

# Sustainable energy and climate action plan

## Mitigation

### SECAP monitoring report

MUNICIPALITY  
**Vendrell, El**

COUNTY  
**Baix Penedès**

DATE  
**2025/01/09**

FILE  
**8004330008-2023-0020767**

PROJECT  
**Coordination: Tarragona Province City Council. Covenant of mayors coordinators.**

**Service: Environment, Public Health, Engineering and Territory department**

**Redaction: ECOSTUDI SIMA, SL**

English

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Pàgina 2 de 18

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 Pàgina 3 de 18

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**Sustainable energy and climate action plan**  
**Monitoring report of emission inventory and SECAP**

Municipality: **Vendrell, EI**

**Adhesion date** 2014/09/30

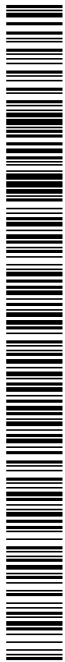
Inhabitants (Inh.)	30.225
Seasonal population (inh.)	5932
Municipality total surface (Km2)	36,8
Urban land (km2)	9,72
Urban waste production (kg/inh·day)	2,12
Type of municipality (1)	Turístic

**Data from 2005; emission inventory baseline year**

(1) Industrial, rural, touristic...

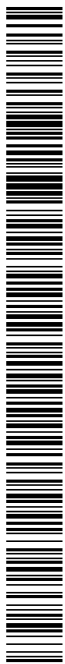
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Data d'impressió: 24/04/2025 16:22:03  
Pàgina 4 de 18

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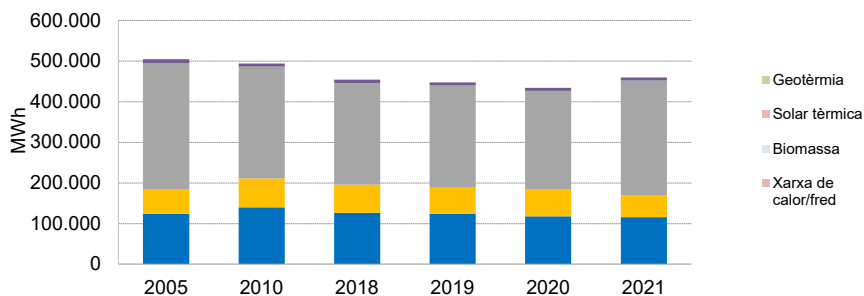
## INDEX

1. SECAP scope: final energy consumption (MWh)	3
2. SECAP scope: GHG emissions (tCO2eq)	5
3. Town Council final energy consumption (MWh)	7
4. Town Council GHG emissions (tCO2eq)	9
5. Local energy production	11
6. Town Council renewable energy	12
7. Strengths and weaknesses	13
8. Conclusions	13
10. Actions	14

