



Evaluating Greece's public awareness campaign using the streamSAVE methodology

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EnR WEBINAR on Monitoring behaviour change measures and sharing best practices



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Aim of streamSAVE

streamSAVE aims to assist Member States in their efforts to **deliver rapidly scalable savings and increase their chances of successfully meeting energy efficiency targets** under Article 3 and 7 of the Energy Efficiency Directive (EED).

KNOWLEDGE FACILITY

The project will help Member States align energy savings estimates with actual energy savings achieved to increase energy savings across Europe. Given the importance of deemed savings approaches in Member States' EED reporting, streamSAVE will focus on the bottom-up calculations methodologies of technical actions and define guidelines to estimate the cost effectiveness of each action. The methodologies will be made publicly available on **the streamSAVE platform**.

CAPACITY SUPPORT FACILITY

The Capacity Support Facility will provide Member States with one-to-one technical support. Experts from the streamSAVE consortium will provide tailored support to meet the diverse needs of public authorities. The evidence-based support will consist of determining the baseline consumptions for Priority Actions in relation to Article 3 and 7, and correcting energy savings for free-rider behaviour among other activities.

KNOWLEDGE EXCHANGE FACILITY

The sharing of experiences among Member States will be facilitated by a lively community of experts. streamSAVE will organise tailored peer-to-peer dialogues, in which stakeholders will discuss technical and economical details about Priority Actions in relation to Article 3 and 7. Additionally, the streamSAVE platform and online forum will enable continuous knowledge exchange.

Savings calculation for behavioural changes

-Type of feedback measure

Feedback

- “Direct feedback” campaigns, immediate (real time) and easily accessible consumption feedback from:
 - Self-meter-reading (visible energy meter/smart meter)
 - Information display
 - Real-time consumption on a webpage
 - Ambient devices (which by light or sound can inform consumers about their energy consumption level)

Feedback including tailored advice

- Feedback including information which has been processed in some way before the consumer receives:
 - More informative frequent bills
 - Historical energy consumption comparison
 - Energy consumption rewards
 - Information on a webpage
 - Direct e-mail and SMS
 - Energy audits or reports
 - Energy Efficiency advice tailored to the consumer

Savings calculation for behavioural changes

- Calculation of final energy savings

$$TFES = N \cdot UFEC \cdot S \cdot dc$$

TFES	Total final energy savings [kWh/a]
N	Number of participants [dmnl]
UFEC	Unitary Final Energy Consumption per household (electricity or gas) [kWh/a]
S	Energy saving factor [%]
dc	Double-counting factor [%]

Savings calculation for behavioural changes - Indicative values

Table 47: Indicative values for Unitary Final Energy Consumption per household for the target final uses

Country	UFEC Electricity per household ⁽¹⁾ [kWh/a] (Eurostat, 2019)	UFEC Electricity for heating per household ⁽²⁾ [kWh/a] (JRC IDEES, 2015)	UFEC Gas for heating per household ⁽³⁾ [kWh/a] (JRC IDEES, 2015)
Austria	4,654.58	7,583.86	11,742.55
Belgium	3,838.40	6,443.27	12,502.88
Bulgaria	3,754.16	2,956.74	3,823.72
Croatia	4,216.25	5,062.84	9,951.72
Cyprus	5,328.79	2,561.23	5,484.02
Czechia	3,206.90	8,567.80	11,458.61
Denmark	3,927.40	5,571.89	12,060.06
Estonia	3,225.80	9,673.39	10,202.56
Finland	8,309.44	7,980.90	17,598.05
France	5,314.94	5,973.06	7,554.68
Germany	3,134.18	7,242.33	9,685.01

Table 48: Indicative values for the Energy Savings factor (S)

Final use	Type of measure	Energy Savings factor (S) [%]
Electricity	Feedback	2.30 %
	Feedback including tailored advice	3.50 %
Electricity for heating	Feedback	2.00 %
	Feedback including tailored advice	3.00 %
Gas for heating	Feedback	3.40 %
	Feedback including tailored advice	3.60 %

Table 49: Indicative values for the lifetime of savings in feedback and tailored advice in the residential sector

Lifetime of savings	[a]
Lifetime of savings	1 year

Awareness raising campaigns in residential and tertiary sectors - Greek EEOs

Measures for existing consumers/customers:

$$TFES_{yr} = \sum_1^i n * FEC_{unit} * S_Q * S_{affected} * (1 - S_{reduction}) * (1 - S_{affected_prev_year})$$

