energy audit in the event of the sale or rental of a F or G building, It will contain the renovation actions proposals adapted to housing as well as its estimated cost.
 - From 2023, homes with a high energy consumption (value to be determined,) will be qualified as “indecent homes”, thus forcing owners to renovate or no longer rent them, just like homes that do not meet standards. minimum safety or comfort or those with too small a surface.
 2. Phase 2: obligation before 2028 for owners of F or G housing to carry out improvement work
 3. Phase 3: sanction from 2028 for owners of F or G housing in the event of non-compliance with the obligation

Regulatory framework France



BUILDING SECTOR

- ✓ **Measures for public buildings** : speed up renovation of school buildings / financing tools/prohibition of new fuel oil boilers (2020) + the release of fuel oil by 2029/ renovation plan of 39 administrative cities
- ✓ **Measures for professionals** : work in networks to support renovation and its massification(FAIRE)/ Implement the new RE2020 environmental regulations / Ensure the application of energy efficiency obligations for tertiary buildings
- ✓ **Measures for individuals** :
 - Tax reduction system (CITE) : new flat-rate scale which depends on EE of the actions, paid by ANAH when starting works, reinforced for the most modest households, extended to landlord owners in 2021, simplified for collective works in co-ownership
 - EcoPTZ = zero rate loan: simplified, can be applied to the fixed price for single-gesture works
 - 5.5% VAT: for work eligible for the CITE and related work
 - phase out coal heating by 2028: incentive aid for renewable heating installation, support for renovation

Requirements for new and existing buildings - France

■ Requirements are anchored in different regulations

■ New buildings:

RESIDENTIAL AND NON-RESIDENTIAL		
	REQUIREMENTS	CALCULATION METHOD
ACTUAL THERMAL REGULATION RT 2012	<ul style="list-style-type: none"> * Bioclimatic needs [Bbio] * Primary Energy Consumption [Cep] * Summer Comfort [Tic] 	hourly calculation method THBCE
EPC FOR NEW BUILDINGS	<ul style="list-style-type: none"> * Energy label [primary energy consumption] * Climate Label [CO₂ emission from energy consumption] 	based on THBCE
NEW ENVIRONMENTAL REGULATION (RE2020) CURRENTLY BEING FINALIZED	<p>Aiming at</p> <ul style="list-style-type: none"> * Reducing primary energy consumption in operating phase (near zero energy) * bioclimatic design and renewable energies * reducing CO₂ emission over life cycle * improving users' summer comfort 	<p>For energy and summer comfort: hourly calculation method (improved THBCE)</p> <p>for environment: life cycle analysis method calculation of CO₂ emission on operational phase based on operational energy consumption</p>

Requirements for new and existing buildings - France

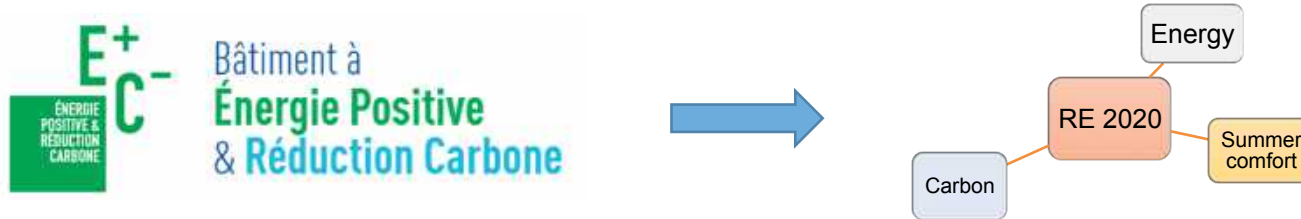
■ Existing buildings:

	REQUIREMENTS	ASSESSMENT METHOD
THERMAL REGULATION FOR RESIDENTIAL AND NON RESIDENTIAL BUILDINGS	For huge renovation : * global envelop performance [Ubât] * Primary Energy Consumption [Cep] * Summer Comfort [Tic]	hourly calculation method for energy needs THCex
	For minor renovation : * minimal requirement for each changed component	
EPC FOR EXISTING BUILDING <i>IN PROGRESS</i> <i>OPPOSABILITY OF THE EPC</i>	* Energy label [primary energy consumption] * Climate Label [CO2 emission from energy consumption]	depending on the case : calculation annual static method (3CL) <i>(in progress)</i> OR invoices of the last 3
OTHER OBLIGATIONS ON ENERGY PERFORMANCE	RESIDENTIAL BUILDINGS Obligation to carry out insulation when renovation of external walls or roof or in the case of interior design to increase living space minimal requirement for each changed component	
	NON RESIDENTIAL BUILDINGS Obligation for tertiary buildings over 1,000 m ² to take actions to reduce energy consumption and display results obtained	Invoices

