

ENERGY EFFICIENCY AND IMPROVEMENTS
IN TERMS OF HABITABILITY AND REFURBISHMENT
OF THE CENTRAL FIRE STATION BUILDING
(LA PLATA AV. S/N. VALÈNCIA)

MARKET SOUNDING





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AJUNTAMENT
DE VALÈNCIA

LAS NAVES



CEPPI

INTRODUCTION

The central fire station of València, situated in La Plata Av., plans to launch a public tender aimed at the refurbishment of its facilities.

This project also provides the opportunity to reconsider the habitability standards of the building and also as a way to stimulate innovation, energy saving and efficiency.

The Fire Department, in collaboration with Las Naves Foundation for Innovation of Valencia City Council, under the umbrella of the EU-funded CEPPI¹ project, aims to implement a pro-innovation procurement approach committed to improving comfort at the Fire Station building and enhancing the welfare of the fire officers, the administrative staff, etc., offering optimal energy efficient solutions.

To date, most energy efficiency investments were designed to finance R&D projects. Other avenues are yet to be explored, contributing to improved designs and management of public acquisition of goods and services, which require intensive/high energy consumption.

Consequently, a market sounding is aimed at ascertaining the state of the art of innovative technologies or market development, as a preliminary step to Innovative Public Procurement Procedures launched by the Fire Department.



¹ CEPPI is a EU-funded project supported by the EU's Horizon 2020 Programme, which aims to build capacity in cities on how to achieve more sustainable energy solutions through a pro-innovation procurement approach (PPI) & to demonstrate this by selectively intervening in scheduled public tenders. The interventions involve 5 cities: Birmingham (UK), Budapest (Hungary), Castelló & València (Spain) and Wrocław (Poland).



> Central Fire Station Building (La Plata Av. s/n. València)

WHAT IS A MARKET SOUNDING (MS)?

The recently passed Public Procurement Law 9/2017, of 8 November 2017, which transposes into Spanish law the Directives of the European Parliament and Council 2014/23/EU and 2014/24/EU, of 26 February 2014, will enter into effect in March 2018, sets out in Article 115 *«makes it possible for contracting bodies to conduct market surveys and studies and to issue market sounding to economic operators active in those markets in order to prepare tenders properly and inform those operators of their plans and the requirements that they will have to meet to participate in the tender processes»*.

The purpose of PMCs is to provide the market with clear, credible and precise information about unmet needs/the requirements put forward by the public administration, and to evaluate the capacity of the economic operators in order to develop a solution to meet these challenges in terms of technical renovation, innovation and financial options/ options for investment. As stated in this law, *'consultations carried out shall not be subject of a specific and defined contractual agreement which complies exclusively with the technical characteristics of one of those consulted.'*

Such Preliminary Consultations informs the market about the challenges which need to be addressed at the fire station, inviting all chain suppliers to participate in order to provide them with the information about the recruitment exercises to be carried out.

This procedure is a call for tenders or a prior scoring procedure. This market research is intended to gather information, as well as to establish an open dialogue with the supply chain. The results will only be taken into account in the procurement strategy of the Fire Service in relation with the Central Station as well as to provide information in the event of future technical specifications.

The purpose of the present market sounding (MS) is to promote participation of natural or legal persons and the presentation of innovative proposals with the aim of meeting the needs described by means of the implementation of/implementing innovative new technologies.

These proposals will help Las Naves and the Fire Service to evaluate the market capacities and to define functional specifications engaging in innovation, which should be viable in the event of a Public Procurement in Innovation or in any other subsequent contracting procedures eligible for tender.

REQUIREMENTS NEEDED FOR THE REFURBISHMENT OF THE BUILDING

PMC are launched to carry out a market research in order to gather information and feedback from the economic operators to find innovative ideas and address the unmet needs in the building, and put forward a 2-year-renovation programme for the Central Fire Station in Av. La Plata complying with the following features:

- To reduce energy costs.
- To improve the working environment and well-being of the fire officers and rest of employees.
- To maximise energy efficiency of the building and to reduce energy consumption.
- All this must be done without compromising the operational capacity in the Fire Station.

Exploring possibilities of alternative financing is of particular importance.

Objective to be achieved: Improvement of the habitability at the Fire Central Station, leading to increased comfort of the employees and maximizing energy saving.

