



White certificate scheme in Italy

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FEDERAZIONE ITALIANA PER
L'USO RAZIONALE DELL'ENERGIA

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A cartoon illustration of a young girl with short, spiky blonde hair and large, round glasses. She has a pinkish face with rosy cheeks and a small, straight nose. She is wearing a bright yellow t-shirt with the word "FIRE" printed in bold, black, capital letters across the chest. Her arms are outstretched to the sides, and her hands are open with fingers spread. She is also wearing a black skirt with a white polka-dot pattern and white socks with black stripes at the top. The background is plain white.

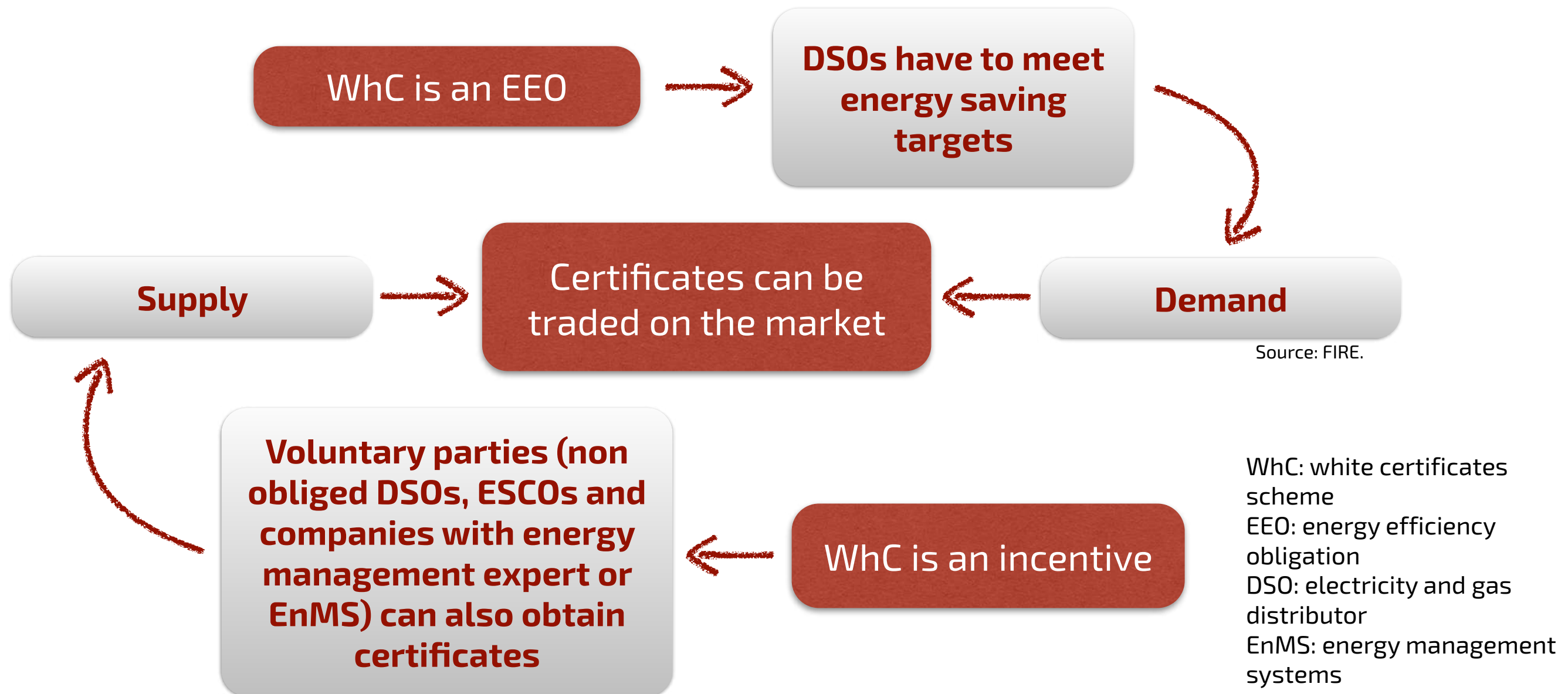
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Main points about the White Certificates scheme in Italy