Requirements for new and existing buildings - France

NEW ENVIRONMENTAL REGULATION (RE2020) for new buildings currently being finalized

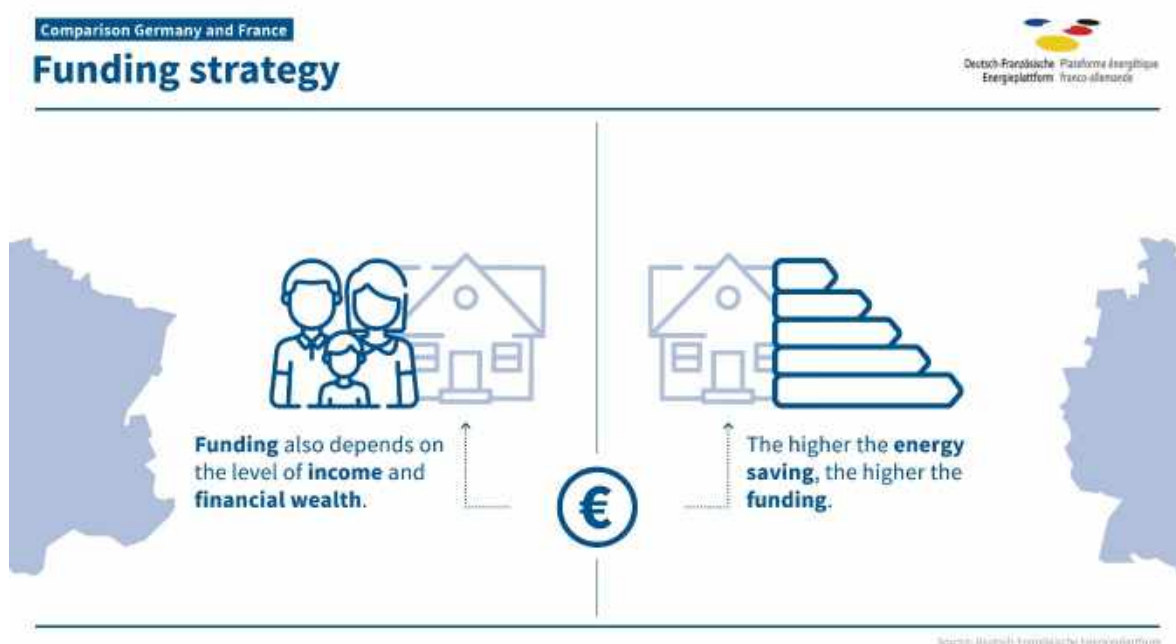
Experimentation with E+ C- certification is an important step in the development of the new energy and environmental regulation for buildings RE 2020



- ENERGY PERFORMANCE : Energy consumption includes all energy uses (instead of the 5 uses of RT 2012), we only count non-renewable energies
- ENVIRONMENTAL PERFORMANCE: GREENHOUSE GAS EMISSIONS (CARBON) over the entire life cycle + additional informative indicators

Instruments for the stimulation of energy efficient refurbishment

"The lower the income, the higher the promotion"



„The more ambitious the project, the higher the funding.“

Funding landscape

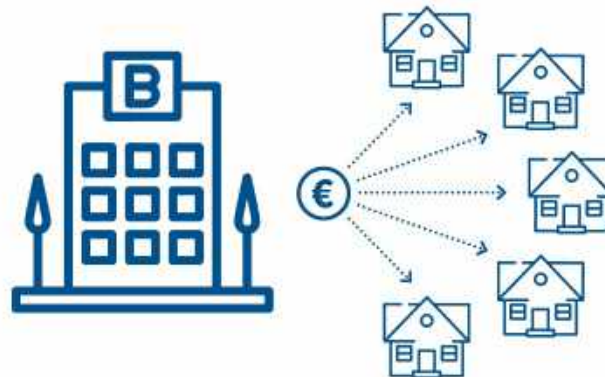
France: heterogenous instruments



One-Stop-Shop, tax savings, value added tax, energy saving certificates



Germany: homogenous instruments



Loans, grants, tax savings (since 2020)