Due for: invitation to tender April-May 2018

Budget: 100.000€

The conclusions reached from the analysis of the current energetic situation show that the proceedings to be implement in order to contribute to energy and economic saving must be comprehensible to each and every type of fuel used, with particular focus on electricity, representing 65% of the total energy cost.

Stakeholders will be invited to an Informative Seminar to be held in València, at the Fire Central Station in Av. La Plata, s/n, on the 27th February 2018. This workshop will provide all the parties with detailed information about the requirements that need to be fulfilled, as well as information about the public procurement in innovation planned to be launched. A subsequent session on *networking* is aimed at contributing the exchange and discussion among the economic operators.

OVERVIEW: UNMET NEEDS

The Fire Central Station is located in La Plata Av., 46013 in València.

It is a 13.800-square meter allotment, with a built-up area of 5325 square metres, divided into the main building, the workshop premises, and a third area which is now constructed.

The main building houses the administration area: the prevention service offices and the civil protection service offices. There is also another area with rooms, a kitchen, a gym and a parking area for vehicles which is entirely designated to the fire department.

The factory building comprises the garage, a parking area, the local maintenance premises and the divers' area.

The third area consists of two identical naves: one is a vehicle parking area and the other one is a museum. Only the structure is available and neither of them have electrical supply.





> Parking garage



> Gym



> Lockers room

>Summary table: floors according to GROUND FLOOR activity

Fire Station Main Building		Floor area m ²
Vehicle premises		842
Operational warehouse		530
Fire department offices		340
Conference room		122
Total area Main Building Ground Floor		1.834

La Nave Building		Floor area m ²
Nau workshop		1.634
Warehouse and subsidiary departments		185
Total area Nave-warehouse		1.819

Summary table: floors according to FIRST FLOOR activity

Fire Station Main Building		Floor area m ²
Operational warehouse		1.095
Civil protection service premises/offices		159
Prevention service premises/offices		418
Total area Main Building First Floor		1.672
TOTAL PARCEL AREA		13.800

Some building users interviewed made the following comments about the facilities:

“There is energy loss in the common areas. It’s either too hot or too cold. However, it is an accessible building.”

“Despite not having heating, the gym is a very hot area where firemen and firewomen go several hours a day.”

“It gets so hot in the rooms that we have to open the windows.”

“All the lights and air-conditioning devices are always turned on. I keep switching them off.”

Energy evaluation

In order to analyse the consumption and the cost of electricity, gas and fuel, the period of time provided by representatives of the building is January'16 – December'16.

The table below shows the energy consumption, CO₂ emissions and the annual cost of the different sources of energy used in the building.

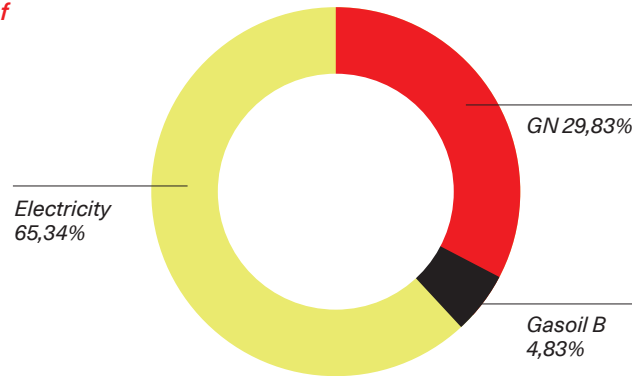
>Table 1: Consumption, energy costs and factors considered*

Definition	Annual consumption	Annual consumption (tep)	Annual Cost VAT excluded (€)	Average unit cost (c€/kWh)	Annual emissions (kg CO ₂)
Electric energy (kWh)	407.435	35	44.749,28 €	10,98	145.454,30
Natural gas (kWh)	376.207	32	20.429,64 €	5,43	94.804,16
Diesel (kWh)	649.861	56	3.310,98 €	0,51	198.857,44
Total	1.433.503	123	68.489,90 €	4,78	439.116