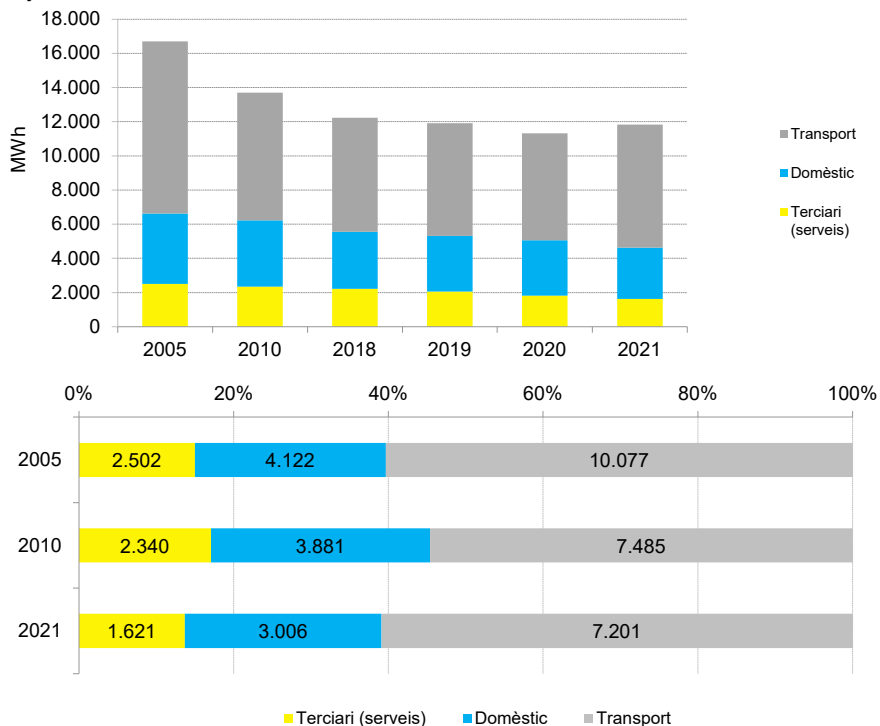


### 1. SECAP scope: final energy consumption (MWh)

#### a) By energy sources



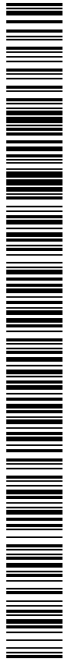
#### b) By sectors



#### c) Total energy consumption

	2005	2019	Tendency (% difference respect baseline year)
Vendrell, El	16.701	11.913	-29%
Average of the consumption of the province of Tarragona	17.520	10.571	-40%

*d 20.000 a 50.000 hab.*



#### d) Assessment

Final energy consumption in Vendrell in 2019 amounted to 460,006 MWh, equivalent to 11.8 MWh per capita. Total consumption represents a 9% reduction compared to the reference year (2005), while per capita consumption decreased by 29%.

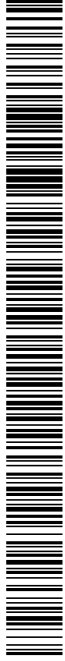
The energy source with the highest consumption in 2019 was liquid fuels, accounting for 251,556 MWh, or 56% of the total energy consumed within the PAESC framework. Other major energy sources consumed in the municipality include electricity (28% of total consumption), natural gas (14% of total consumption), and LPG (2% of total consumption).

Between 2005 and 2019, liquid fuel and LPG consumption decreased by 29% and 15%, respectively. Conversely, natural gas consumption increased by 8%, while electricity consumption remained stable.

The sector with the highest energy consumption in 2019 was the transport sector, using 248,298 MWh and representing 55% of the total energy consumed within the PAESC framework. The domestic sector accounted for 27%, while the tertiary sector made up 18% of total energy consumption.

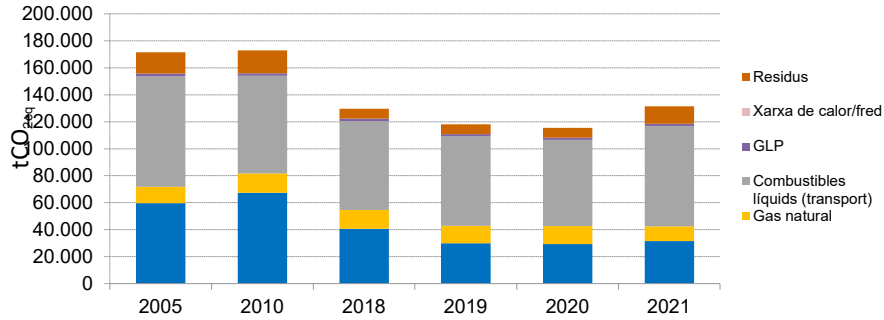
From 2005 to 2019, the transport sector was the only one to experience a significant reduction in energy consumption, with an 18% decrease. The tertiary and domestic sectors showed minor variations of little significance. Overall, total energy consumption in the municipality (PAESC framework) decreased by 11%.