Instruments for stimulating energy efficient refurbishments

- **Federal Promotional Bank KfW plays a central role in the German funding landscape**
 - Overall aim: Trigger investments in energy-efficient new buildings, existing buildings or refurbishment measures
 - Individuals, companies, local authorities etc. can receive **grants** or **low-interest loans**.
 - Grants: 10.000 – 48.000 Euro/housing unit
 - Loans: 10.000 – 120.000 Euro/housing unit + repayment bonus



Instruments for stimulating energy efficient refurbishments

- **Federal Promotional Bank KfW plays a central role in the German funding landscape**
 - **"KfW Efficiency House"** standard defines level of support
 - **Benchmark: minimum required standards for new buildings →**
 - New buildings: Efficiency House 40 (plus) or 55
 - Existing buildings: Efficiency House 55, 70, 85, 100, and 115
 - *The smaller the key figure, the lower the energy requirement and the higher the promotion.*



Instruments for stimulating energy efficient refurbishments

■ Germany: Climate Action Programme 2030 and economic stimulus package

- measures worth almost 100 billion Euros effecting the building sector have been initiated
- high demand in 2020: government support programmes for renewable energies and energy efficiency in the building sector
- some federal programs show an increase of 190 percent compared to the same period last year (despite corona crisis)



Instruments for stimulating energy efficient refurbishments



■ New approaches in Germany

■ Refurbishment for energy efficiency is to be tax deductible

- costs of refurbishment are to be tax deductible as of 2020
- Applies for measures such as the installation of new windows or the insulation of roofs and external walls.
- Tax liability can be reduced by 20 percent of costs over 3 years.

■ New: National CO2 pricing for the heating sector

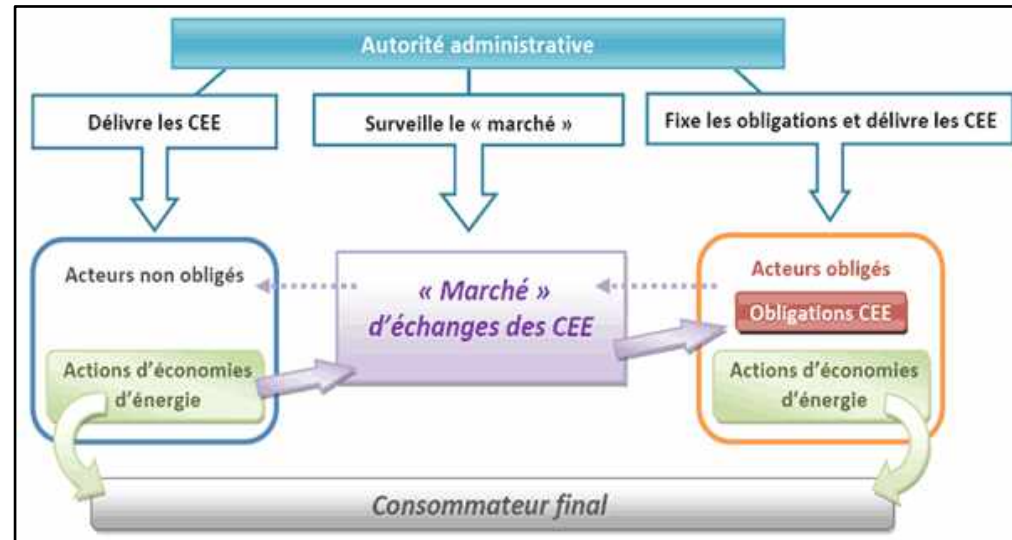
- Target group: Distributors or suppliers of fossil fuels.
- national emissions trading system (certificate based will be launched in 2021 at a fixed price of 25 euros per tonne, rising gradually to 55 euros in 2025).