The scheme basics: EEO + certificates trade



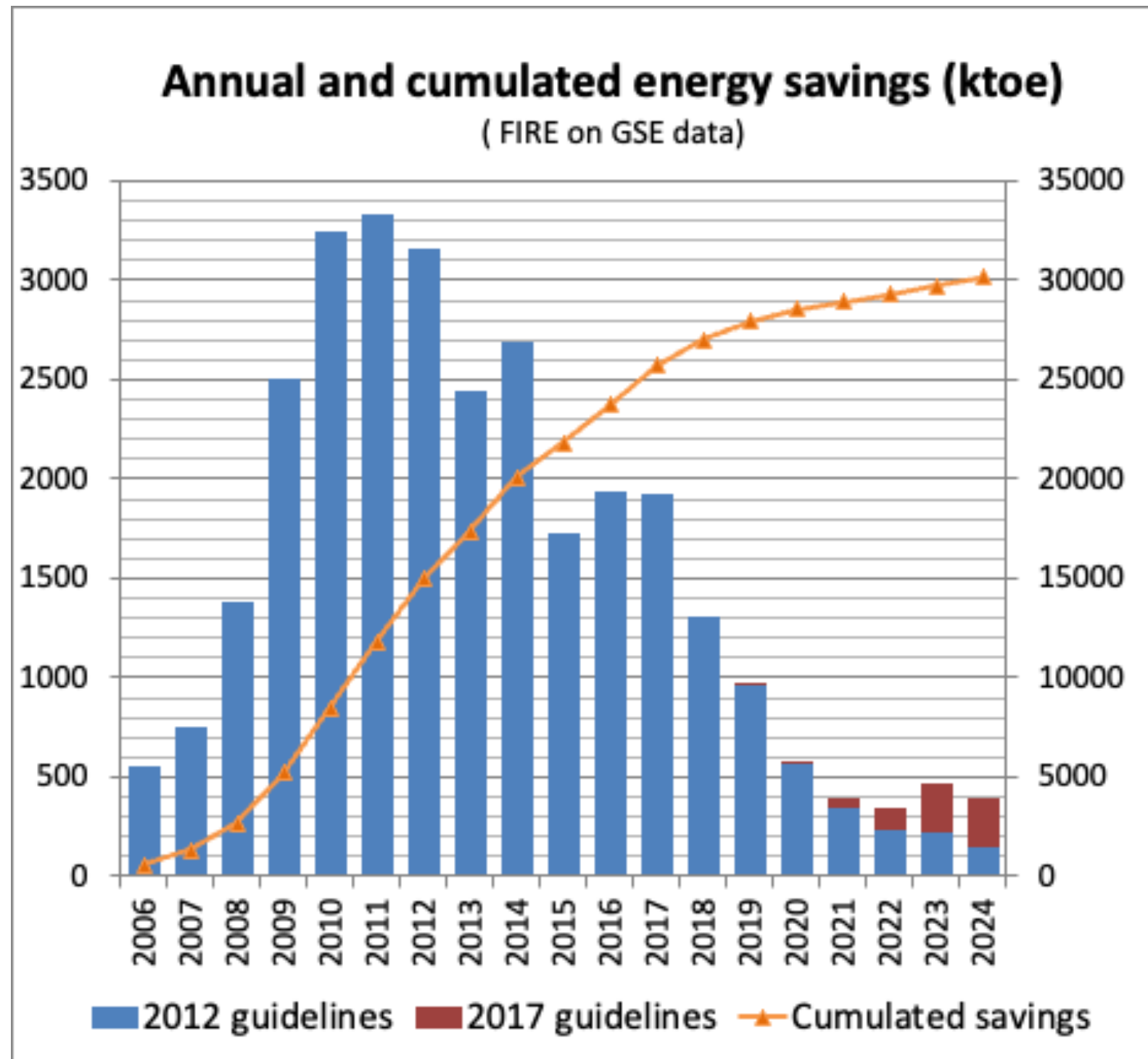
White certificates are obtained for a period of time that varies from 3 to 10 years according to the complexity of the implemented energy efficiency action. All sectors are virtually eligible. 1 WhC = 1 primary energy toe saved.

The main points about IT WhC



- ▶ Targets: annual rising energy savings, split among obliged parties depending on the distributed energy
- ▶ Obligated parties: electricity and gas distributors with more than 50,000 clients
- ▶ Eligible parties: distributors, certified ESCOs, companies with ISO 50001 or certified Energy management expert (EGE)
- ▶ Spot and bilateral WhC exchange market
- ▶ Flexibilities: certificates are valid indefinitely, DSOs shall reach a minimum 60% of their target to not incur in penalties
- ▶ Distributors get a tariff reimbursement based on market prices

