

EU DIRECTIVE: ENERGY EFFICIENCY FIRST – INCREASED EU TARGET

KeepWarm Policy Spotlight N°2
by ICLEI Europe (October 2019)

The revised Energy Efficiency Directive sets new rules and increases the target to 32.5% by 2030

The new policy framework for energy efficiency¹:

- Sets an **ambitious energy efficiency target** of at least **32.5%**, with an upwards-revisions clause by 2023
- Extends **energy obligation savings** beyond 2020
- Provides positive signals for investors and encourages **uptake of innovative technologies, techniques and services** which will stimulate the demand for energy efficiency improvement measures
- **Improves metering and billing** of energy consumption for heating and cooling consumers
- Helps **alleviate energy poverty**
- **Lowers consumption**, thus making Europe less reliant on energy imports

Purpose

The aim of this briefing is to inform district heating operators, national, regional and local policy makers, renewable energy and excess heat suppliers, as well as other stakeholders working in sectors related to district heating, on recent changes in EU energy legislation that have been launched with a view of raising EU climate and energy goals and adjusting them towards achieving the goals of the Paris Agreement. The main directive elements for Member States concerning (district) heating and cooling sector are covered in the 'new' Article 7 (energy savings obligation), Articles 9, 10 and 11 (metering and billing), and the 'old' Article 14 (efficiency in heating and cooling) of the Energy Efficiency Directive.



Introduction

Almost half of the energy used in the EU is consumed for heating and cooling in buildings and industry. Making the heating and cooling sector (H&C) smarter, more efficient and sustainable could result in significantly reduced energy imports, cut costs and emissions. **Efficiency gains** in this sector should not only be sought on the **demand side**, but **throughout the whole heat supply chain**, including heat generation/recovery and distribution. In fact, **buildings' renovation and district heating systems retrofitting should go hand in hand**.

Furthermore, to emphasise the untapped potential of this sector, studies have shown that the **amount of excess heat being wasted in the EU**, through industrial and power generation installations, **could cover 100% of heating needs for buildings**. To address the energy used in this 'neglected sector', the European Commission launched the [EU Strategy on Heating and Cooling](#) in 2016, providing a framework and policy push for the systematic integration of H&C priorities into EU energy policies.