In both the tertiary and domestic sectors, electricity was the primary energy source. In both cases, electricity consumption trends remained stable over the years studied. As for the transport sector, it saw an 18% reduction between 2005 and 2019 and relied solely on liquid fuels as its energy source.

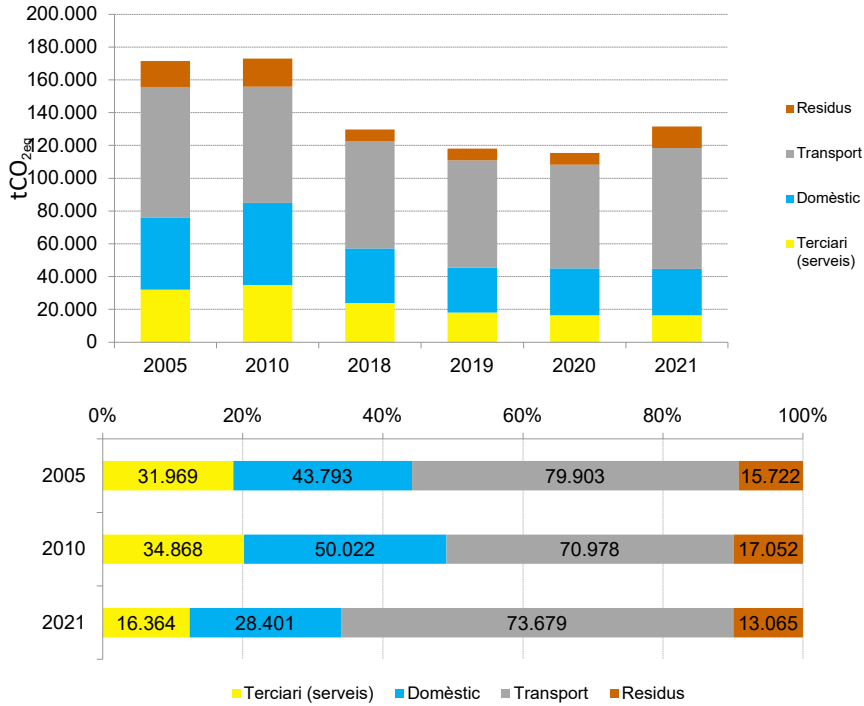


## 2. SECAP scope: GHG emissions (tCO<sub>2</sub>eq)

a) By energy sources



b) By sectors



c) Total emissions

	2005	2019	Tendency (% difference respect baseline year)
Vendrell, EI	5,67	3,14	<b>-45%</b>
GHG emission average in the province of Tarragona	6,05	2,60	<b>-57%</b>
<i>d 20.000 a 50.000 hab.</i>			



#### d) Assessment

Emissions in Vendrell in 2005 amounted to 171,386 tonnes of CO<sub>2</sub>eq, equivalent to 5.67 tCO<sub>2</sub>eq per capita. In 2019, emissions were 118,140 tonnes of CO<sub>2</sub>eq, equivalent to 3.14 tCO<sub>2</sub>eq per capita.

Between 2005 and 2019, absolute emissions decreased by 31%, while per capita emissions fell by 45% compared to the reference year of 2005.

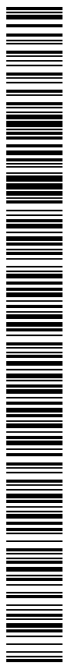
The energy source generating the highest emissions in 2019 was liquid fuels, with 66,172 tCO<sub>2</sub>eq, representing 56% of total greenhouse gas (GHG) emissions. The second-largest contributor to GHG emissions was electricity (25%), followed by natural gas (11%) and LPG (1%).

This dominance of liquid fuels as the highest-emitting energy source has remained consistent throughout the recorded period.

The sector with the highest GHG emissions in 2019 was the transport sector, emitting 65,302 tonnes of CO<sub>2</sub>eq and accounting for 55% of total emissions within the PAESC framework. Emissions from this sector have decreased since 2005.

