Basic information

2016/2058(INI) INI - Own-initiative procedure	Procedure completed
EU strategy on heating and cooling **Subject** 3.40.07 Building industry 3.60.08 Energy efficiency 4.60.06 Consumers' economic and legal interests	

Key players

European Parliament

Committee responsible	Rapporteur	Appointed
ITRE Industry, Research and Energy	GIEREK Adam (S&D)	23/02/2016
	Shadow rapporteur SAUDARGAS Algirdas (PPE) BAREKOV Nikolay (ECR) PETERSEN Morten (ALDE) ERNST Cornelia (GUE/NGL) JÁVOR Benedek (Verts/ALE) TAMBURRANO Dario (EFDD) KAPPEL Barbara (ENF)	

Committee for opinion	Rapporteur for opinion	Appointed
ENVI Environment, Public Health and Food Safety	FJELLNER Christofer (PPE)	19/04/2016
IMCO Internal Market and Consumer Protection	The committee decided not to give an opinion.	

European Commission

Commission DG	Commissioner
Energy	ARIAS CAÑETE Miguel

Key events

Date	Event	Reference	Summary

16/02/2016	Non-legislative basic document published	COM(2016)0051	Summary
28/04/2016	Committee referral announced in Parliament		
12/07/2016	Vote in committee		
15/07/2016	Committee report tabled for plenary	A8-0232/2016	Summary
12/09/2016	Debate in Parliament		
13/09/2016	Decision by Parliament	T8-0334/2016	Summary
13/09/2016	Results of vote in Parliament		
13/09/2016	End of procedure in Parliament		

Technical information

Procedure reference	2016/2058(INI)
Procedure type	INI - Own-initiative procedure
Procedure subtype	Initiative
Legal basis	Rules of Procedure EP 55
Other legal basis	Rules of Procedure EP 165
Stage reached in procedure	Procedure completed
Committee dossier	ITRE/8/06294

Documentation gateway

European Parliament

Document type	Committee	Reference	Date	Summary
Committee draft report		PE582.058	20/04/2016	
Amendments tabled in committee		PE582.448	30/05/2016	
Amendments tabled in committee		PE584.010	30/05/2016	
Committee opinion	ENVI	PE582.292	21/06/2016	
Committee report tabled for plenary, single reading		A8-0232/2016	15/07/2016	Summary
Text adopted by Parliament, single reading		T8-0334/2016	13/09/2016	Summary

European Commission

Document type	Reference	Date	Summary
Commission document (COM)	COM(2016)0051	16/02/2016	Summary
Commission response to text adopted in plenary	SP(2016)876	21/12/2016	

National parliaments

Document type	Parliament /Chamber	Reference	Date	Summary
Contribution	AT_BUNDESRAT	COM(2016)0051	07/06/2016	
Contribution	CZ_SENATE	COM(2016)0051	07/06/2016	
Contribution	RO_CHAMBER	COM(2016)0051	17/06/2016	
Contribution	DE_BUNDESTAG	COM(2016)0051	20/07/2016	
Contribution	IT_CHAMBER	COM(2016)0051	04/08/2016	

EU strategy on heating and cooling

2016/2058(INI) - 15/07/2016 - Committee report tabled for plenary, single reading

The Committee on Industry, Research and Energy adopted the own-initiative report by Adam GIEREK (S&D, PL) following the Commission communication entitled 'An EU Strategy on Heating and Cooling'.

Recalling that almost 50 % of the EU's final energy demand is used for heating and cooling, the report pointed out the necessity to **take along specific measures** for heating and cooling when revising the Energy Efficiency Directive (2012/27/EU), the Renewable Energy Directive (2009/28/EC) and the Energy Performance of Buildings Directive (2010/31/EU).

Members considered that the strategy on heating and cooling must allow for both of these necessities in equal measure, taking into account that Europe has different climate zones and that needs, in terms of energy use, differ accordingly. It was important to ensure flexibility in choosing adequate strategy solutions.

Specific sustainable strategies: the report called for **specific sustainable heating and cooling strategies** to be developed at national level, giving special attention to combined heat and power, cogeneration, district heating and cooling, preferably based on **renewables**. It stressed the need to facilitate decentralised energy generation, thereby empowering consumers to be more involved in the energy market, and to control their own energy use.

Technology: Members stressed the fundamental role of renewable energy technologies, including the use of sustainable biomass, of aero thermal, geothermal and solar energy, and of photovoltaic cells in combination with electric batteries, to heat water and provide heating and cooling in buildings, in conjunction with thermal storage facilities that can be used for daily or seasonal balancing. They called on Member States to provide **incentives** for the promotion and take-up of such technologies.