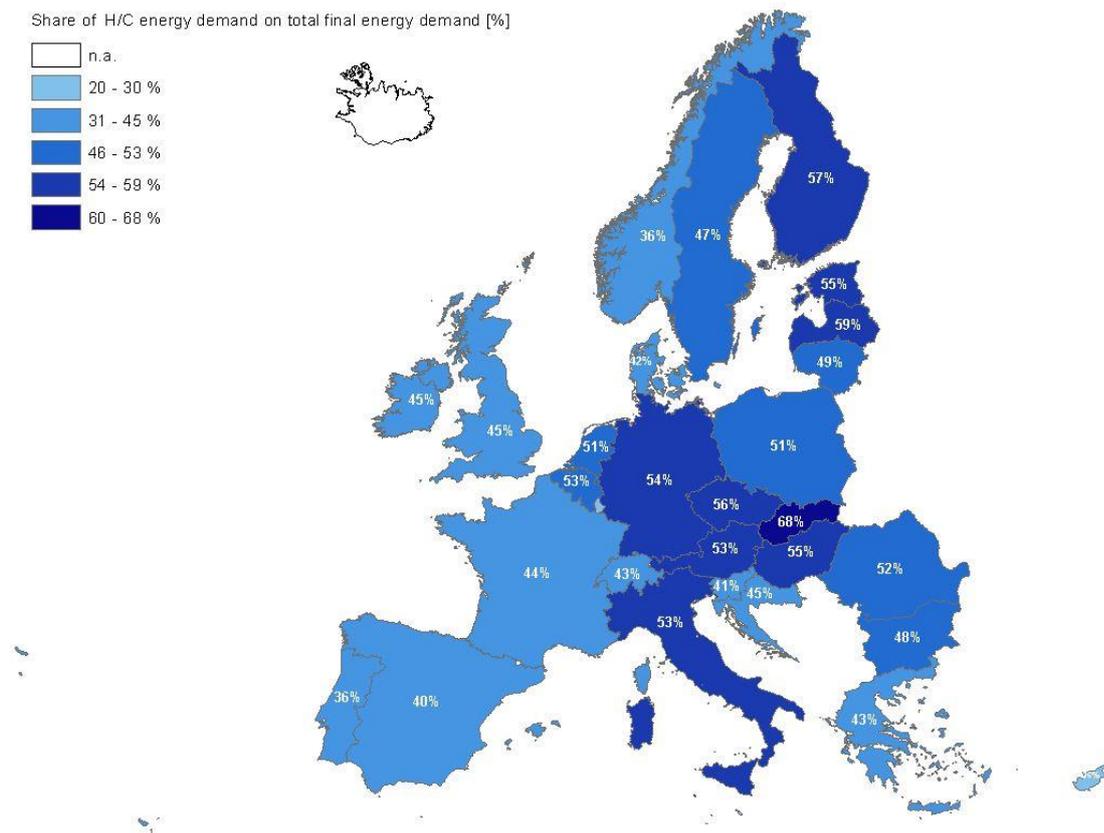


Figure 1: Current share of H&C in total energy consumption in most European countries (2012)ⁱⁱ

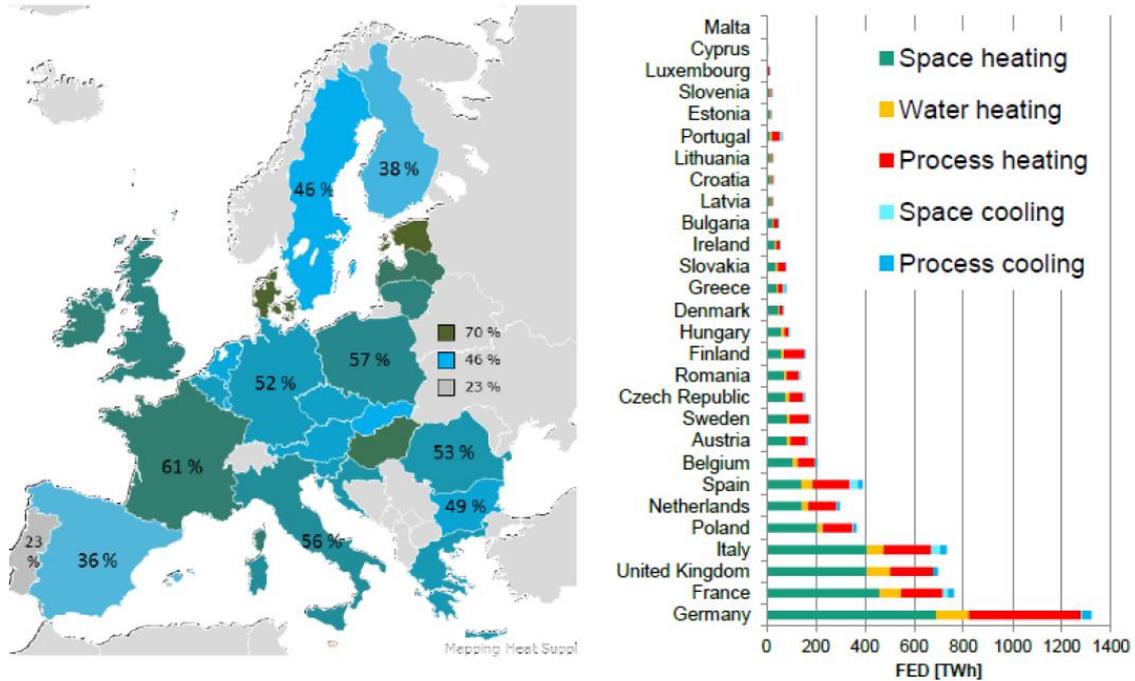


Figure 2: Current share of H&C in total energy consumption in the EU28 Member States (2017)ⁱⁱⁱ

HEATING & COOLING: 50% OF EU28 TOTAL FINAL ENERGY DEMAND

Europe consumes **half of its energy** for heating and cooling purposes.
Most of this thermal energy is used in buildings and industry.