Energy savings and main changes



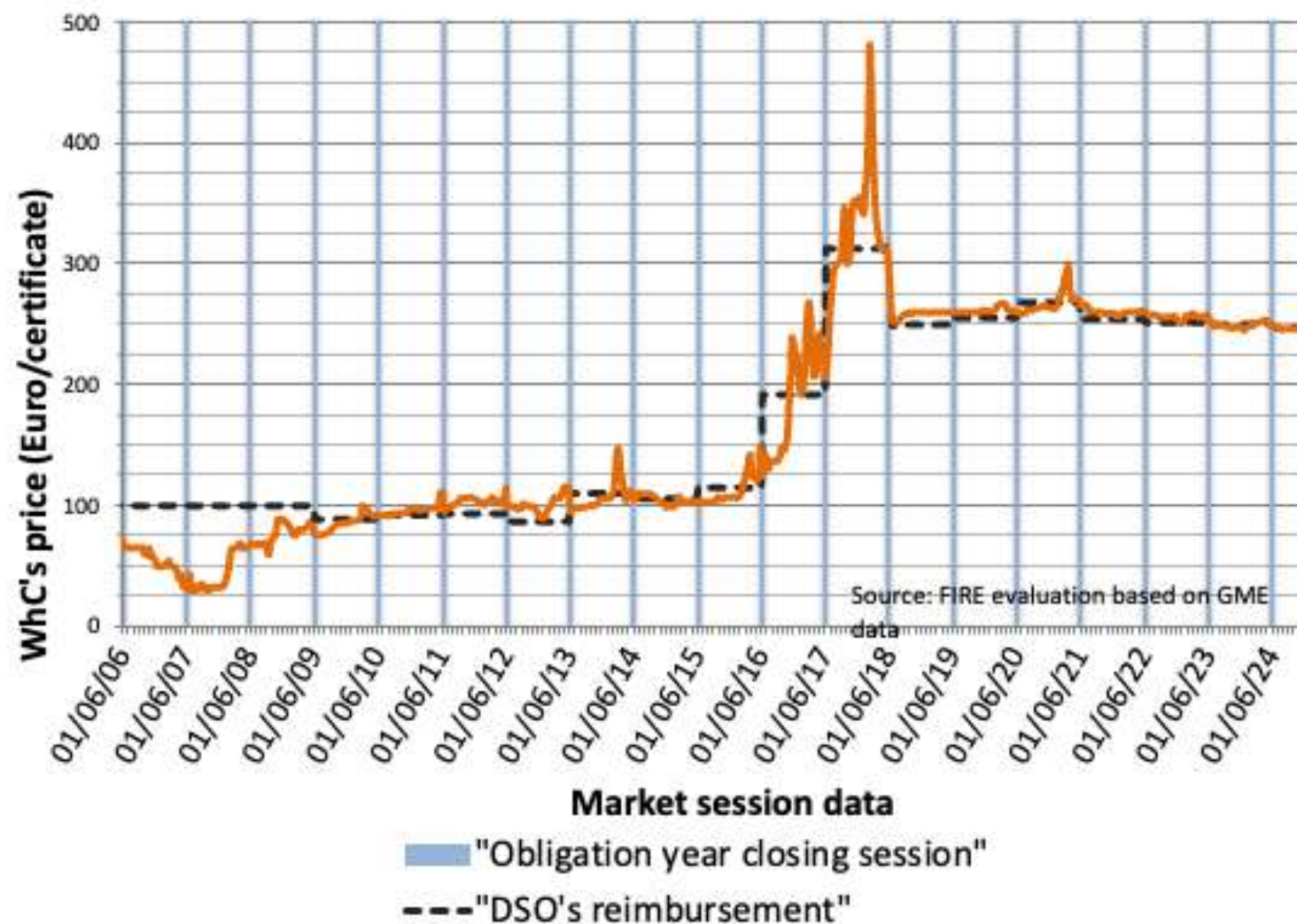
- From 2013 only projects yet to be built are eligible and impossibility to sum up with most other incentives
- From 2015 short pay-back time projects exclusion
- 2017-2018 large frauds discovered and large amounts of certificates blocked and retired
- From 2017 only metered projects with stricter rules on M&V allowed and no more *tau* multiplier
- From 2021 new targets and rules

WhC price on the spot market



WhC market price trend

FIRE evaluation based on GME data



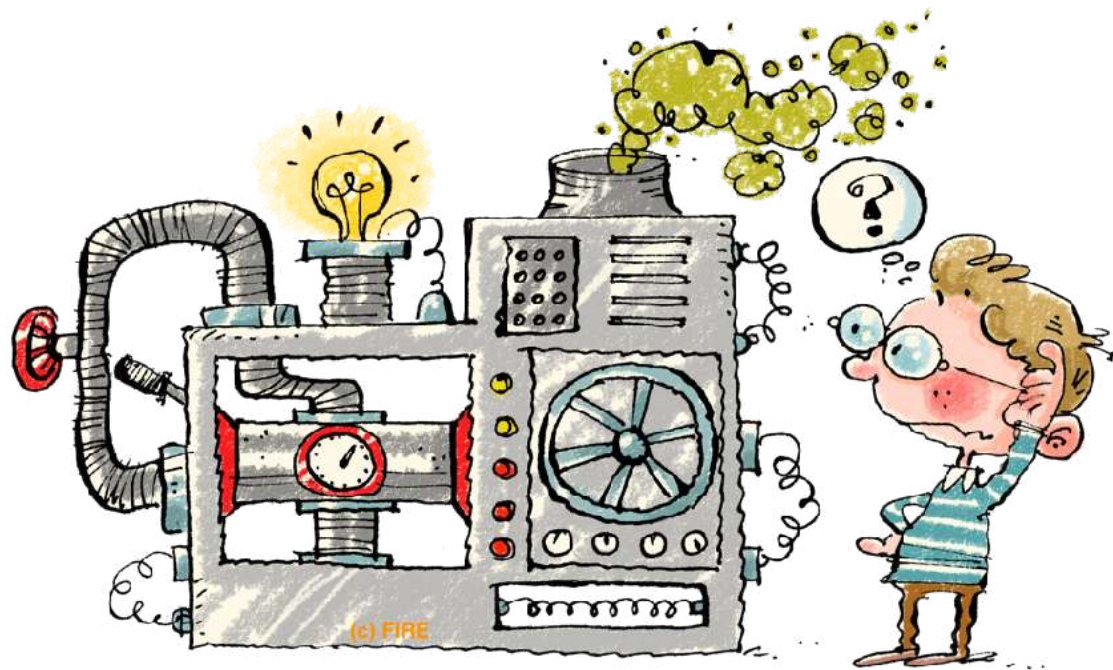
- ▶ Since June 2009 the tariff reimbursement is mainly based on market prices
- ▶ Since June 2018 a cap at 250 euro/certificate has been introduced on the tariff reimbursement for distributors
- ▶ Since 2019 Virtual certificates have been available as additional flexibility for distributors
- ▶ In the last three years demand (i.e. targets) and supply of certificates have been again in equilibrium