Instruments for the stimulation of energy efficient refurbishment

- **Energy saving certificate system (CEE)** in France one of the transversal actions to reduce the final energy consumption of the entire economy

The system is based on a three-year obligation to achieve energy savings in CEE
currently in his fourth period → 31/12/2021

- 1 CEE = 1 kWh cumulative final energy
- imposed by the public authorities on energy suppliers (the "obligated"). *They are thus encouraged to actively promote energy efficiency among energy consumers: households, local authorities or professionals.*



Instruments for the stimulation of energy efficient refurbishment

■ France: Energy saving certificate system (CEE) contributes in building sector to finance energy saving actions

Standardized operation sheets, defined by decrees, are drawn up to facilitate the setting up of energy saving actions.

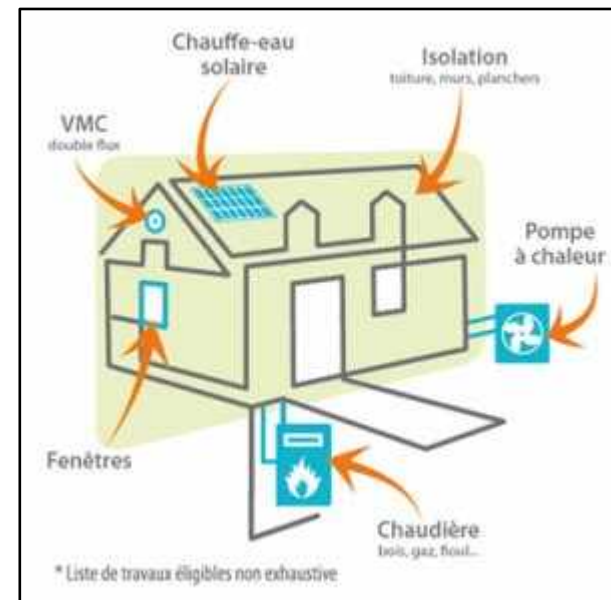
They are classified by sector (residential, tertiary, industrial, agricultural, transport, networks) and define, for the most frequent operations, the lump sum amounts of energy savings in cumulative kWh.

Example



5. Montant de certificats en kWh cumac

Montant en kWh cumac par m² d'isolant			X	S
Zone climatique	Énergie de chauffage			
	Électricité	Combustible		
H1	2 400	3 800		
H2	2 000	3 100		
H3	1 300	2 100		



Instruments for the stimulation of energy efficient refurbishment



■ France: Tax Reduction System (CITE)

one of actions to reduce energy consumption in building sector

Form of a tax advantage, intended to reduce the costs of energy saving work.

- **currently** for eligible equipment : 30% reduction on the cost of the equipment applied on income tax if carried out by a qualified expert ; minimum performance is required for each action
- will be transformed into a bonus within “Ma primeRénov” program / new flat-rate scale which depends on Energy Efficiency

Instruments for the stimulation of energy efficient refurbishment



- **France: “Ma primeRénov”** program replace CITE
 - **In 2020**, “Ma primeRénov” is aimed at the most modest households according to amount of income conditions set by ANAH (National Agency for Home Improvement) . Merge from CITE and financial aid of ANAH. Only owners occupying their home as their main residence are eligible.
 - **In 2021**, Ma primeRénov will be open to landlords and co-ownership associations. all households can benefit from it .
 - Accumulation of MaPrimeRénov : maximum of € 20,000 per home over 5 years
 - Possibility of accumulation with other aids according to the established rules

Commonalities

Among other things, both countries have similar approaches to energy-efficient construction and for the renovation of buildings, such as:



serial renovation



network of
experts



Individual
renovation road map



In addition, both issue **optional efficiency labels** for new and existing buildings.

Instruments for stimulating energy efficient refurbishments

■ Public funding and support for research and innovation - Serial refurbishment Germany and France

- Originated in the Netherlands → now international dissemination
- **EnergieSprong**: refurbishment to **NetZero** standard – per year as much energy is generated for heating, hot water and electricity as is needed
- Standardized solutions with **prefabricated elements** and a long-term performance warranty
- Completion within a few weeks or days

*Energie
Sprong*



Instruments for the stimulation of energy efficient refurbishment

■ EnergieSprong - Serial refurbishment France - Germany

- **France:** initially focus on single family houses → second phase: schools and multi family houses
- **Germany:** focus on multi family houses
- Both countries have „**volumes deals**“ (joint commitments from relevant stakeholders) to renovate according to the EnergieSprong approach

