
RAMCC Trusteeship as an investment tool for the implementation of local climate action plans

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One of the problems that the local governments have to face constantly is the implementation of plans about mitigation and/or adaptation to climate change. One among many of the main situations that causes these difficulties is the lack of financial and economic tools to meet the objectives set in the Paris Agreement

In this way, the Argentinian Network of Municipalities facing Climate Change¹ (RAMCC) created a trusteeship (see diagram 1) that allows the mobilization of local resources to achieve a greater green infrastructure. The configuration of the trust called “RAMCC Trusteeship” was

carried out on December 27th of 2018. BMR Mandate and Business S.A.² were appointed as trustee agents. Since the adhered municipalities approved it, a particular feature of the trusteeship is that it is now a State policy through a municipal ordinance.

This financial tool has an annual assembly of trustees where all the municipalities participate and mayors have a designed committee that takes part in a council. Besides, the financial tool has an advisory committee and an Executive Secretary. The maintenance of the trust account is based on the annual contribution made by the municipalities involved. To carry out

1. The Argentinian Network of Municipalities facing Climate Change is a coalition of 225 Argentine municipalities created in 2010. Its objective is to coordinate and promote strategic plans to face climate change through the mobilization of local and international resources. It is framed within the objectives of the Global Covenant of Mayors for Climate and Energy (GCoM), of which the RAMCC is the national coordinator. Visit <https://www.ramcc.net/ramcc.php>.

2. Company of the Municipal Bank of Rosario (85%) and the Municipality of Rosario (15%) which is almost entirely dedicated to training and advice on this financial tool.

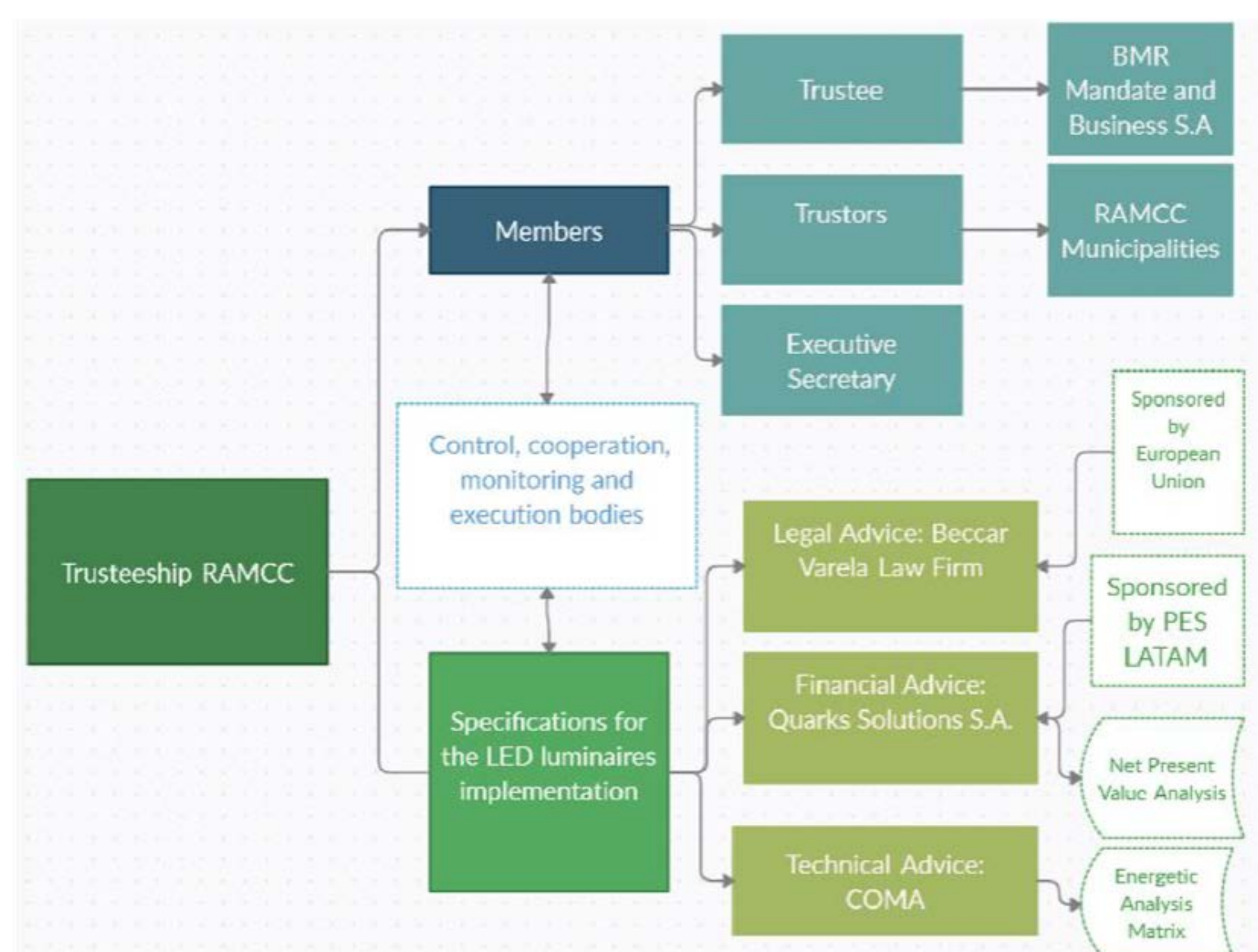
the specific projects, funds are channeled through contributions from political parties that are not applied yet and from an extraordinary contribution that was proposed by the municipalities themselves. These investment projects are approved by the assembly and have the objective of improving the scale of tenders and obtaining supplies with fairer and more accessible prices.