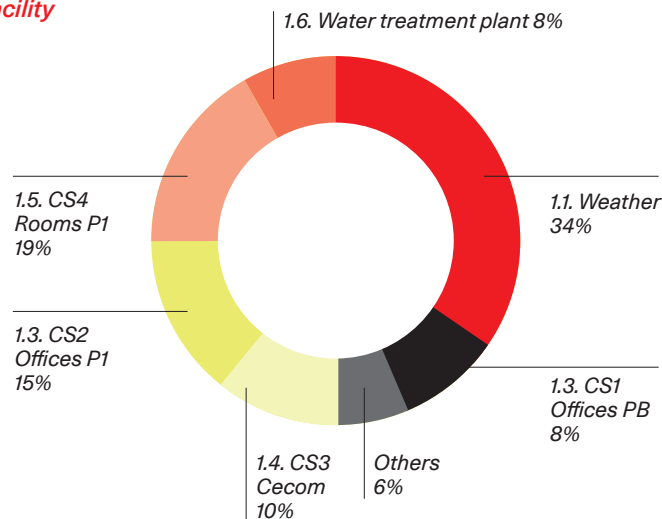
Definition	Energy conversion factors	Emissions conversion factors (kg CO ₂ / kWh E. Final)
Electric energy	1 tep = 11.628 kWh	0,357
Natural gas	1 tep = 11.626 kWh	0,252
Diesel B	1 tep = 11.625 kWh 1 tep = 1.181 litros	0,306

*Annual emissions. Source: Authorised Document from the Regulations for thermal installations in buildings (RITE) CO₂ EMISSION FACTORS AND COEFFICIENT FROM PRIMARY ENERGY TO DIFFERENT FINAL ENERGY SOURCES IN BUILDINGS IN SPAIN (Joint Resolution of the Ministries of Industry, Energy and Tourism and Development).

> Chart 1: Distribution of economic energy cost



> Chart 2: Distribution of energy consumption in each facility



As shown in the chart, the highest consumption levels come from the heating and cooling systems, representing 34% of the total consumption of electricity. It should be pointed out that, according to staff representatives, the electrical switchboard of the heating and cooling systems also supplies the air-conditioning, the distribution channels of the heat-transfer fluid, and the direct expansion systems of the refrigerant in the main building. The other measurements carried out correspond to secondary switchboards. CS1 and CS2 correspond to the offices on the ground floor and first floor of the main building. From the total energy consumption, they account for 8% and 15% respectively. CS3 represents the communications centre, called CECOM, which represents 10%, and 19% corresponds to CS4, which supplies the bedrooms on the first floor. And finally, the water treatment plant represents 8%.

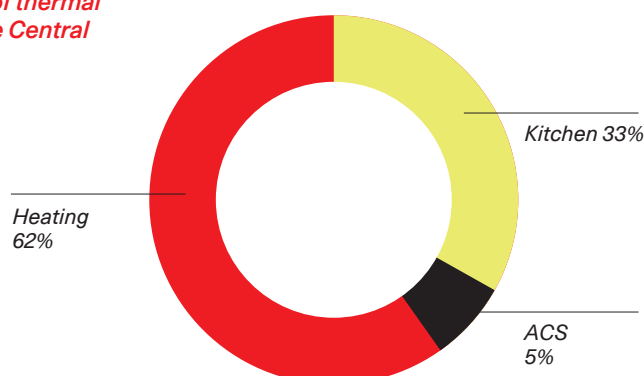
Procéss	% Distribution of electrical supply	Electrical energy consumption (kWh)
1.1 WEATHER	34,17%	139.203
1.2 CS1 Offices PB	7,72%	31.458
1.3 CS2 Offices P1	15,54%	63.331
1.4 CS3 Cecom	10,11%	41.174
1.5 CS4 Rooms P1	18,64%	75.944
1.6 WATER TREATMENT PLANT	7,90%	32.183
THE REST	5,93%	24.143
	100%	407.435

The monthly distribution of thermal energy of the different services is as follows:

Month	Total (kWh)	ACS (kWh)	Kitchen (kWh)	Heating (kWh)
January	61.161	1.625	11.213	48.323
February	44.167	1.489	11.213	31.465
March	51.273	1.559	11.213	38.502
April	56.510	1.476	11.213	43.821
May	39.860	1.459	11.213	27.188
June	16.760	1.348	15.412	0
July	10.361	1.327	9.034	0
August	12.034	1.327	10.707	0
September	10.629	1.316	9.313	0
October	1.717	1.459	258	0
November	13.104	1.508	11.596	0
December	58.631	1.592	11.213	45.827
Total	376.207	17.484	123.596	235.127