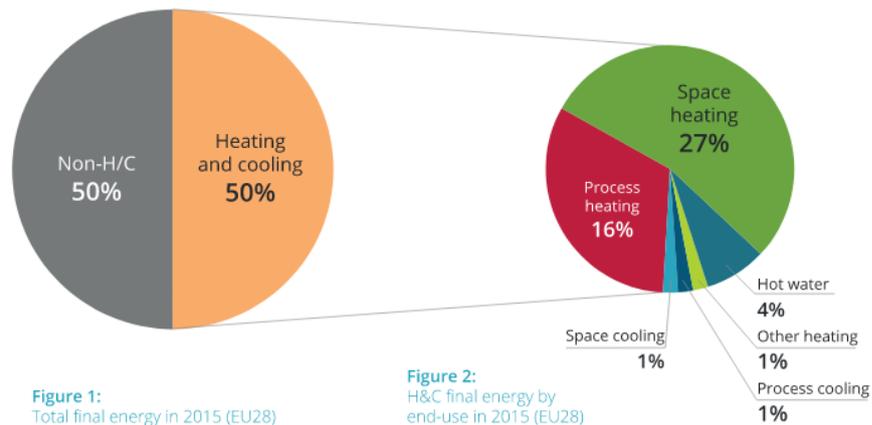


Figure 3: Current share of H&C in total energy consumption among the EU28 (2015)^{iv}

Revised EE Directive touches on fuel poverty, energy billing and metering

In November 2016, the Commission revealed its [Clean Energy for all Europeans](#) package, which aims to adapt and align EU energy legislation with the 2030 energy and climate goals, and contribute to the delivery of the Energy Union strategy goals. The amended [Energy Efficiency Directive](#) (EED), which entered into force in December 2018, stipulates a **32.5% energy-efficiency binding target to be achieved by 2030, and revised upward in 2023.**

The new EED continues with an **annual energy saving obligation** (the main pillar of the Directive, outlined in the Article 7), for the period from 2021 to 2030, that should be **at least 0,8% of the final energy consumption**. Member States may choose between **energy efficiency obligation schemes, alternative measures or a combination of both** to deliver the above-mentioned energy savings. Member States are also asked to implement, where possible, a share of energy-saving **measures among vulnerable households, affected by fuel poverty**. Each Member State should inform the EC about intended policy measures within the submission of their **national energy and climate plans**. As in the old version of the EED, energy savings may be achieved in the energy transformation, distribution and transmission sectors, including for more efficient district heating and cooling (DHC) infrastructure.

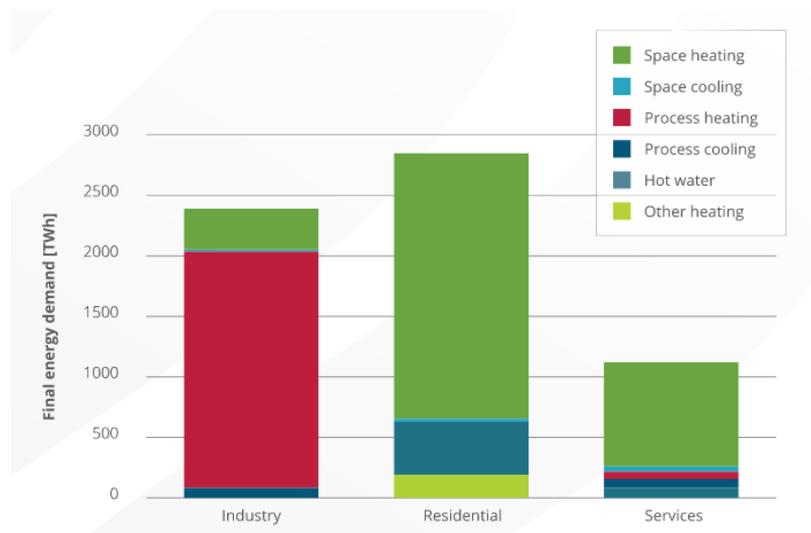


Figure 4: Final H&C demand among the EU28 (2015)^v

Novelties directly concerning DHC are new, stricter **rules on individual metering and billing**, giving customers clear rights to receive frequent and accurate information on their energy consumption, with an aim to better understand their habits and monitor their own bills. Furthermore, the new EED asks for more **transparent and publicly-available rules on the allocation of cost for heating, cooling and hot water consumption** in multi-apartment and multi-purpose buildings, as well as collective systems for such services.