Eligible projects



The scope of white certificates is really large. That means that most energy efficiency measures, including industrial processes, can be eligible. For example:

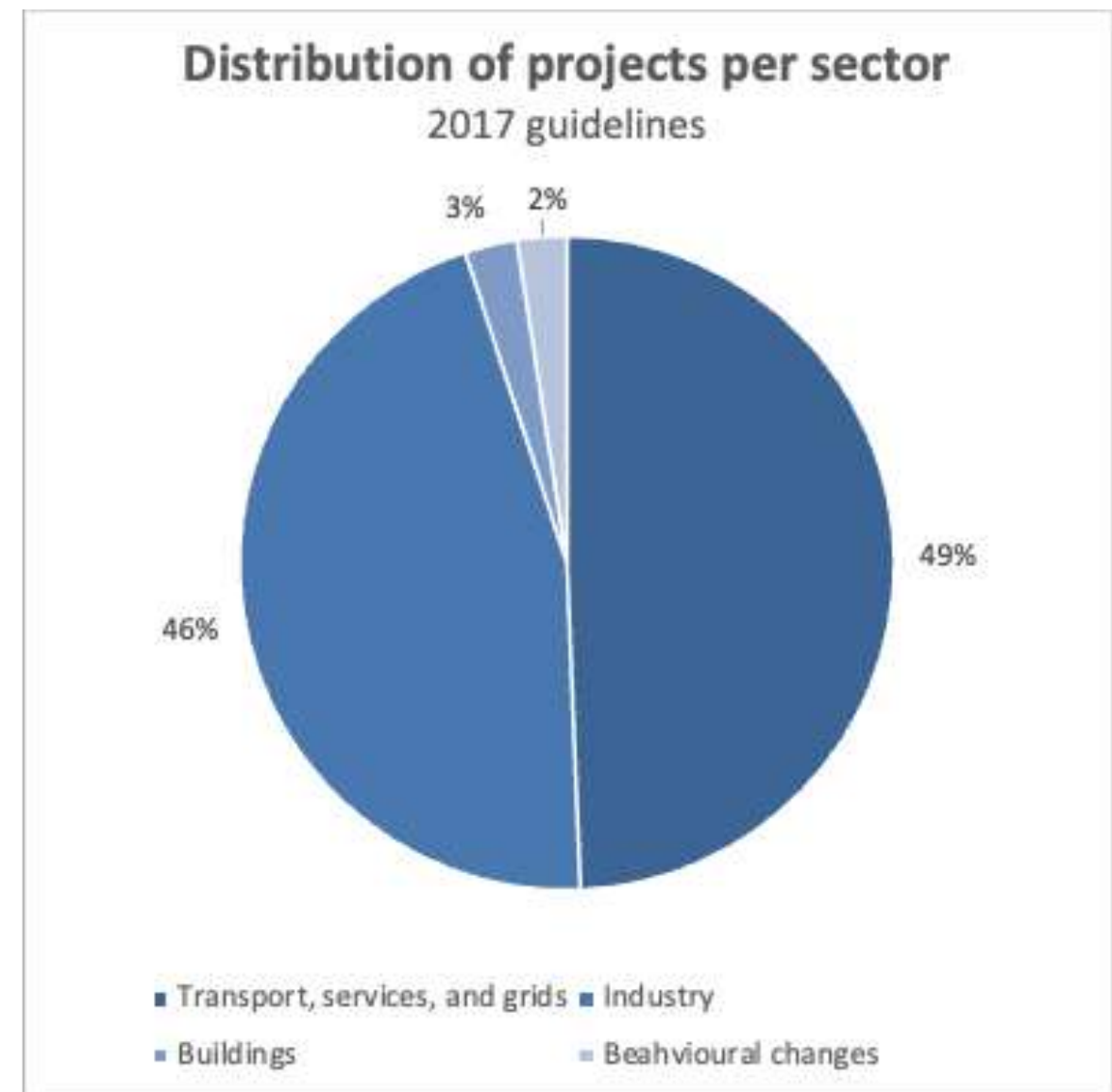
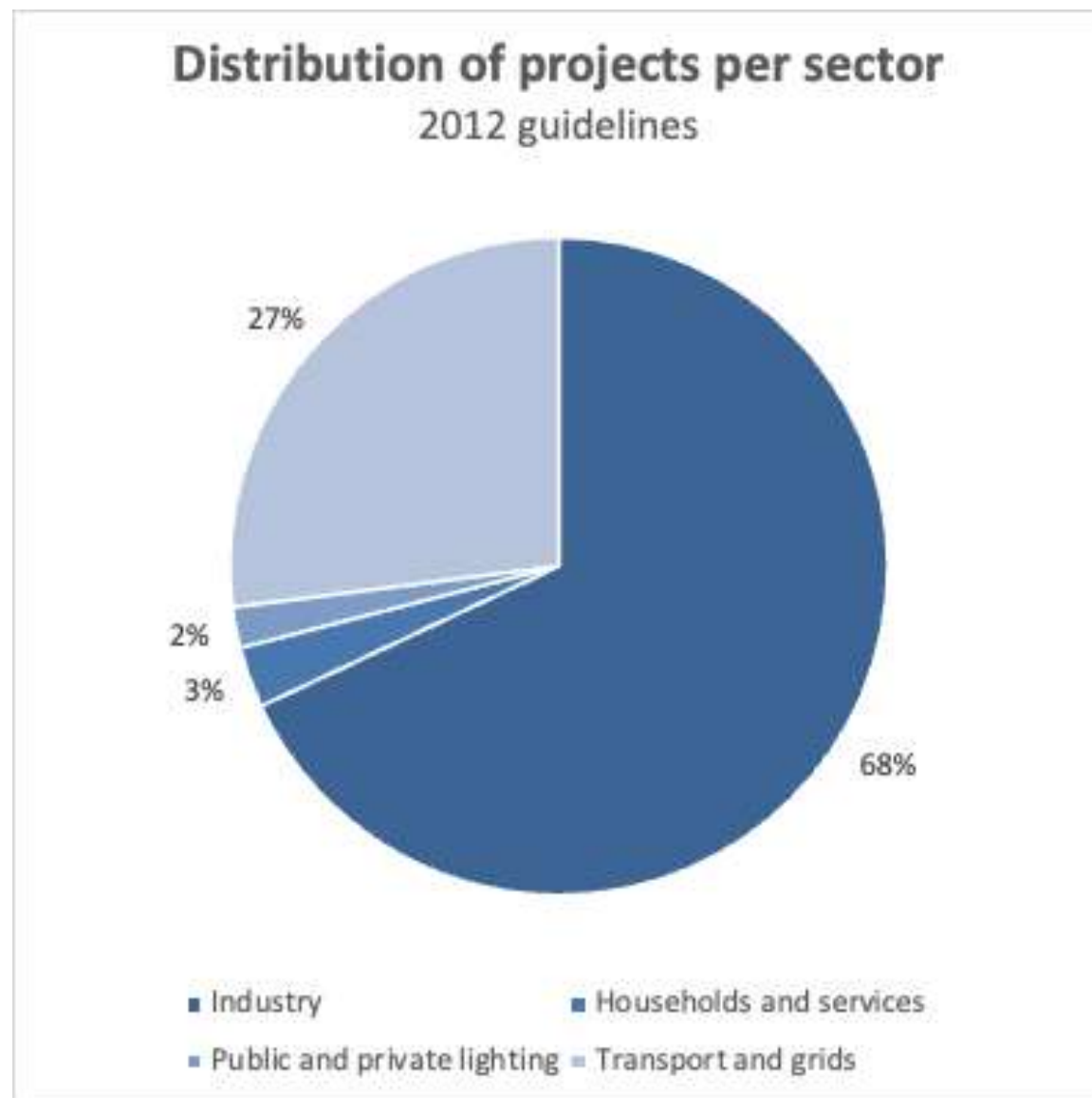
- Cross sectoral measures (e.g. motors, pumps, inverters, lighting, compressed air, boilers, chillers and heat pumps, insulation, etc.)
- Process renovation: furnaces, dryers, ovens, regenerative burners, vacuum systems, preheaters, power quality, etc.