Within this context, **the first project to be conducted was the decree of a public procurement and the subsequent contracting for the acquisition of LED lights** (see diagram 1). This process was carried out by 9 localities³ with the RAMCC

as technical advisor and executor, and the BMR Mandates and Business as trustees.

In addition, on the one hand, the pre-feasibility technical study carried out by the Copenhagen Energy Efficiency Center (C2E2) was counted on, and on the other hand, the legal advice of the Beccar Varela Law Firm hired through the Energy Project of Efficiency in Argentina financed by the European Union; the economic-financial advice of Quarks Soluciones S.A. hired by PES LATAM through Ashoka Switzerland; and finally, with technical advice on energy efficiency from COMA, an environmental consultancy.

Diagram 1. Formation of the RAMCC Trusteeship and its first project for the acquisition of LED luminaires



Source: own-produced based on RAMCC's information

Each municipality made different extraordinary contributions for the

acquisition of the lights, ranging from \$300,000⁴ to \$2,054,250. This committed

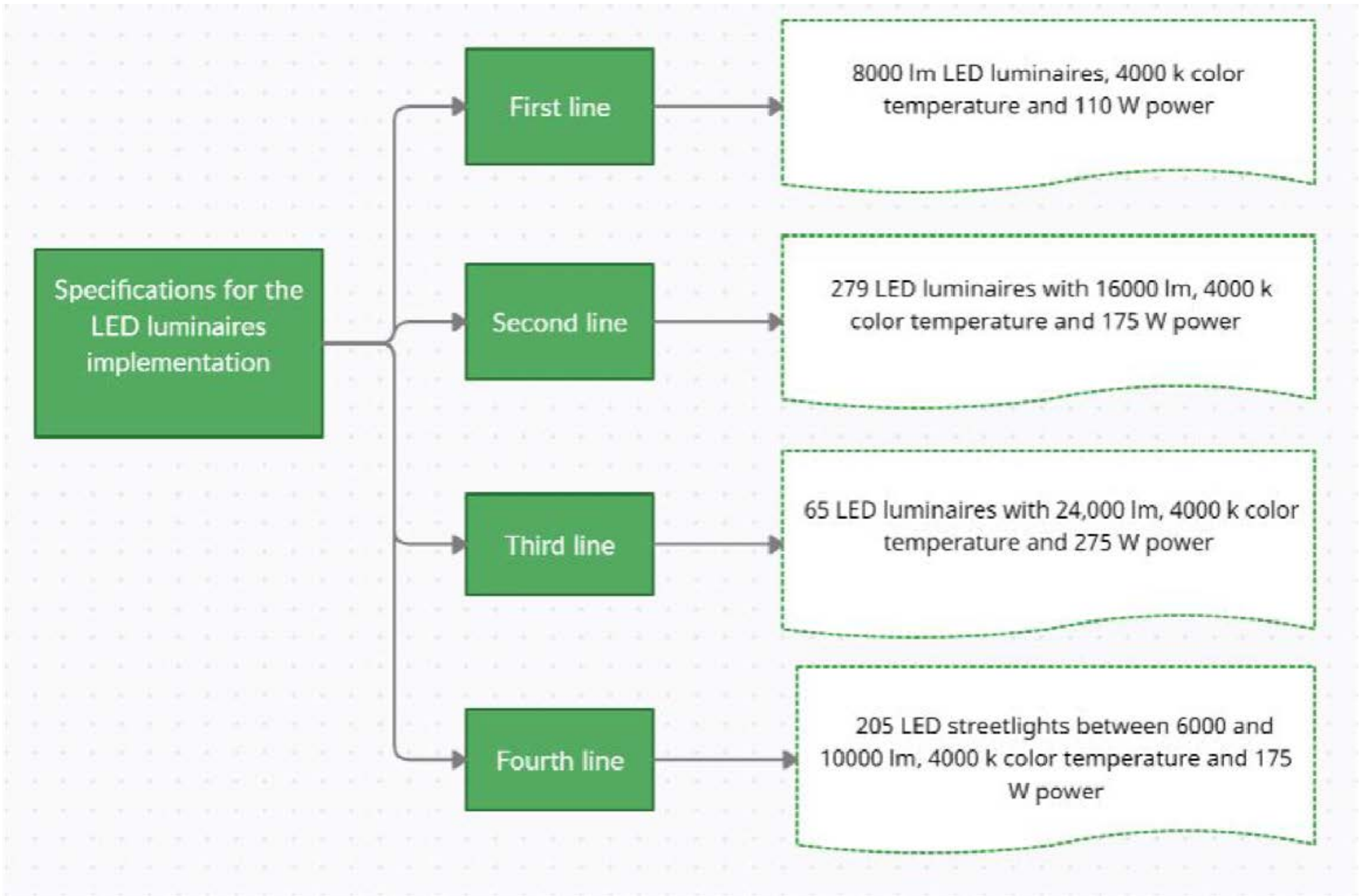
3. Municipality of Bell Ville, (Province of Córdoba), Municipality of Camilo Aldao (Province of Córdoba), Commune of Soldini (Province of Santa Fe), Commune of Centeno (Province of Santa Fe), Commune of Villa Eloisa (Province of Santa Fe), Commune of Arequito (Province of Santa Fe), Municipality of Reconquista (Province of Santa Fe), Municipality of Rauch, (Province of Buenos Aires) and Municipality of Godoy Cruz (Province of Mendoza).