Specific provisions related to heating and cooling *

Article 7

Energy saving obligations

Paragraph 1

- **“Member States shall achieve cumulative end-use energy savings at least equivalent to:**

- (a) *new savings each year from 1 January 2014 to 31 December 2020 of 1,5 % of annual energy sales to final customers by volume, averaged over the most recent three-year period prior to 1 January 2013. Sales of energy, by volume, used in transport may be excluded, in whole or in part, from that calculation;*
- (b) *new savings each year from 1 January 2021 to 31 December 2030 of 0,8 % of annual final energy consumption, averaged over the most recent three-year period prior to 1 January 2019. By way of derogation from that requirement, Cyprus and Malta shall achieve new savings each year from 1 January 2021 to 31 December 2030 equivalent to 0,24 % of annual final energy consumption, averaged over the most recent three-year period prior to 1 January 2019.”*

Paragraph 2

- *Provided that Member States achieve at least their cumulative end-use energy savings obligation referred to in point (b) of the first subparagraph of paragraph 1, they may calculate the required amount of energy savings by one or more of the following means:*
 - (a) *applying an annual savings rate on energy sales to final customers or on final energy consumption, averaged over the most recent three-year period prior to 1 January 2019;*
 - (b) *excluding, in whole or in part, energy used in transport from the calculation baseline;*
 - (c) *making use of any of the options set out in paragraph 4.”*

Paragraph 4

- *“Subject to paragraph 5, each Member State may:*
 - (a) *carry out the calculation required under point (a) of the first subparagraph of paragraph 1 using values of 1 % in 2014 and 2015; 1,25 % in 2016 and 2017; and 1,5 % in 2018, 2019 and 2020;*

(b) exclude from the calculation all or part of the sales of energy used, by volume, with respect to the obligation period referred to in point (a) of the first subparagraph of paragraph 1, or final energy consumed, with respect to the obligation period referred to in point (b) of that subparagraph, by industrial activities listed in Annex I to Directive 2003/87/EC;

(c) count towards the amount of required energy savings, energy savings achieved in the energy transformation, distribution and transmission sectors, including efficient district heating and cooling infrastructure, as a result of implementing the requirements set out in Article 14(4), point (b) of Article 14(5), and Article 15(1) to (6) and (9). Member States shall inform the Commission about their intended policy measures under this point for the period from 1 January 2021 to 31 December 2030 as part of their integrated national energy and climate plans. The impact of those measures shall be calculated in accordance with Annex V and included in those plans;

(d) count towards the amount of required energy savings, energy savings resulting from individual actions newly implemented since 31 December 2008 that continue to have an impact in 2020 with respect to the obligation period referred to in point (a) of the first subparagraph of paragraph 1 and beyond 2020 with respect to the period referred to in point (b) of the first subparagraph of paragraph 1, and which can be measured and verified;

(e) count towards the amount of required energy savings, energy savings that stem from policy measures, provided that it can be demonstrated that those measures result in individual actions carried out from 1 January 2018 to 31 December 2020 which deliver savings after 31 December 2020;

(f) exclude from the calculation of the amount of required energy savings, 30 % of the verifiable amount of energy generated on or in buildings for own use as a result of policy measures promoting new installation of renewable energy technologies;

(g) count towards the amount of required energy savings, energy savings that exceed the energy savings required for the obligation period from 1 January 2014 to 31 December 2020, provided that those savings result from individual actions carried out under policy measures referred to in Articles 7a and 7b, notified by Member States in their National Energy Efficiency Action Plans and reported in their progress reports in accordance with Article 24.”