Measures for non-existing consumers/customers:

$$TFES_{yr} = \sum_1^i n * FEC_{unit} * S_Q * S_{affected} * (1 - S_{reduction})^2 * (1 - S_{affected_prev_year})$$

Where:

TFES	Total final energy savings [kWh]
FEC _{unit}	Average final energy consumption of the target group (either of the residence in residential sector or of the employee in the tertiary sector) [kWh]
S _Q	Energy savings factor [%]
S _{affected}	Percentage of affected consumers/customers [%]
S _{reduction}	Impairment percentage due to the involvement of more than one obligation parties in existing consumers/customers [%]
S _{affected_prev_year}	Impairment percentage due to the influence of a target group (either of the residence in residential sector or of the employee in the tertiary sector) from measures taken in the previous reference year [%]
n	Number of involved residences in the case of residential sector and of employees in the case of tertiary sector.
i	Number of energy savings measures

Awareness raising campaigns in residential and tertiary sectors - Greek EEOs

FEC _{unit}	Value
Residential sector [kWh/residence]	7,955
Tertiary sector [kWh/employee]	7,406
Other parameters	[%]
S _{affected}	32%
S _{reduction}	20%
S _{affected_prev_year} - Residential sector	30%
S _{affected_prev_year} - Tertiary sector	31%

S _q	[%]
Information	2%
Specialized information	3%
Financial incentives + information	5%
Information on weekly basis	10%
Issuing of Energy Performance Certificate (EPC)	10%
Energy Audit	15%

Lifetime of savings	[a]
Lifetime of savings	2

Awareness raising campaigns - Greek EEOs (2017-2020)

Type of energy efficiency measure	Energy savings (ktoe)	%
Awareness raising campaigns in residential sector	138.6	23.2%
Awareness raising campaigns in tertiary sector	50.8	8.5%
Energy upgrade of the building envelope in buildings	0.3	0.0%
Energy efficiency measures in technical and industrial processes	3.1	0.5%
Introduction of energy management systems - Energy audits	0.1	0.0%
Energy efficient lighting in buildings of residential sector	8.9	1.5%
Energy efficient lighting in buildings of tertiary sector	4.0	0.7%
Promotion of new and alternative vehicle technologies	3.2	0.5%
Eco-driving	4.1	0.7%
Efficiency improvement through energy efficiency measures in transport sector	10.4	1.7%
Promotion of fuel additives	170.5	28.5%
Awareness raising campaigns in transport sector	125.0	20.9%
Promotion of high efficiency lubricants	30.5	5.1%
Promotion of LPG in transport sector	6.7	1.1%
Energy upgrade of heating systems in residential sector	14.9	2.5%
Energy upgrade of cooling systems	0.02	0.0%
Energy upgrade of heating systems in tertiary sector	0.004	0.0%
Other measures	27.9	4.7%
Total	598.7	100%

Computer Assisted Telephone Interviewing Survey Conducted in the beginning of 2023