4. Argentine pesos.

contribution had an interest gain of 2.5% or 5% (depending on the times of the fixed term that the amount was placed in). The part of this total amount (contribution plus interest gain) that was subtracted to cover fixed expenses was between 8.5 and 9.5 percent.

The remaining amount was earmarked for the acquisition of LED luminaires. In mid-2020, during the COVID-19 pandemic, the tender was held and the proposal consisted of four items (see diagram 2).

Diagram 2. Items of the specification for the acquisition of LED luminaires



Source: own-produced based on articles and conditions of RAMCC Trusteeship.

For this tender, the technical specifications sheets were prepared in order to define quality products according to the market offer, seeking the highest possible energy efficiency. The review was carried out through the environmental analysis matrix and then the applicant companies were evaluated to see whether or not they complied with these technical aspects. Afterward, the companies that met the environmental requirements were evaluated

in economic and financial aspects.

The objective of the economic and financial evaluation was to establish a present value for the selection of the luminaires. Net (NPV) Present value came from the binomial made up of the purchase cost of lighting and energy savings that would generate the same purchase considering the saved difference in watts compared to the current average reported by the municipalities according to the park today luminaries⁵.

5. In terms of formula it is expressed:

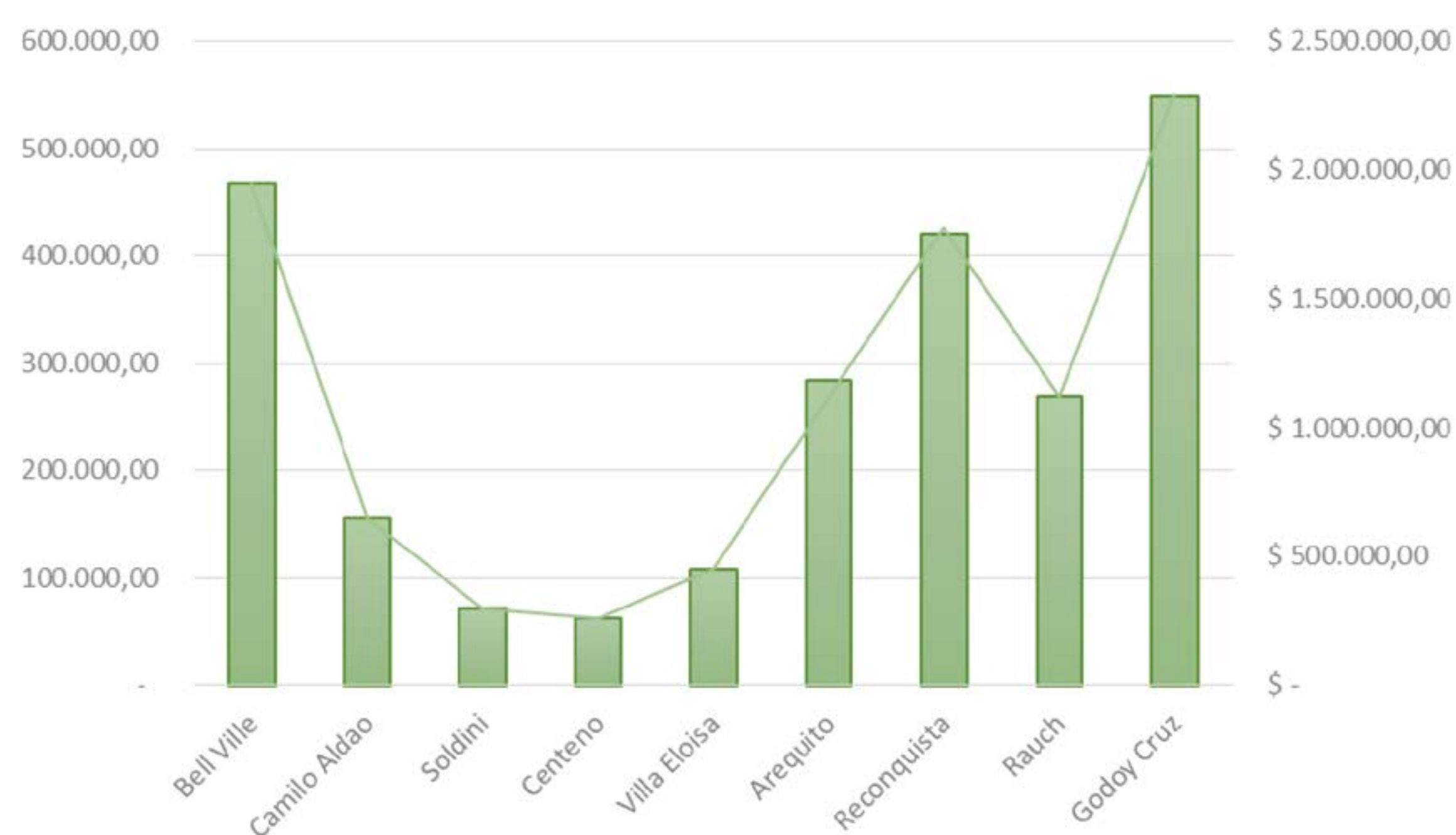
(1) PV offer = (-Price x quantity of luminaires) + (Current value of energy savings)
(1') PV offer = (-Price x quantity of luminaires) + (Σ(P base-P offer) x hours of use x reference rate1 / (1 + Discount rate)¹⁰)

In summary, the items calculated are the expenses for each municipality (total investment in the purchase cost of luminaires and installation plus the expenses associated with the RAMCC Trusteeship) and the income from the purchase cost of luminaires. These items arise, on the one hand, from the estimated energy savings due to lower consumption of energy (difference of the power of the purchased luminaires compared to the original luminaires multiplied by the number of hours they were used during the year and by the reference electricity tariff) and, on the other hand, the lower maintenance cost⁶.