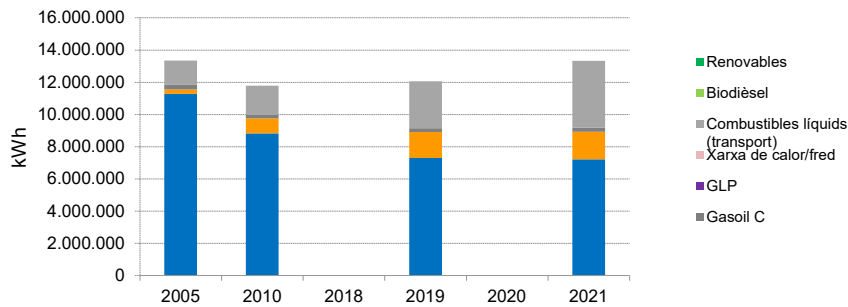
The tertiary and domestic sectors showed a reduction in emissions compared to the reference year, with electricity being the largest source of emissions in both sectors.

Transport emissions exclusively stem from liquid fuels, with a downward trend observed between 2005 and 2019 (18% reduction).

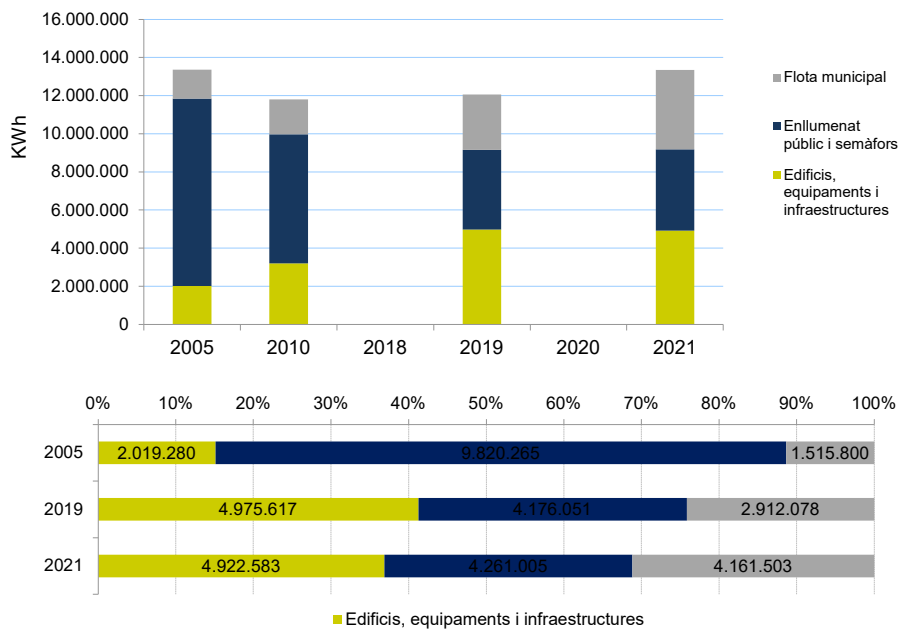


### 3. Town Council final energy consumption (MWh)

#### a) By energy sources



#### b) By sectors



#### Energy consumption (kWh)

	2005	2019	Tendency (% difference respect baseline year)
Buildings, facilities and infrastructures	2.019.280	4.975.617	<b>146%</b>
Public lighting and traffic lights	9.820.265	4.176.051	<b>-57%</b>
Municipal fleet	1.515.800	2.912.078	<b>92%</b>
<b>Total</b>	<b>13.355.345</b>	<b>12.063.746</b>	<b>-10%</b>

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Pàgina 10 de 18

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#### d) Assessment

In 2019, the municipal administration of Vendrell consumed 12,063 MWh, representing 3% of the total energy consumption within the PAESC framework.

The final energy consumption of Vendrell's municipal administration in 2019 amounted to 12,064 MWh. This figure represents a 10% reduction in municipal consumption during the 2005–2019 period. Electricity was the energy source that contributed the most to this downward trend.