Increase energy efficiency standards: energy demand in the building sector is responsible for about **40 %** of energy consumption in the EU, and a third of the natural gas use. This could be reduced by up to three quarters if the renovation of buildings is speeded up. Furthermore, **85 %** of this energy consumption is used for heating and domestic hot water.

In this context, Members considered that **modernisation of old and inefficient heating systems**, increased utilisation of electricity from renewables, better use of "waste heat" through highly efficient district heating systems, and **deep renovation of buildings** with improved thermal insulation, remain key to delivering a more secure and sustainable approach to heat supply.

They recommended: (i) the continuation of increasing energy efficiency standards for buildings, taking account of and encouraging technical innovation, particularly as regards ensuring homogeneity of insulation; (ii) continued support for the construction of nearly zero energy buildings. They called on the Commission to provide adequate **co-financing** for initiatives aimed at renovating public housing and apartment blocks with low levels of energy efficiency.

Furthermore, an **attractive financing system** should be set up to promote new technologies for heating households using renewable energy sources.

The report asked Member States to use legal and economic means to **accelerate the gradual phasing-out of outdated solid-fuel furnaces** with an energy efficiency level of less than 80 %, and to replace them, where possible, with efficient, sustainable heating systems at local level (such as district heating systems) or micro level (such as geothermal and solar systems).

Member States were called upon to: (i) phase out the use in urban areas of outdated furnaces for heating purposes that generate 'low height' emissions; (ii) take measures to phase out energy-inefficient furnaces and boilers using heating oil and coal that currently fuel over half of the building stock in the countryside; (iii) as a matter of urgency, take steps towards phasing out low-temperature furnaces used for the combustion of solid fossil fuels and organic waste, which, during the combustion process, release into the atmosphere a variety of harmful substances.

Europe's temperate climate zone: in this zone, reverse systems for heating and cooling using efficient **heat pumps** could become very important under certain conditions, given their flexibility. The report called on the Commission and the Member States to provide, with regard to heat pumps, **adequate aligned calculation methods**, and to promote the sharing of best practices for support mechanisms in order to support efficient, sustainable and low-carbon solutions to various thermal needs.

Research: Members took the view that progress should be made under the Horizon 2020 framework programme in R&D **relating to sustainable and efficient heating and cooling systems and materials,** such as small-scale renewable generation and storage solutions, district heating and cooling systems, cogeneration and insulation materials, as well as innovative materials such as structural window glass that lets in high levels of short-wave radiation (sunlight) from outside and lets out only a minimum of the long-wave thermal radiation that would otherwise escape to the outside.

The report stressed the importance of extensive scientific research into the development of innovative technological solutions designed to deliver **appliances and entire heating and cooling systems** that are energy efficient and based on renewables.

EU strategy on heating and cooling

2016/2058(INI) - 13/09/2016 - Text adopted by Parliament, single reading

The European Parliament adopted by 550 votes to 66 with 87 abstentions, a resolution on heating and cooling following the Commission communication entitled 'An EU Strategy on Heating and Cooling'.

Members fully endorsed the Commission's ambition of **recognising and exploiting the synergies between the electricity and heating sectors**, and called on the latter to consider heating and cooling sectors as part of European energy market design.

Recalling that almost 50 % of the EU's final energy demand is used for heating and cooling, parliament pointed out the necessity to **take along specific measures** for heating and cooling when revising the Energy Efficiency Directive (2012/27/EU), the Renewable Energy Directive (2009/28/EC) and the Energy Performance of Buildings Directive (2010/31/EU).

Specific sustainable strategies: Parliament called for **specific sustainable heating and cooling strategies** to be developed at national level, giving special attention to combined heat and power, cogeneration, district heating and cooling, preferably based on **renewables**. It stressed the need to facilitate decentralised energy generation, thereby empowering consumers to be more involved in the energy market, and to control their own energy use.

District energy networks: stressing the importance of district energy networks that offer an alternative to more polluting systems for individual heating, Parliament encouraged the Member States to put in place fiscal and financial mechanisms to encourage the development and use of district heating and cooling, and to tackle regulatory barriers.

Technology: Members stressed the fundamental role of renewable energy technologies, including the use of sustainable biomass, of aero thermal, geothermal and solar energy, and of photovoltaic cells in combination with electric batteries, to heat water and provide heating and cooling in buildings, in conjunction with thermal storage facilities that can be used for daily or seasonal balancing. They called on Member States to provide **incentives** for the promotion and take-up of such technologies.

Members called for a review of existing legislation focused on safeguarding **technology neutrality** and cost efficiency so as to ensure that it does not promote or discredit one technology over another – renewable energy produced on-site, such as by means of residential solar panels, or near a building should, for instance, be accounted for when calculating the building's energy performance, regardless of the source.