2,500 households

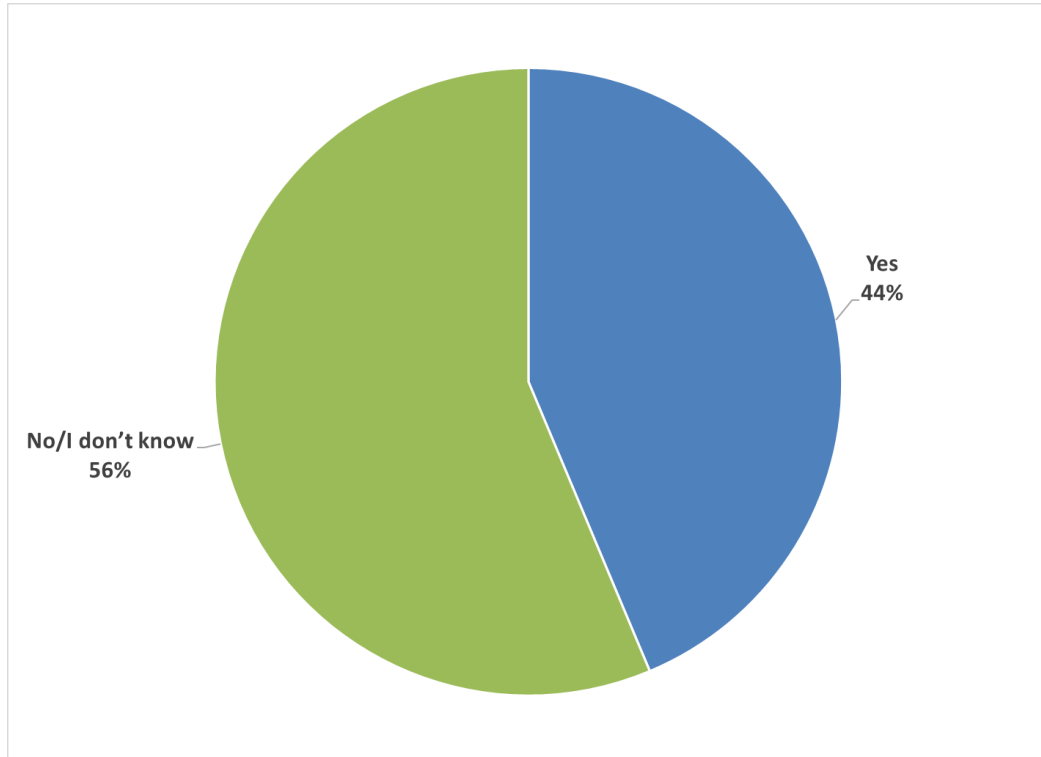
49% men and 51% women

Average year of birth: 1971

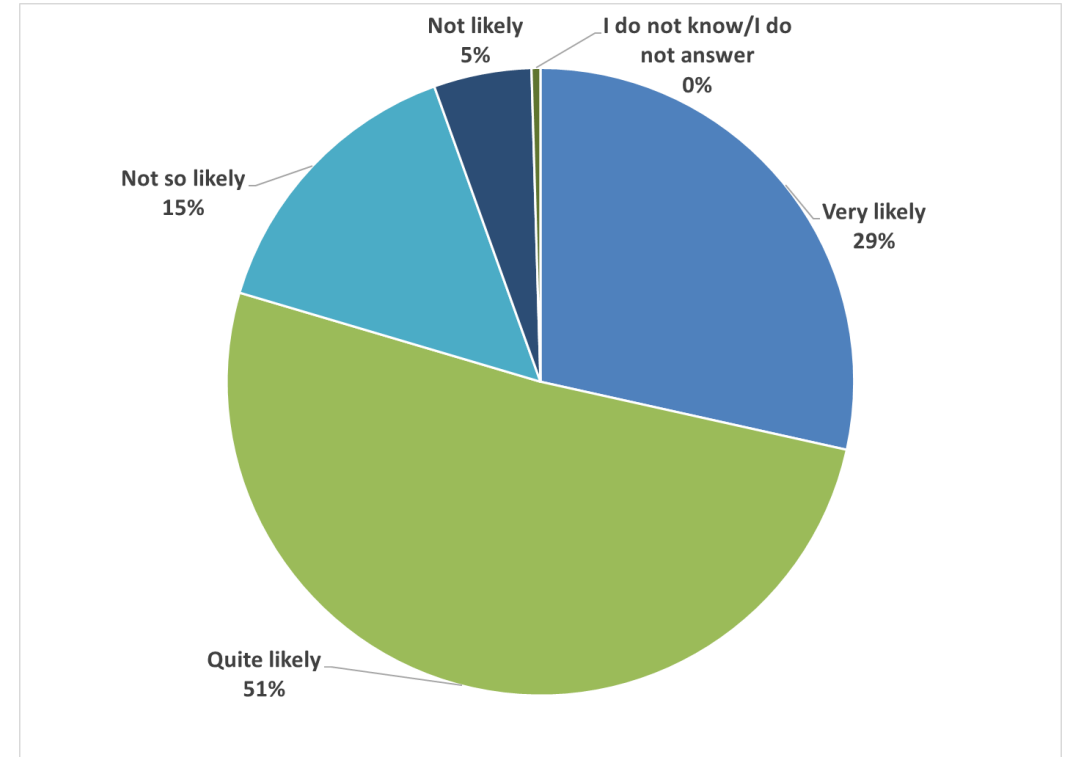
Sampling 61% in urban areas, 16% in semi-urban areas and 23% in rural areas

Do you read the distributed leaflets with information about saving energy?

Will you adopt the presented energy saving information in the distributed leaflets?