Municipal facilities and installations increased their consumption by 146% compared to the reference year, resulting in a 37% increase in emissions.

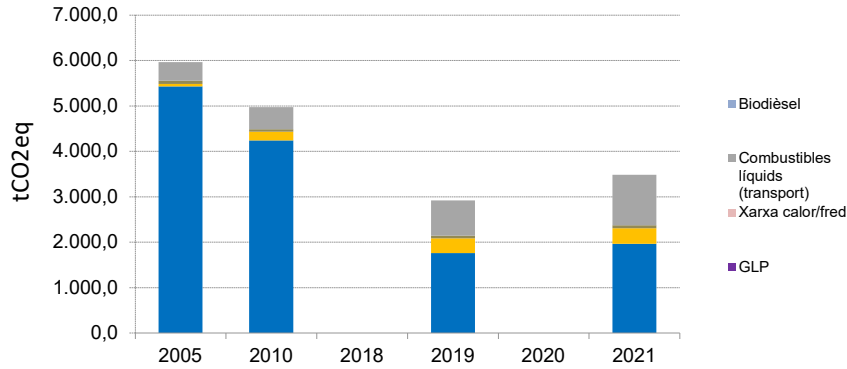
Public lighting and traffic signals reduced their consumption by 57% compared to the reference year, leading to a 79% reduction in emissions.

The municipal vehicle fleet increased its consumption by 92% compared to the reference year, with a corresponding 91% increase in emissions.

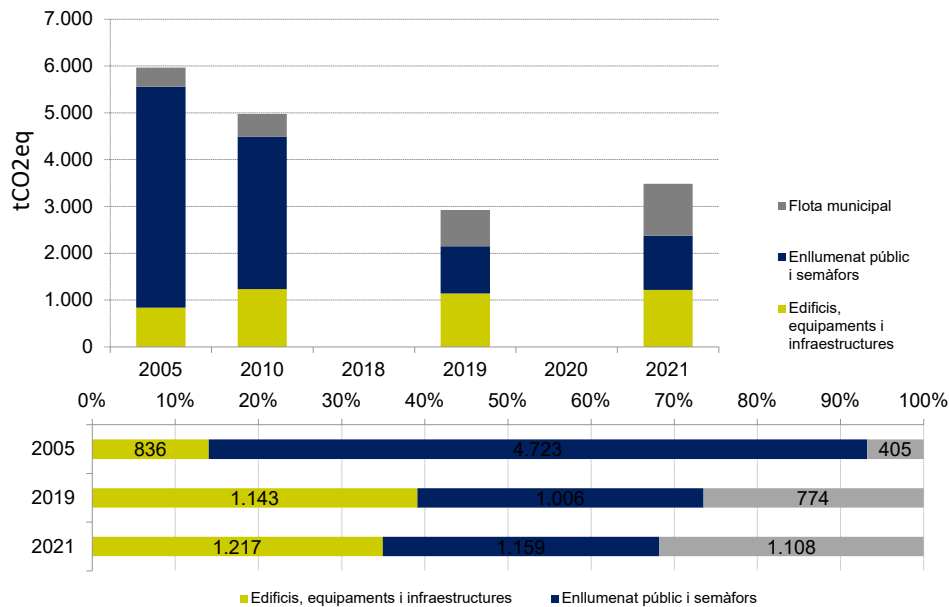


#### 4. Town Council GHG emissions (tCO<sub>2</sub>eq)

##### a) By energy sources



##### b) By sectors



#### GHG emissions (tCO<sub>2</sub>)

	2005	2019	Tendency (% difference respect baseline year)
Buildings, facilities and infrastructures	836	1.143	<b>37%</b>
Public lighting and traffic lights	4.723	1.006	<b>-79%</b>
Municipal fleet	405	774	<b>91%</b>
<b>Total</b>	<b>5.964</b>	<b>2.923</b>	<b>-51%</b>



#### d) Assessment

In 2019, 2,923 tCO<sub>2</sub>eq were emitted into the atmosphere, representing 2% of total emissions within the PAESC framework. CO<sub>2</sub>eq emissions per capita for the municipal administration were 0.10 tCO<sub>2</sub>eq per inhabitant.