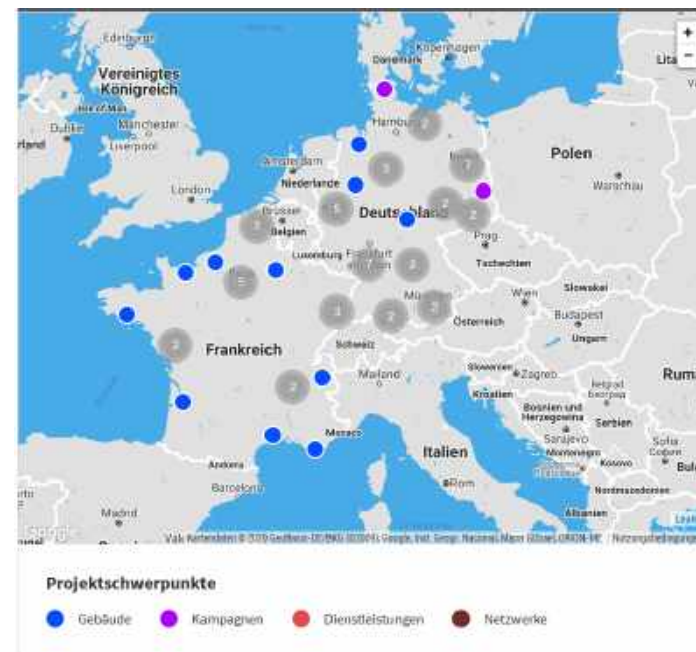


Instruments for the stimulation of energy efficient refurbishment

Franco-German Energy Platform

■ Online-map: heating sector transition in the building sector.

- Presentation of successful approaches and projects from Germany and France
- Energy-efficient buildings and neighbourhoods, networks, campaigns and services
- <https://www.d-f-plattform.de/unsere-projekte/good-practice-waermewende/>



Questions?

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Coming up next...



September 15th | Conference

Onshore wind tenders: Between competitiveness and profitability

September 29th | Conference

Industry Energy Efficiency: Processes, renewable energies and waste heat recovery

November 3rd | Conference

**3rd Franco-German Energy Forum – Europe post-Covid 19:
Political orientations and economics of the Energy Transition and Climate Change Mitigation**

Registration now open on ofate.eu/dfbew.eu

Make sure you are on our mailing list!

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Bundesministerium
für Wirtschaft
und Energie

aufgrund eines Beschlusses
des Deutschen Bundestages

Soutenu par



MINISTÈRE
DE LA TRANSITION
ÉCOLOGIQUE

Liberté
Égalité
Fraternité

Requirements for new and existing buildings - France

E+ C- : ENVIRONMENTAL ASPECT

- A global indicator over the entire life cycle


$E_{ges} = \sum \text{CO}_2 \text{ Emissions from the 4 contributors}$

- An additional indicator on products and equipment

$E_{ges_{PCE}} = \sum \text{CO}_2 \text{ Emissions from products and equipment}$

- additional educational indicators but without requirements



		Environmental performance over life cycle				
		production phase	Construction phase	Operational phase	end of life phase	
Contributors	Products of construction and equipment	✓	✓	✓	✓	I_{PCE}
	Energy consumption			✓		I_{CE}
	construction site		✓			I_{Cha}
	water consumption discharge			✓		I_{CRE}

$$I_{Bâtiment} = I_{PCE} + I_{Cha} + I_{CE} + I_{CRE}$$

The benefits beyond the system are partly valued, in particular: end-of-life recycling, energy export

Requirements for new and existing buildings - France

E+ C- : CALCULATION ENVIRONMENTAL IMPACT



- **Conventional data:** climate, occupancy, environmental data of services (energy and water availability, etc.)
- **Specific data:** environmental and health declaration sheets, etc.
- **Generic data:** default values



Reference environmental and health data for the building

Requirements for new and existing buildings - France



E+ C- : REQUIREMENTS FOR ENVIRONMENTAL ASPECT

Two levels

- ☐ Carbon 1
- ☐ Carbon 2

- A base value that depends on the type of building and the level targeted
- A correction factor depending on certain specificities (example: number of parking spaces)
- Additional modulation depending on climatic severity, size of housing and building use