* Emphasis and formatting have been added here into the EED text for the purpose of this briefing.

Paragraph 6

- “Member States shall describe in their integrated national energy and climate plans in accordance with Annex III to Regulation (EU) 2018/1999, the calculation of the amount of energy savings to be achieved over the period from 1 January 2021 to 31 December 2030 referred to in point (b) of the first subparagraph of paragraph 1 of this Article and shall, if relevant, explain how the annual savings rate and the calculation baseline were established, and how and to what extent the options referred to in paragraph 4 of this Article were applied.”

Paragraph 11

- “In designing policy measures to fulfil their obligations to achieve energy savings, **Member States shall take into account the need to alleviate energy poverty** in accordance with criteria established by them, taking into consideration their available practices in the field, by requiring, to the extent appropriate, a share of energy efficiency measures under their national energy efficiency obligation schemes, alternative policy measures, or programmes or measures financed under an Energy Efficiency National Fund, to be implemented as a priority among vulnerable households, including those affected by energy poverty and, where appropriate, in social housing.

Member States shall include information about the outcome of measures to alleviate energy poverty in the context of this Directive in the integrated national energy and climate progress reports in accordance with Regulation (EU) 2018/1999.”

Article 7a

Energy savings obligation schemes

Paragraph 1

- “Where Member States decide to fulfil their obligations to achieve the amount of savings required under Article 7(1) by way of an energy efficiency obligation scheme, they shall ensure that obligated parties as referred to in paragraph 2 of this Article operating in each Member State's territory achieve, without prejudice to Article 7(4) and (5), their cumulative end-use energy savings requirement as set out in Article 7(1).
- Where applicable, Member States may decide that obligated parties fulfil those savings, in whole or in part, as a contribution to the Energy Efficiency National Fund in accordance with Article 20(6).”

Paragraph 2

- “**Member States shall designate, on the basis of objective and non-discriminatory criteria, obligated parties among energy distributors, retail energy sales companies and transport fuel distributors or transport fuel retailers operating in their territory.** The amount of energy savings needed to fulfil the obligation shall be achieved by the obligated parties among final customers, designated by the Member State, independently of the calculation made pursuant to Article 7(1) or, if Member States so decide, through certified savings stemming from other parties as described in point (a) of paragraph 6 of this Article.”

Paragraph 3

- “Where retail energy sales companies are designated as obligated parties under paragraph 2, Member States shall ensure that, in fulfilling their obligation, retail energy sales companies do not create any barriers that impede consumers from switching from one supplier to another.”

Paragraph 4

- “Member States shall express the amount of energy savings required of each obligated party in terms of either final or primary energy consumption. The method chosen to express the amount of energy savings required shall also be used to calculate the savings claimed by obligated parties. The conversion factors set out in Annex IV shall apply.”

Paragraph 5

- “Member States shall put in place measurement, control and verification systems under which documented verification is carried out on at least a statistically significant proportion and representative sample of the energy efficiency improvement measures put in place by the obligated parties. The measurement, control and verification shall be carried out independently of the obligated parties.”

Paragraph 6

- “Within the energy efficiency obligation scheme, Member States may do one or both of the following:
 - (a) permit obligated parties to count towards their obligation certified energy savings achieved by energy service providers or other third parties, including when obligated parties promote measures through other State-approved bodies or through public authorities that may involve formal partnerships and may be in combination with other sources of finance. Where Member States so permit, they shall ensure that the certification of

energy savings follows an approval process that is put in place in the Member States, that is clear, transparent, and open to all market participants, and that aims to minimise the costs of certification;
(b) *allow obligated parties to count savings obtained in a given year as if they had instead been obtained in any of the four previous or three following years as long as this is not beyond the end of the obligation periods set out in Article 7(1).*

- *Member States shall assess and, if appropriate, take measures to minimise the impact of the direct and indirect costs of energy efficiency obligation schemes on the competitiveness of energy-intensive industries exposed to international competition.”*