As for the emissions from Vendrell's municipal administration, they amounted to 2,923 tCO<sub>2</sub>eq in 2019. Compared to the reference year (2005), total emissions from the administration decreased by 51%.

In 2005, there were approximately 62 municipal facilities and installations. Detailed information on the number of municipal facilities and installations in 2019 is not available.

In 2005, Vendrell's municipal facilities and installations consumed 2,019 MWh, resulting in emissions of 836 tCO<sub>2</sub>eq. By 2019, consumption had increased to 4,976 MWh (a 146% increase), with emissions rising to 1,143 tCO<sub>2</sub>eq (a 37% increase).

In 2005, there were 123 public lighting panels with 11,630 light points. Detailed information on the number of lighting panels for 2019 is unavailable. Regarding traffic lights, there were four units in 2005, which increased to eight by 2014. Detailed data for 2019 is not available, but it is estimated that the number remained the same as in 2014.

In 2005, public lighting and traffic lights in Vendrell consumed 9,820 MWh, emitting 4,721 tCO<sub>2</sub>eq into the atmosphere. By 2019, consumption had decreased to 4,169 MWh (a 57% reduction), with emissions reduced to 1,004 tCO<sub>2</sub>eq (a 79% reduction).

The municipal vehicle fleet (internal and external) in 2005 consisted of 47 vehicles (including police vehicles) and additional external vehicles. Detailed information on the internal and external municipal fleet for 2019 is unavailable.

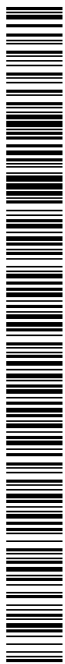
The municipality operates public transportation vehicles, specifically a single urban bus line.

No detailed information is available on the number or types of vehicles in the external fleet that provides waste collection services.

Between 2005 and 2019, energy consumption by the municipal fleet (internal and external) increased from 1,516 MWh to 2,912 MWh (a 92% increase). Emissions rose from 405 to 774 tCO<sub>2</sub>eq (a 91% increase).

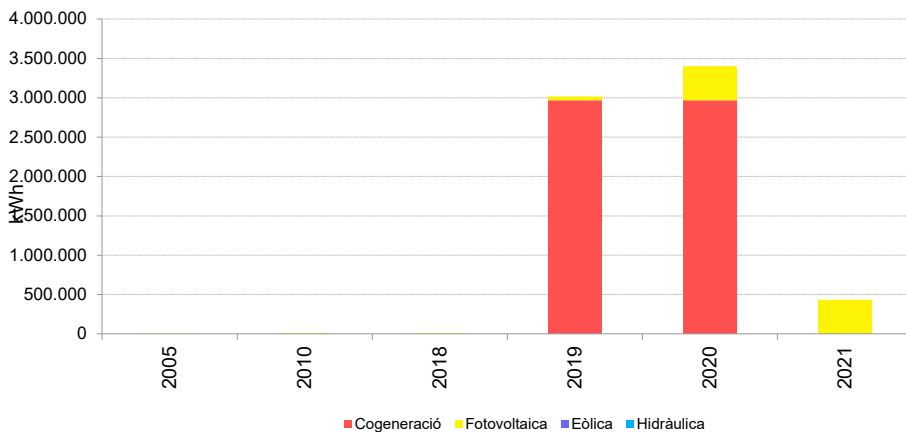
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 Pàgina 13 de 18