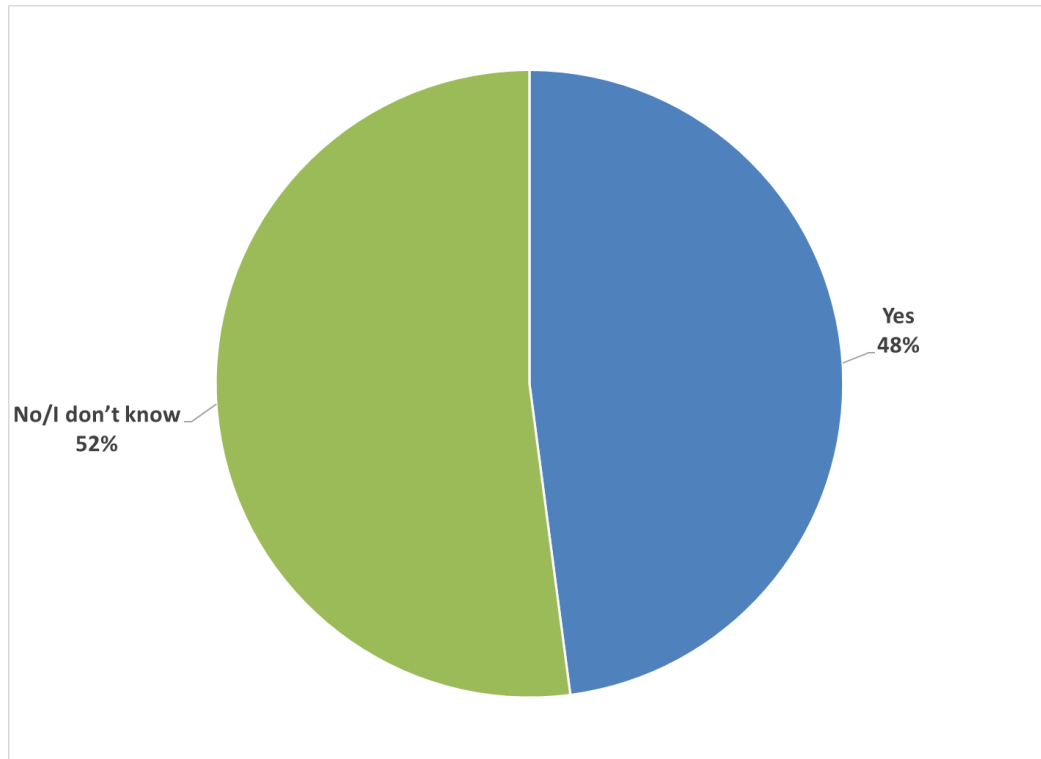


Results of 2017 survey: 38% (yes)