As a result of the tender, it was observed

that 3 of the 4 lines had a positive NPV. Based on these competitive prices, the RAMCC Trusteeship and its administrative bodies decided to acquire 182 more luminaries than the number that was originally planned. The economic and environmental result is highly favorable: in addition to the positive NPV in three lines, the municipalities have had significant energy savings in Watts - between 60,000 and 460,000 kilowatt-hours (kWh) - and economic (\$/kWh) which oscillates between \$ 250,000 and \$ 2,300.000 depending on the quantity and quality of the luminaires placed and the state of their current light park ([see graphic 1](#)).

Graphic 1. Energy savings in kWh (left axis) and energy savings taking into account the current tariff in \$ / kWh (right axis)



Source: own elaboration based on Quarks S.A final report.

It should be noted that the Net Present Value is underestimated and the economic and ecological profit could be greater than those estimated. In first place, from a purely economic approach, the calculation of the

electricity tariff for public lighting is very conservative because the cost of electricity generation is subsidized by the National State. If this subsidy ceases to exist, it may imply higher rate increases than those

6. This analysis considered the following items: a discount rate of 5%, 4096 hours of use per year; 10 years as a valuation period and a reference rate of \$ 4.5 per kWh. In addition, for the purposes of calculating avoided GHG emissions, the calculation of the CO2 Emission Factor for the Argentine electric power grid is considered taking the average emission factor for the 2013-2018 period of the combined margin: 50% weighting of the emission factor of the operating margin and 50% weighting of the emission factor of the construction margin.