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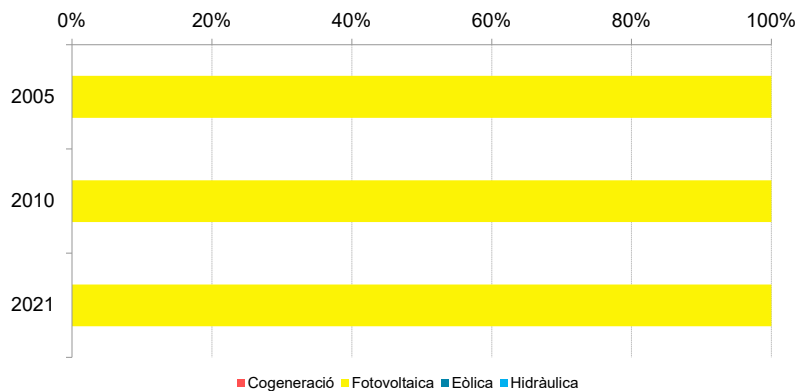
### 5. Local energy production

Under 20MW



Estimated from power when no specific data on production exist

	2005	2010	Tendency (% difference respect baseline year)
Total production (kWh)	2.738	10.950	<b>300%</b>

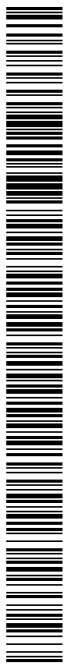


#### d) Assessment

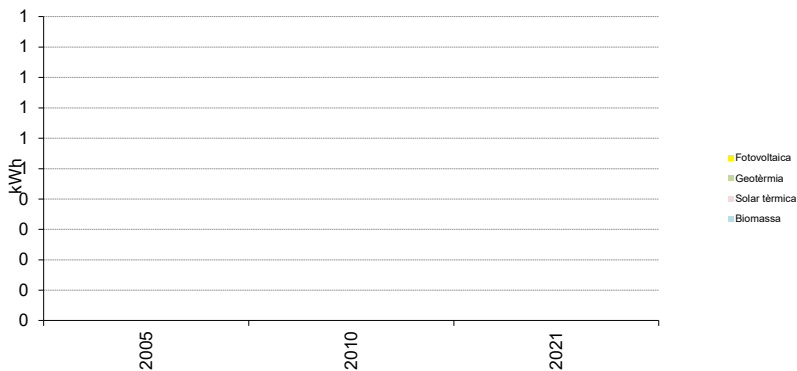
Renewable energy production in the municipality for 2019 was 3,017 MWh, representing less than 1% of the municipality's energy consumption.

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 Pàgina 14 de 18

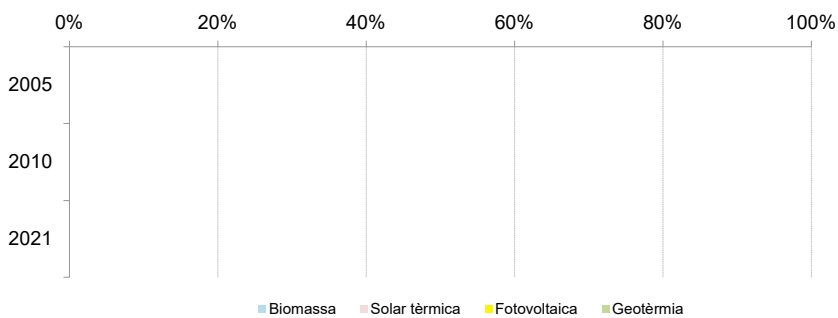
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## 6. Town Council renewable energy

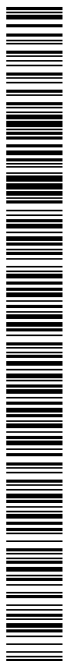


	2005	2010	2021
Total production (kWh)	0	0	-



### d) Assessment

According to data from the environmental energy viewer, there are no wind farms or photovoltaic parks in operation in the municipality. There is also no record of any pending applications.



## 7. Strengths and weaknesses

### Strengths

Between 2005 and 2019, the consumption of liquid fuels and LPG energy sources decreased by 29% and 15%, respectively.