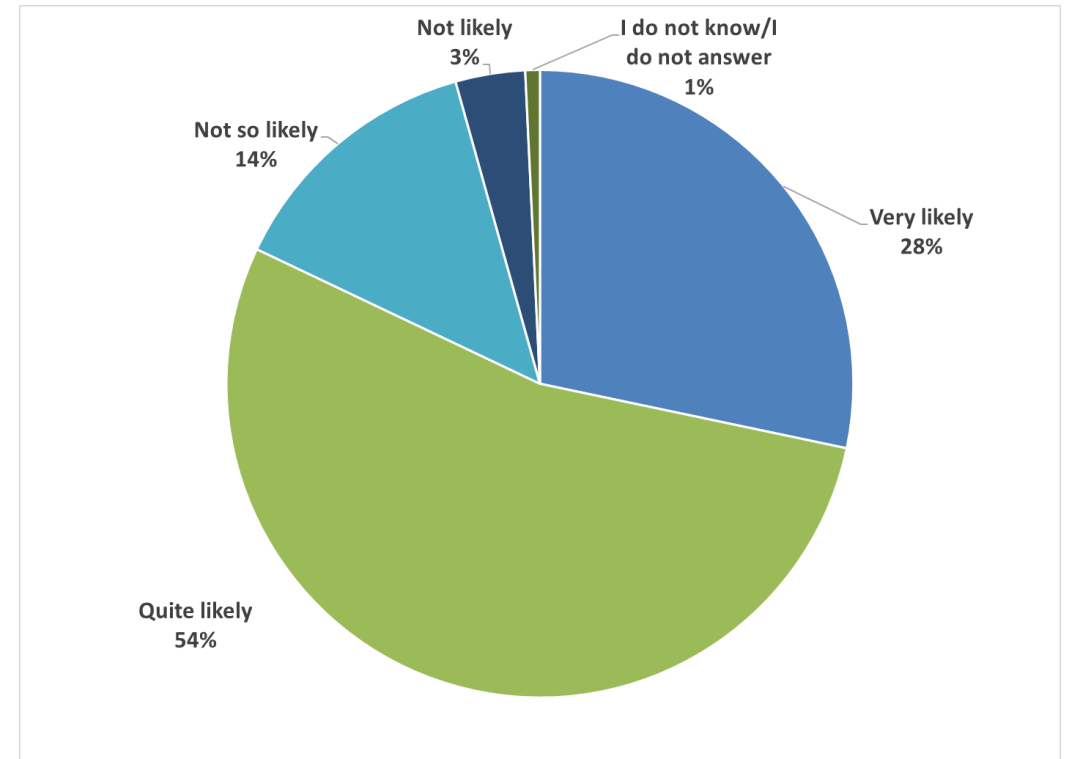


Results of 2017 survey: 84% (quite and very likely)

Do you read the energy saving information provided through the social media?

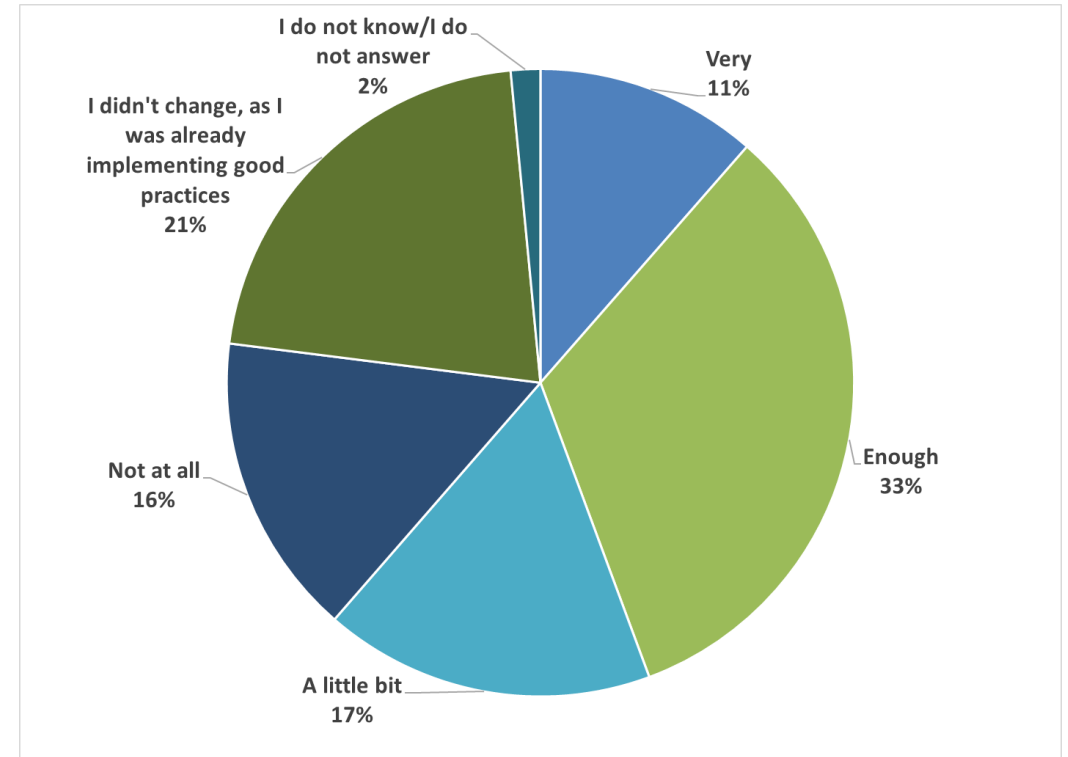
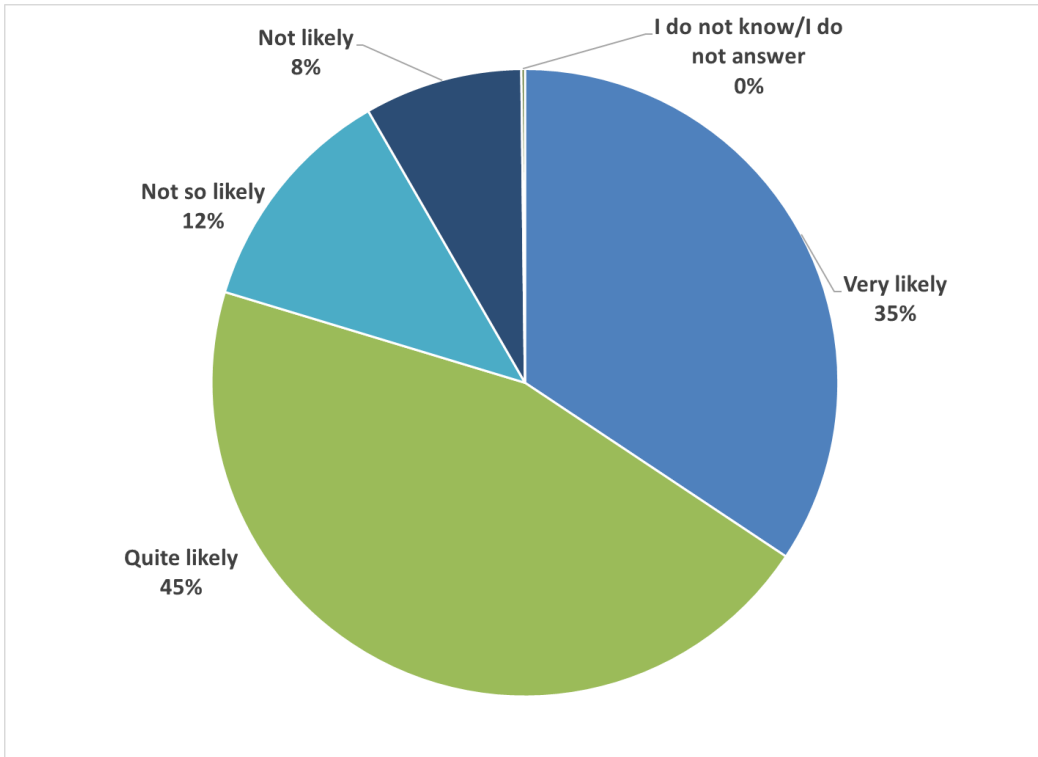