Article 7b

Alternative policy measures

Paragraph 1

- *Where Member States decide to fulfil their obligations to achieve the savings required under Article 7(1) by way of alternative policy measures, they shall ensure, without prejudice to Article 7(4) and (5), that the energy savings required under Article 7(1) are achieved among final customers.*

Paragraph 2

- *For all measures other than those relating to taxation, Member States shall put in place measurement, control and verification systems under which documented verification is carried out on at least a statistically significant proportion and representative sample of the energy efficiency improvement measures put in place by the participating or entrusted parties. The measurement, control and verification shall be carried out independently of the participating or entrusted parties.;*

Article 9

Metering for gas and electricity

Paragraph 1

- *Member States shall ensure that, in so far as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings, for electricity and natural gas final customers are provided with competitively priced individual meters that accurately reflect their actual energy consumption and that provide information on the actual time of use.*

Paragraph 2

- *Where, and to the extent that, Member States implement intelligent metering systems and roll out smart meters for natural gas and/or electricity in accordance with Directives 2009/72/EC and 2009/73/EC:*
 - they shall ensure that the metering systems provide to final customers information on actual time of use and that the objectives of energy efficiency and benefits for final customers are fully taken into account when establishing the minimum functionalities of the meters and the obligations imposed on market participants;*
 - they shall ensure the security of the smart meters and data communication, and the privacy of final customers, in compliance with relevant Union data protection and privacy legislation;*
 - in the case of electricity and at the request of the final customer, they shall require meter operators to ensure that the meter or meters can account for electricity put into the grid from the final customer's premises;*
 - they shall ensure that if final customers request it, metering data on their electricity input and off-take is made available to them or to a third party acting on behalf of the final customer in an easily understandable format that they can use to compare deals on a like-for-like basis;*
 - they shall require that appropriate advice and information be given to customers at the time of installation of smart meters, in particular about their full potential with regard to meter reading management and the monitoring of energy consumption.*

Article 9a

Metering for heating, cooling and domestic hot water

Paragraph 1

- *Member States shall ensure that, for district heating, district cooling and domestic hot water, final customers are provided with competitively priced meters that accurately reflect their actual energy consumption.*

Paragraph 2

- *Where heating, cooling or domestic hot water is supplied to a building from a central source that services multiple buildings or from a district heating or district cooling system, a meter shall be installed at the heat exchanger or point of delivery.*

Article 9b

Sub-metering and cost allocation for heating, cooling and domestic hot water

Paragraph 1

- **In multi-apartment and multi-purpose buildings with a central heating or central cooling source or supplied from a district heating or district cooling system, individual meters shall be installed to measure the consumption of heating, cooling or domestic hot water for each building unit, where technically feasible and cost effective in terms of being proportionate in relation to the potential energy savings.**
- **Where the use of individual meters is not technically feasible or where it is not cost-efficient to measure heat consumption in each building unit, individual heat cost allocators shall be used to measure heat consumption at each radiator unless it is shown by the Member State in question that the installation of such heat cost allocators would not be cost-efficient.** In those cases, alternative cost-efficient methods of heat consumption measurement may be considered. The general criteria, methodologies and/or procedures to determine technical non-feasibility and non-cost effectiveness shall be clearly set out and published by each Member State.

Paragraph 2

- *In new multi-apartment buildings and in residential parts of new multi-purpose buildings that are equipped with a central heating source for domestic hot water or are supplied from district heating systems, individual meters shall, notwithstanding the first subparagraph of paragraph 1, be provided for domestic hot water.*

Paragraph 3

- *Where multi-apartment or multi-purpose buildings are supplied from district heating or district cooling, or where own common heating or cooling systems for such buildings are prevalent, Member States shall ensure they have in place transparent, publicly available national rules on the allocation of the cost of heating, cooling and domestic hot water consumption in such buildings to ensure transparency and accuracy of accounting for individual consumption. Where appropriate, such rules shall include guidelines on the manner in which to allocate cost for energy that is used as follows:*
 - domestic hot water;*
 - heat radiated from the building installation and for the purpose of heating the common areas, where*

staircases and corridors are equipped with radiators;
(c) for the purpose of heating or cooling apartments.