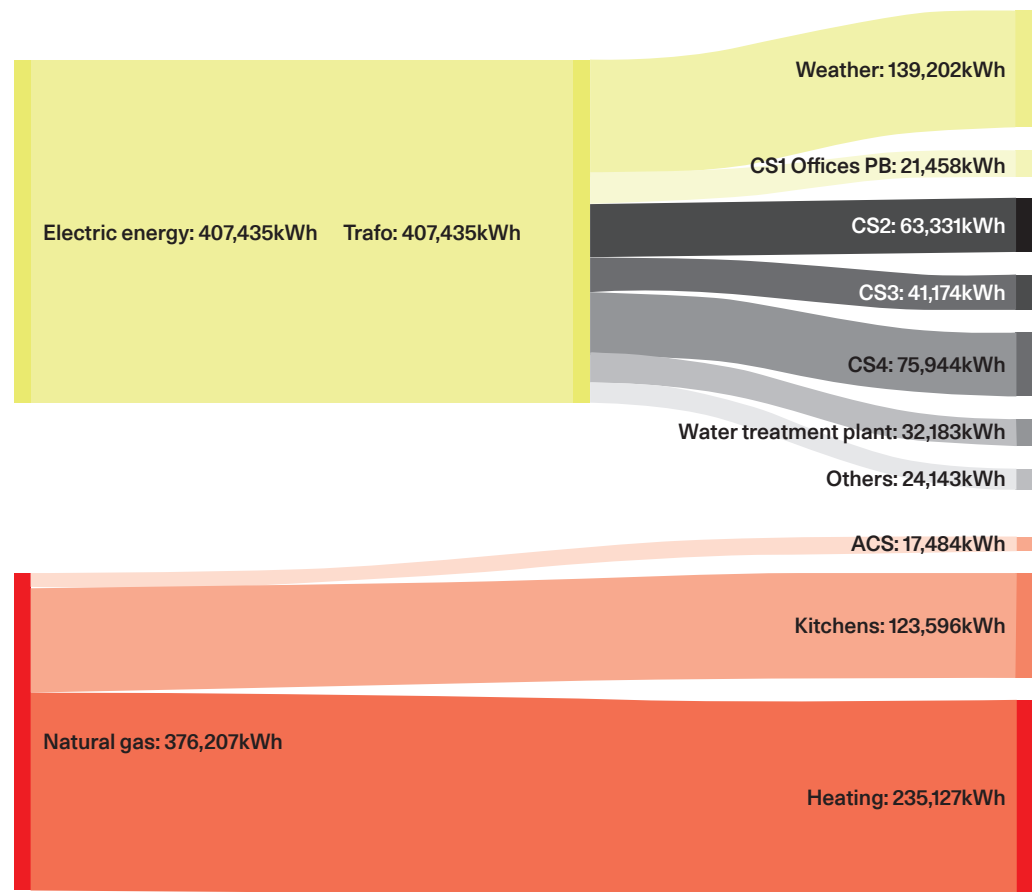
The following percentages show the distribution of thermal consumption calculated from the figures in the previous table.

> Chart 3: Distribution of thermal consumption in the Fire Central Station of València



The distribution of thermal consumption at the Fire Central Station in València is explained in the previous graph. It shows that **the highest thermal consumption stems from the heating, representing 62% of the total energy consumption; secondly, the kitchen, 33%, and lastly 5% which correspond to domestic hot water (DHW).**

A more detailed breakdown of the energy consumption, both electric and gas, is shown in the next graph *sankey*, which provides a global image in terms of process and facilities consumption.



For further information, the energy audit carried out in 2017 is available to those interested.

Please visit the website of Las Naves/ Profile of contracting party:
www.lasnaves.com

Participants

This call is open and addresses natural and legal persons, as well as public and private, The submission of various proposals (individual or joint proposals) from the same natural or legal person is permitted/shall be allowed.

In the event of a joint proposal submitted by a group of people or organisation, a representative shall be appointed to serve as the interlocutor with Las Naves.

Submission of proposals

The submission of proposals must comply with the following requirements:

1. Candidates are requested to fill in the application form in **Annex I**. This document can be downloaded from Las Naves website /contracting party's profile section: www.lasnaves.com
2. The submission of additional information about the proposal must be submitted together with the application form.
3. The proposals shall be sent to: cpi@lasnaves.com, indicating [CEPPI] in the subject of the email.
4. Deadline for submission: **12th March 2018**.
5. Each proposal will be identified by the email address used.
6. For that reason, in the event of receiving several proposals from the same candidate, different email addresses must be used for each proposal.
7. Updated versions for proposals will be admitted, and must be sent via the same email address. The new versions which will replace the former ones, must include all previous relevant information.
8. In the event of a joint proposal submitted by a group of people or organizations, one email address must be use for the purpose of the identification of the proposal and to facilitate negotiations with the bidders.
9. Neither Las Naves nor the Fire Department of València City Council are forced to finance or accept the proposals presented in this tender.
10. The costs associated with participation in this tender shall be borne by the participants.