A list of the eligible projects is available here:

https://www.gse.it/documenti_site/Documenti GSE/Servizi per te/CERTIFICATI BIANCHI/MANUALI/Tabella tipologie interventi aggiornata dal Decreto Direttoriale del 13 ottobre 2023.pdf

Breakdown of projects per sector in 2024

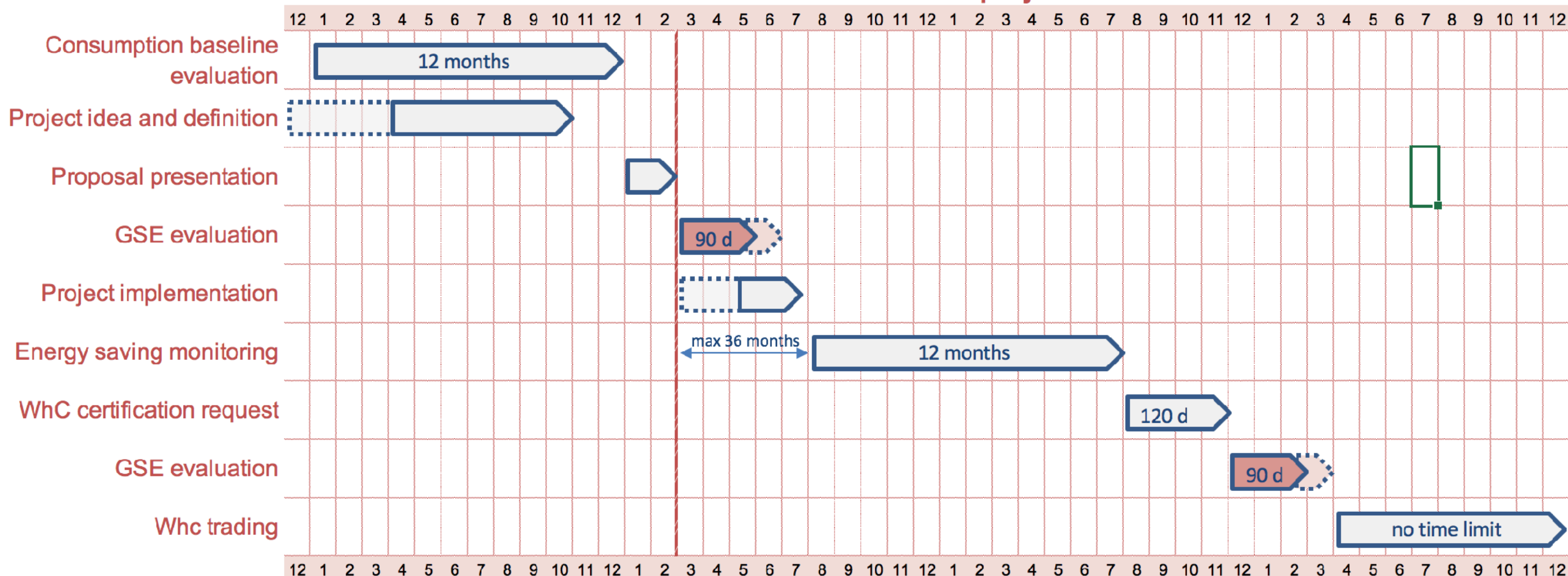


The diagrams show the breakdown of projects that generated white certificates in 2024 according to the two set of rules under which the same projects were presented. There are still some projects presented under the 2012 guidelines which are delivering certificates in the final part of their lifetime. The right diagram instead shows the situation with the most recent applications, presented after 2017.

The path from projects to certificates



Indicative white certificate project Gantt chart



Main points:

- Proposals should be submitted before starting the project implementation;
- At least 12 months of measurement for the ex-ante baseline are needed, unless standardisation is possible;
- Each project is presented through a web portal and evaluated by GSE. Some proposals go through a detailed verification with additional documents requested and/or on-site inspections.

SWOT analysis



Strengths

- ▶ Long term scheme with huge impact
- ▶ Real energy savings due to M&V in line with IPMVP option B
- ▶ Lots of information collected on energy efficiency developments in all sectors
- ▶ Effective support to market operators

Weaknesses

- ▶ Complexity of M&V
- ▶ Supply inelasticity due to M&V
- ▶ Effects of WhC prices on the scheme cost due to projects' lifetime
- ▶ Effectiveness as an incentive over time due to projects' lifetime

Opportunities

- ▶ M&V simplification for small projects and SMEs
- ▶ Reintroduction of deemed savings for specific groups of projects
- ▶ Coefficients to promote costly energy efficiency measures

Threats

- ▶ Moving back to a market without virtual certificates
- ▶ Difficulties in rising the targets
- ▶ Capability to update rules when needed



To go into details for
the Italian WhC scheme





Going into details

What is included in a project application



Project description, including ex-ante situation and expected modifications.

Definition of M&V programme (metered variables, installed meters, saving evaluation algorithm, adjustments, etc.).

Ex-ante energy consumption and adjustment variables values or evaluation of reference baseline for new installations.