Article 9c

Remote reading requirement

Paragraph 1

- **For the purposes of Articles 9a and 9b, meters and heat cost allocators installed after 25 October 2020 shall be remotely readable devices.** The conditions of technical feasibility and cost effectiveness set out in Article 9b(1) shall continue to apply.

Paragraph 2

- *Meters and heat cost allocators which are not remotely readable but which have already been installed shall be rendered remotely readable or replaced with remotely readable devices by 1 January 2027, save where the Member State in question shows that this is not cost-efficient.;*

Article 10a

Billing and consumption information for heating, cooling and domestic hot water

Paragraph 1

- **Where meters or heat cost allocators are installed, Member States shall ensure that billing and consumption information is reliable, accurate and based on actual consumption or heat cost allocator readings,** in accordance with points 1 and 2 of Annex VIIa for all final users, namely for natural or legal persons purchasing heating, cooling or domestic hot water for their own end-use, or natural or legal persons occupying an individual building or a unit in a multi-apartment or multi-purpose building supplied with heating, cooling or domestic hot water from a central source who has no direct or individual contract with the energy supplier.
- *This obligation may, where a Member State so provides, save in the case of sub-metered consumption based on heat cost allocators under Article 9b, be fulfilled by a system of regular self-reading by the final customer or final user whereby they communicate readings from their meter. Only where the final customer or final user has not provided a meter reading for a given billing interval shall billing be based on estimated consumption or a flat rate.*

Paragraph 2

- *Member States shall:*
 - (a) require that, if information on the energy billing and historical consumption or heat cost allocator readings of final users is available, it be made available upon request by the final user, to an energy service provider designated by the final user;*
 - (b) ensure that final customers are offered the option of electronic billing information and bills;*
 - (c) ensure that clear and comprehensible information is provided with the bill to all final users in accordance with point 3 of Annex VIIa; and*
 - (d) promote cybersecurity and ensure the privacy and data protection of final users in accordance with applicable Union law.*
- *Member States may provide that, at the request of the final customer, the provision of billing information shall not be considered to constitute a request for payment. In such cases, Member States shall ensure that flexible arrangements for actual payment are offered.*

Paragraph 3

- *Member States shall decide who is to be responsible for providing the information referred to in paragraphs 1 and 2 to final users without a direct or individual contract with an energy supplier.;*

Article 11a

Cost of access to metering and billing and consumption information for heating, cooling and domestic hot water

Paragraph 1

- **Member States shall ensure that final users receive all their bills and billing information for energy consumption free of charge and that final users have access to their consumption data in an appropriate way and free of charge.**

Paragraph 2

- *Notwithstanding paragraph 1 of this Article, the distribution of costs of billing information for the individual consumption of heating, cooling and domestic hot water in multi-apartment and multi-purpose buildings pursuant to Article 9b shall be carried out on a non-profit basis. Costs resulting from the assignment of that task to a third party, such as a service provider or the local energy supplier, covering the measuring, allocation and accounting for actual individual consumption in such buildings, may be passed onto the final users to the extent that such costs are reasonable.*

Paragraph 3

- *In order to ensure reasonable costs for sub-metering services as referred to in paragraph 2, Member States may stimulate competition in that service sector by taking appropriate measures, such as recommending or otherwise promoting the use of tendering and/or the use of interoperable devices and systems facilitating switching between service providers.;*

ⁱ https://ec.europa.eu/energy/sites/ener/files/documents/energy_efficiency_factsheet.pdf

ⁱⁱ <https://www.ise.fraunhofer.de/en/research-projects/mapping-eu-heat-supply.html>

ⁱⁱⁱ European Commission, as cited by http://www.flexynets.eu/en/News/26_02_2016

^{iv} https://www.isi.fraunhofer.de/content/dam/isi/dokumente/cce/2017/29882_Brochure_Heating-and-Cooling_web.pdf

^v <http://www.odyssee-mure.eu/publications/policy-brief/heating-system-buildings-policies-direction.html>