Deadline and Market Sounding updates

The closure of this tender will be determined when the information concerning innovative solutions gathered is sufficient to initiate a public procurement process in innovation, or due to a lack of interest on the market. In any case, this tender shall not close within two months after the date of publication. The closing notice will be published in the aforementioned website. All participants will also be informed via email. The closing notice can be revoked at any time, all participants being informed.



INFORMATIVE WORKSHOP OF MARKET CONSULTATION

As part of this project, the Fire Service and Las Naves Foundation wish to send an invitation to all natural and legal persons interested in attending **an afternoon workshop (11:30h-15:00h) on the 27th of February 2018**, at the Fire Central Station (La Plata Av., s/n) in València.

The main purpose is to provide an opportunity for dialogue and discussion amongst participants concerning the requirements previously mentioned, working towards a broader understanding of the challenges and the unmet needs outlined in this document.

If you are interested in attending the informative workshop, please register at www.lasnaves.com

Implementation of the Principles of transparency, equal treatment and non discrimination or distortion of competition

The information concerning the participation in the market sounding, as well as the conversations and the exchange of information among participants' shall respect the European principles of transparency, equal treatment and non-discrimination or distortion of competition shall neither result in a restricting or limiting competition, nor in the provision of undue advantages or rights. The non compliance of these principles may lead to disciplinary proceedings, and appropriate measures shall be implemented to this end.

Participating in the market sounding shall not confer any rights or preference with regards to the award of possible due contracts under the scope of this tender, and consequently, does not entail any obligation of financing or accepting such proposals.

The information concerning the advances shall be published throughout the development of the consultation process.

At the end of the consultation process, the early demand of future procurements will be published on the website, with the purpose of providing information about appropriate offers so as to facilitate organisational arrangement and risk reduction.

If deemed necessary, some participants will be contacted to provide further information about their proposals, to clarify doubts or show demos.

Without prejudice to the use of other distribution channels,
the consultation updates shall be available at:
<https://www.lasnaves.com/perfil-del-contractant/>

The information exchanged amongst the participants will be published complying with the principles of transparency, equal treatment and non-discrimination, by means of fact sheets, debate workshops, information documents, early demand charts or other communication tools appointed for such purposes by Las Naves. The information will be published on the website provided.

Market Sounding results

Las Naves will examine all submitted proposals, and shall be entitled to make use of them, in accordance with Article 115, of Public Procurement Law to provide the functional and technical specifications necessary for future procurement procedures for goods and services, fundamentally for Public Procurement in Innovation (PPI) procedures.

With the purpose of examining the proposals presented, Las Naves and the Fire Department of València City Council will appoint a technical committee comprising representative members of the contracting authority, aimed at seeking the views of external professionals and allowing them to take part in an advisory capacity in the proceedings.

Personal data protection law and confidentiality

All personal data will be stored with the purpose of establishing communication channels throughout market sounding. These data will be included in the application form in Annex I, and must include a declaration of consent accepting the requirements set out in this call. Las Naves may also disclose information concerning the participation processes whenever necessary. The information is not considered of a personal nature.

To guarantee transparency, availability of information and the effective exchange of experiences and personal views, participants are asked to explicitly express their agreement with a partial/total access and update of the proposals, if not designated as confidential.

The specific technical or commercial documentation must be marked as confidential; a generic declaration of confidentiality is not admissible. Confidentiality is concerned with technical and commercial secrets, as well as aspects related to the solutions suggested. For this reason, only the attached files included in Annex I are considered of a confidential nature.

The complementary documentation to the application form can be designated as confidential, for that purpose, clear identification is requested.

Competition rules of Intellectual Property Rights

The ideas for innovative solutions provided within the framework of the market sounding shall not refer to a specific make or source or a particular process, or to trade marks, patents, types or a specific origin or production.

The technical specifications shall explicitly be formulated in the event of possible procurement procedures.

Public procurement notice

Las Naves and the Fire Department of València are entitled to provide definitions for new technical and functional specifications based upon the ideas suggested for innovative solutions.

A public procurement procedure will be open to new and innovative solutions which comply with the requirements outlined in this document.



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