Modernise heating systems and renovate buildings: energy demand in the building sector is responsible for about **40 %** of energy consumption in the EU, and a third of the natural gas use. This could be reduced by up to three quarters if the renovation of buildings is speeded up. Furthermore, **85 %** of this energy consumption is used for heating and domestic hot water.

Parliament recommended:

- the continuation of increasing **energy efficiency standards for buildings**, taking account of and encouraging technical innovation, particularly as regards ensuring homogeneity of insulation;
- continued support for the **construction of nearly zero energy buildings;**
- the provision of adequate **co-financing** for initiatives aimed at renovating public housing and apartment blocks with low levels of energy efficiency;
- set up an **attractive financing system** to promote new technologies for heating households using renewable energy sources.

Outdated solid-fuel furnaces: the resolution asked Member States to use legal and economic means to **accelerate the gradual phasing-out of outdated solid-fuel furnaces** with an energy efficiency level of less than 80 %, and to replace them, where possible, with efficient, sustainable heating systems at local level (such as district heating systems) or micro level (such as geothermal and solar systems).

Member States were called upon to:

- phase out the use in urban areas of outdated furnaces for heating purposes that generate 'low height' emissions;
- take measures to phase out energy-inefficient furnaces and boilers using heating oil and coal that currently fuel over half of the building stock in the countryside;
- as a matter of urgency, take steps towards phasing out low-temperature furnaces used for the combustion of solid fossil fuels and organic waste, which, during the combustion process, release into the atmosphere a variety of harmful substances.

Europe's temperate climate zone: in this zone, reverse systems for heating and cooling using efficient **heat pumps** could become very important under certain conditions, given their flexibility. Parliament called on the Commission and the Member States to provide, with regard to heat pumps, **adequate aligned calculation methods**, and to promote the sharing of best practices for support mechanisms in order to support efficient, sustainable and low-carbon solutions to various thermal needs.

Biogas: stressing that biogas represents an important sustainable source for heating and cooling systems, Parliament suggested setting up a clear target for organic recycling in order to incentivise investments in the collection and treatment of bio-waste.

Research: Members took the view that progress should be made under the Horizon 2020 framework programme in R&D **relating to sustainable and efficient heating and cooling systems and materials,** such as:

- small-scale renewable generation and storage solutions, district heating and cooling systems;
- insulation materials, as well as innovative materials such as **structural window glass** that lets in high levels of short-wave radiation (sunlight) from outside and lets out only a minimum of the long-wave thermal radiation that would otherwise escape to the outside.

Energy poverty: Parliament urged the Commission and the Member States to come up with **specific strategies** to tackle the ever-growing problem of energy poverty in order to help all consumers, especially the most vulnerable, to ameliorate their housing, heating and cooling conditions, on an individual or collective basis, whether they are home owners or tenants.

EU strategy on heating and cooling

2016/2058(INI) - 16/02/2016 - Non-legislative basic document

PURPOSE: to present an EU strategy on heating and cooling systems in buildings and industry.

BACKGROUND: developing a strategy to make heating and cooling more efficient and sustainable is a priority for the Energy Union.

- With **50% of final energy consumption in 2012**, heating and cooling is the EU's biggest energy sector. It is expected to remain so. **Renewables accounted for 18%** of the primary energy supply for heating and cooling in 2012, while fossil fuels accounted for 75%.
- 45% of energy for heating and cooling in the EU is used in the residential sector, 37% in industry and 18% in services. The Commission stated that each sector has potential to reduce demand, increase efficiency and shift to renewable sources.

Buildings (and people living in them) are the first consumers of heating and cooling. Space heating accounts for more than 80% of heating and cooling consumption in colder climates.

However, in Europe **old buildings** cause various problems:

- almost half of the EU's buildings have individual boilers installed before 1992, with efficiency of 60% or less;
- 22% of individual gas boilers, 34% of direct electric heaters, 47% of oil boilers and 58% of coal boilers are older than their technical lifetime.

Industry accounted for a quarter of the EU's final energy consumption in 2012. 73% of this is used for heating and cooling. European industry has cut its energy intensity twice as fast as the US since 2000. The improvement rate is steeper in energy intensive sectors The reason is clear: energy is an important cost. By putting a price on CO2 emissions, the EU Emissions Trading Scheme has provided an incentive to use low carbon fuels and to invest in energy efficiency.

Significant potential remains. Using existing technologies, it is possible to reduce energy costs in industry by 4-10% with investments that pay for themselves in less than 5 years. However, the visibility of energy savings is low.

Consumers must be at the centre of this strategy, **using modern technologies and innovative solutions** to shift to a smart, efficient and sustainable heating and cooling system that can unlock energy and budgetary savings for companies and citizens, improve air quality, increase well-being for individuals and provide benefits to society as a whole.