During the same period, the transport sector was the only one to experience a substantial reduction in energy consumption, with an 18% decrease.

Between 2005 and 2019, absolute emissions decreased by 31%, while per capita emissions fell by 45% compared to the reference year of 2005.

The final energy consumption of Vendrell's municipal administration in 2019 was 12,064 MWh, representing a 10% reduction in municipal energy consumption during the 2005–2019 period.

As for emissions from Vendrell's municipal administration, they amounted to 2,923 tCO<sub>2</sub>eq in 2019. Compared to 2005, total emissions from the administration decreased by 51%.

Public lighting and traffic signals reduced their energy consumption by 57% compared to the

### Weaknesses

The final energy consumption in Vendrell in 2019 was 460,006 MWh, equivalent to 11.8 MWh per capita. Total consumption represents a 9% reduction compared to the reference year (2005), while per capita consumption decreased by 29%.

Between 2005 and 2019, natural gas consumption increased by 8%, while electricity consumption remained stable.

During the same period, the tertiary and domestic sectors experienced minor variations of little significance.

Municipal facilities and installations increased their consumption by 146% compared to the reference year, with emissions rising by 37%.

The municipal vehicle fleet increased its consumption by 92% compared to the reference year, with emissions increasing by 91%.

## 8. Conclusions

The municipality of Vendrell has achieved significant reductions in various energy and emissions areas. Between 2005 and 2019, liquid fuel and LPG consumption decreased by 29% and 15%, respectively, while the transport sector experienced a substantial 18% reduction. Global emissions fell by 31% in absolute terms, and per capita emissions decreased by 45%. Vendrell's municipal administration reduced its energy consumption by 10% and its emissions by an impressive 51%. Additionally, public lighting achieved a 57% reduction in consumption and a 79% decrease in emissions.

However, increases were observed in other areas, such as an 8% rise in natural gas consumption and a 146% increase in energy use by municipal facilities, which led to a 37% rise in associated emissions. Similarly, the municipal fleet saw a 92% increase in energy consumption and a 91% increase in emissions. These findings highlight the need to strengthen actions to improve energy efficiency and promote sustainability in key areas to consolidate the progress made.



## 9. Objectives

		<b>55%</b>
<b>Total emissions under SECAP scope, 2005</b>	171.386 tCO <sub>2</sub> eq 5,67 tCO <sub>2</sub> /inh.	94.262,12 3,12
<b>Total energy consumption</b>	504.776 MWh 16.701 kWh/inh.	277.626,55 9.185,33
<b>Foreseen saved GHG emissions</b>	<b>42.382,00</b> tCO <sub>2</sub> eq	
<b>Estimated percentage of GHE emission reduction</b>	<b>56,00</b> %	
<b>Number of actions</b>	<b>17,00</b> actions	



## 10. Actions

Electrification and improvement of electricity's emission factor  
Implementation of a municipal energy management system/municipal energy accounting  
Encourage Diputació de Tarragona, Catalan Association of Municipalities (ACM), or Localret to offer a shared energy accounting service for municipalities  
Actions to improve energy efficiency in municipal administration  
Energy efficiency improvement actions at Esplai Gent Gran Tivoli  
Energy efficiency improvement actions at the Municipal Market  
Energy efficiency improvement actions at the Municipal Police Headquarters  
Awareness campaign across all municipal offices to promote and consolidate good environmental practices  
Installation of photovoltaic solar panels for self-consumption in municipal buildings  
Consider creating a heat network for municipal swimming pools  
Renovation of housing in the center of Vendrell to be allocated for social renting  
Public lighting improvements  
Promotion of community energy initiatives  
Planning/promotion of walking and cycling mobility  
Support for efficient renewal of the municipal vehicle fleet and energy diversification in the sector, particularly with electric charging points  
Implementation of safe school pathways  
Membership in AMTU (Association of Municipalities for Urban Transport) to explore new forms of adapted transport and improve public transport efficiency, accessibility, etc.

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Pàgina 18 de 18

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