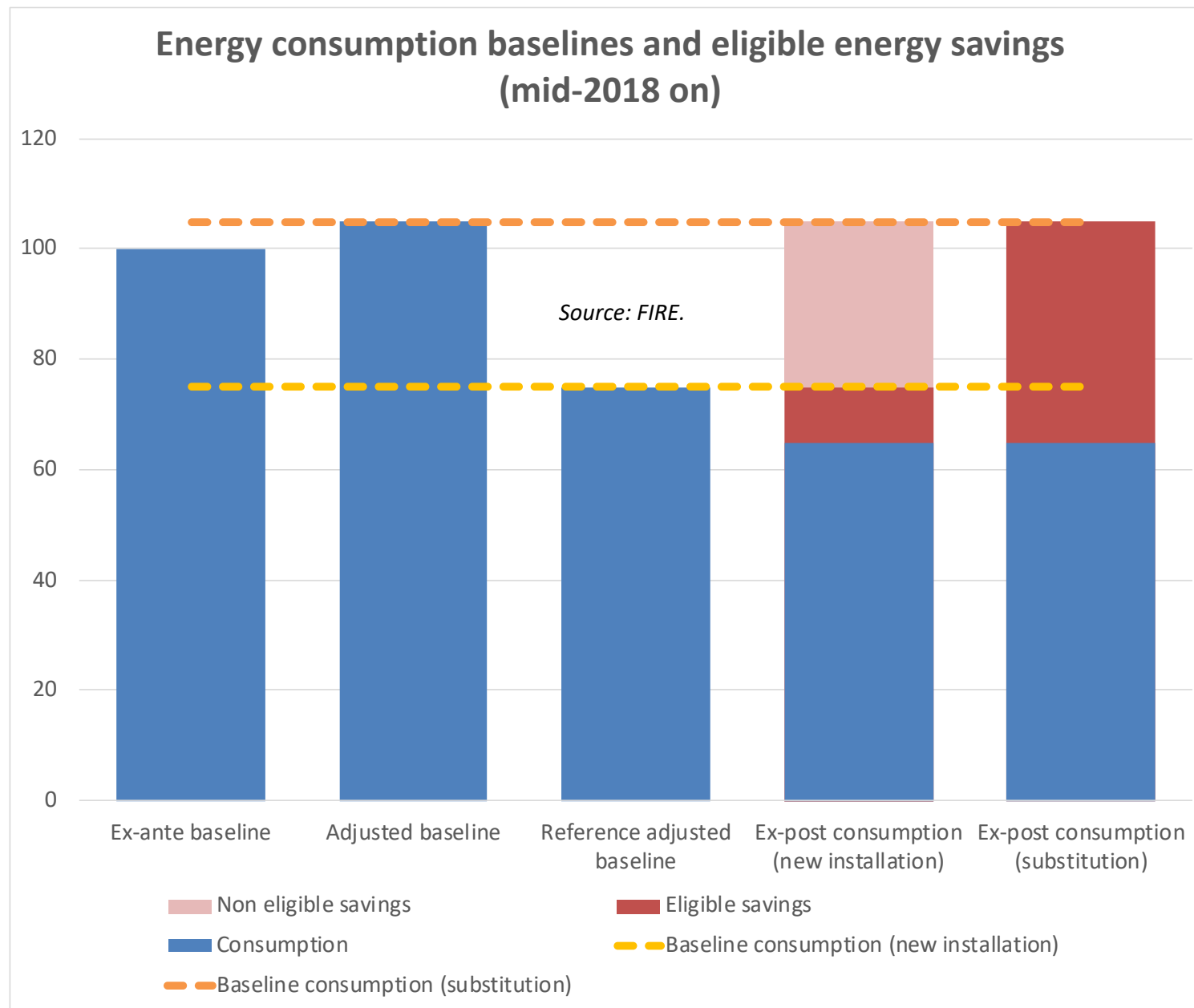
Information and documentation on the start-up date of the project.

Other information (e.g. information on the proponent, periodic verification of meters, other incentive used, etc.).



After the proposal is accepted, year by year request for certification are presented with data on ex-post measurements.

Eligible savings: evaluation steps



1. **Ex-ante baseline** usually through one-year measurements of energy consumption (hourly meters required);

2. Yearly **adjusted baselines** (based on measurement of production, climate, occupation, etc.);

2. for new installations. **Reference adjusted baselines** based on the average of market supply for the chosen product/process and/or standard (e.g. BREF's BAT) evaluated ex-ante;

3. **Ex-post consumption** evaluation through dedicated meters.

All activities to be done on a per-project basis.

Baseline and sectoral guidelines



Sistema tecnologico assunto come punto di riferimento	Tipologie di intervento secondo la tabella 1 del D.M. 11 gennaio 2017 e s.m.i.
Preparazione dell'impasto	Dispositivi per la preparazione impasti
Fabbricazione del foglio	Tele di formazione per produzione carta
	Casse aspiranti, sistemi del vuoto, cassa a vapore in macchine continue
	Presse ad eccezione di presse idrauliche per stampaggio di materie plastiche
	Cilindri essiccatori in macchina continua
	Cappe in seccheria
	Termocompressori in macchine continue
	Dispositivi per la fabbricazione del foglio*

* ulteriori interventi rispetto ai precedenti per la sezione di "fabbricazione del foglio"

Tipologia di carta-processo		Consumi specifici termici	Consumi specifici elettrici
Processo	Tipo di carta	kWh/t	kWh/t
RCF	con disinchiostrazione		
	cartoncino	1.100	450
	carta grafica	1.400	900
	senza disinchiostrazione		
	carta per imballaggi	1.500	400
	cartone patinato o non	1.200	400
Non integrato	carta grafica (patinata e non)	1.500	675
	tissue	1.950	850

Sectoral guidelines – that describe the main energy efficiency measures eligible in each sector (both process related and cross-sectoral) and the consumption baselines that can be considered as references – are available.