Will you adopt the energy saving information provided through the social media?



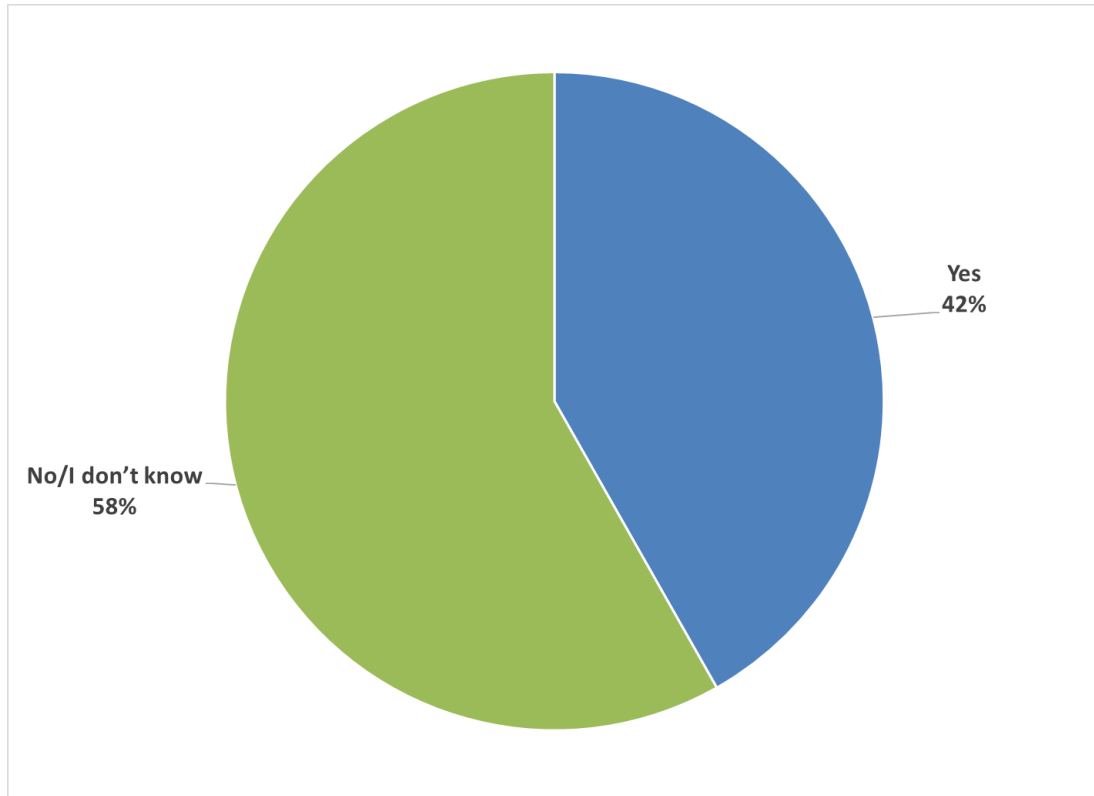
Will you pass on the energy saving information or experience to another person?