CONTENT: this strategy provides a framework for **integrating efficient heating and cooling into EU energy policies** by:

- focusing action on stopping the energy leakage from buildings;
- maximising the efficiency and sustainability of heating and cooling systems;
- supporting efficiency in industry;
- reaping the benefits of integrating heating and cooling into the electricity system.

Tools and solutions: heating and cooling are produced locally in markets that are fragmented. Tackling the obstacles to more efficient and sustainable heating and cooling will require action at local, regional and national level, within a supportive European framework. The Commission invites Member States to:

- **review their property laws** to address how to share gains from energy improvements in private rented properties between landlords and tenants, and how to share benefits and costs among residents of multi-apartment buildings;
- ensure that a share of energy efficiency funding is dedicated to **improvements for energy-poor households** or (as a proxy) for those living in the most deprived areas, for example, by investing in energy-efficient heating and cooling equipment;
- work with stakeholders to raise consumer awareness of household energy efficiency aspects;
- stimulate the take-**up of the recommendations** of company energy audits;
- **support local and regional actors** who can improve the bankability of investments through 'bundling' individual projects into bigger investment packages.

Buildings: the Energy Performance of Buildings Directive (EPBD) lays down a framework for improving the energy performance of Europe's building stock. However, the rate of building renovation is low (0.4 to 1.2% per year). As part of the **review of the EPBD (including REFIT component) in 2016**, the Commission will look into **strengthening the reliability of energy performance certificates** and reinforcing their signals for renewable energy.

The Commission will examine:

- developing a toolbox of measures to **facilitate renovation in multi-apartment buildings**;
- promoting proven energy efficiency models for publicly owned educational buildings and hospitals;
- using inspections of boilers to provide information on the efficiency of existing heating and cooling systems;
- facilitating the market uptake of voluntary certification schemes for non-residential buildings.

The Commission will also look into:

- strengthened feedback to consumers through advanced metering and billing;
- making **advanced tools** for metering, control and automation based on real time information standard requirements for service sector buildings;
- empowering consumers to participate in demand response, thus saving them money.

Renewable-based and efficient heating and cooling : in the reviews of the Energy Performance of Buildings Directive (EPBD), the Energy Efficiency Directive (EED) and the Renewable Energy Directive, the Commission will look into:

- promoting renewable energy through a comprehensive approach to speed up the replacement of obsolete fossil fuel boilers with efficient renewable heating and increasing the deployment of renewable energy in district heating and CHP;
- supporting local authorities in preparing strategies for the promotion of renewable heating and cooling;
- setting up a website with price comparison tools on the lifetime costs and benefits of heating and cooling systems.

Smart systems: smart grids, smart metering, smart homes and buildings, self-generation and thermal and electrical and chemical storage need to be promoted by a modern market design.

As part of the Electricity Market Design, Renewable Energy Directive and EED reviews, the Commission will look into:

- rules to integrate thermal storage (in buildings and district heating) into flexibility and balancing mechanisms of the grid;
- incentivising citizen participation in the energy market through decentralised production and consumption of electricity;
- incentivising the uptake of renewable energy in heat production, including CHP;
- incentivising the take-up of fully interoperable smart buildings solutions, systems and appliances.

The Commission will: (i) intensify cooperation with European consumer associations; (ii) extend the work of the BUILD UP skills campaign to improve training for building professionals, in particular through a new module for energy experts and architects; (iii) set up sectoral round tables with industry and develop benchmarks/guidance for best practice on energy efficiency and renewable energy.

Innovation: under the Strategic Energy Technology Plan, the Commission will:

- promote renewable and waste heat based cogeneration of heat and power;
- examine new approaches to low temperature heating in industry;
- develop advanced materials and industrialised construction processes with the construction sector and leading institutions in materials and industry.

Research, innovation and demonstration actions funded by Horizon 2020 will also support the EU strategy on heating and cooling. In addition, the Commission will support the use of the European Structural and Investment Funds (ESIF) for the implementation of the national and regional heating and cooling-related smart specialisation priorities.

Financing: under the **'Smart Finance for Smart Buildings'** initiative the Commission will:

- test a framework for underwriting procedures for financial institutions to incorporate impacts of energy efficiency in everyday market practice;
- encourage Member States to establish one stop shops for low-carbon investments (encompassing advisory services, Project Development Assistance and project financing);
- encourage retail banks to offer products adapted for renovation of privately rented buildings (e.g. deferred mortgages, term loans) and disseminate best practices, also in relation to tax treatment of renovation.

The Commission called on the European Parliament and the Council to endorse this strategy.