Acronyms



Main acronyms used in the slides:

D.M.: ministerial decree

EEO: energy efficiency obligation scheme

MPPs: monitoring plan projects (metered projects)

WhC: white certificates

Main institutional stakeholders involved in the WhC scheme design and management:

MASE: Italian Ministry for Environment and Energy Security, set the general rules

GSE: agency in charge of the WhC scheme management

GME: Energy and CO₂ markets operator, manage the WhC markets (spot and bilateral exchange)

ARERA: Italian Regulation Authority for Energy, Networks and Environment, in charge of the tariff reimbursement for obliged DSOs

TAR: Administrative courts, appealed by proponents with rejected proposals

Main institutional stakeholders involved in the Transizione 5.0 scheme design and management:

MASE: Italian Ministry for Environment and Energy Security, set the general rules

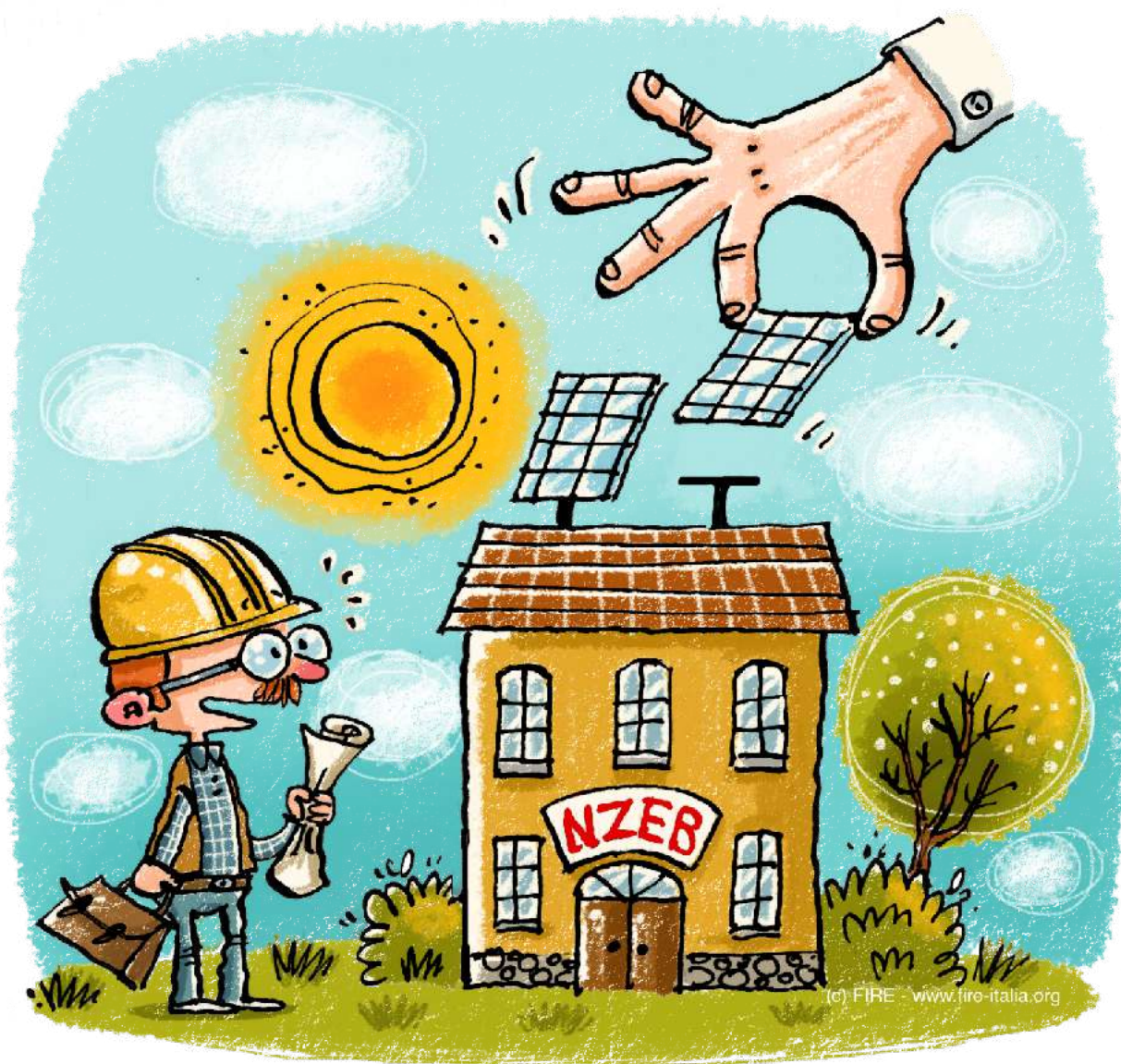
GSE: agency in charge of the Transizione 5.0 scheme management

AdE: Revenue Agency, in charge of tax credit management

Good policies can help, and ENSMOV plus too



ENSMOV PLUS



The ENSMOV plus project, financed under the Life programme, aims to facilitate and expand the sharing of knowledge and experience amongst Member States for the implementation of policies under Article 8-10 EED.

ENSMOV plus has developed a suite of tailored resources and tools for the implementation of successful energy efficiency policies.

ENSMOV plus is also assisting national authorities' in (re)designing policies towards 2030 and in developing effective monitoring, reporting and verification schemes.

<https://energysavingpolicies.eu/>





Thank you!



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