How much do you think the EEOs in the period 2017-2020 have contributed to changing behaviour?

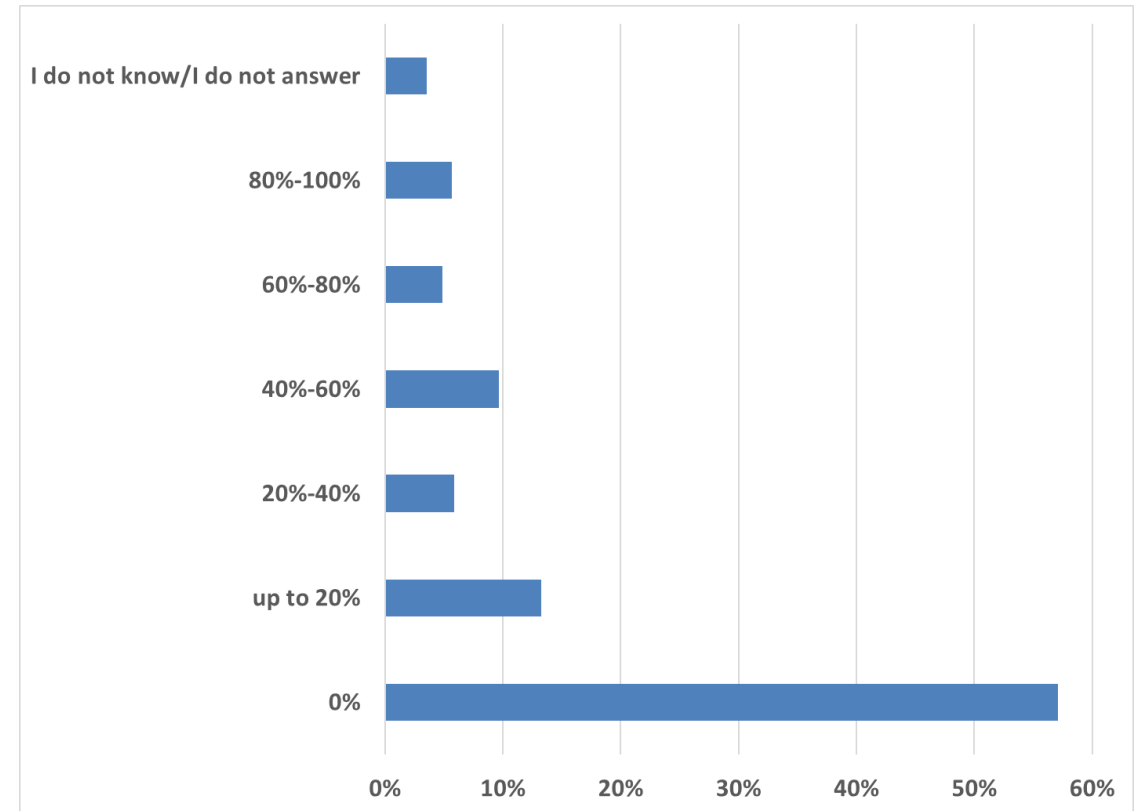


Results of 2017 survey: 75% (yes)

Have you received energy saving information from more than one obligated parties during the same year?



What is the possibility of upgrading your home's energy efficiency without participating in the national subsidy programmes?



Policy recommendations

Conduction of surveys to understand the behaviour of the end-users

Ex-post evaluation of the awareness-raising measures

Standardization of the methods for quantifying the delivered energy savings

ENSMOV Partners



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