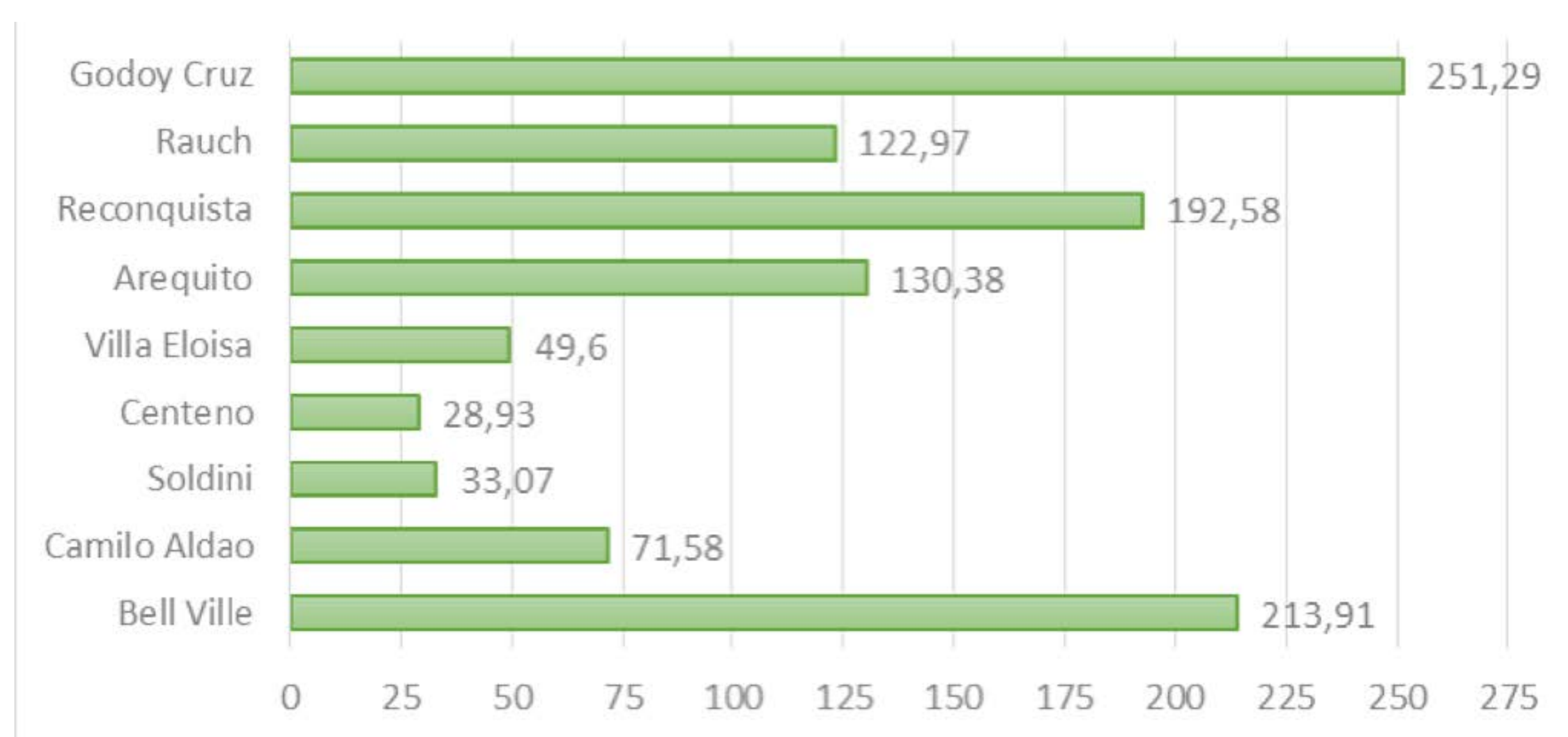
anticipated in the economic analysis and, therefore, it would generate better financial results than those estimated.

Secondly, from an environmental approach, it is always preferable to opt for lower energy consumption when it takes these dimensions, regardless of whether the NPV analysis is close to zero or negative. This is based on the fact that the economic-financial valuation, beyond taking into account the energy savings, when it is about using a predetermined interest rate, the current costs and benefits outweigh future ones. The use of the interest rate as a measure of future discount compares the performance of the project under consideration with the possible performance of other projects

competing for the investment.

That said, the returns on investment in alternative projects can arise from a truly sustainable growth of the economy (such as the implementation of LED lights or socio-energetic transition measures) or from the destruction of natural resources. Considering the effects of different projects on future generations, it is not the profit rates that are relevant but their environmental repercussions and the direct consequences of these projects on the well-being of future generations. In this regard, the project fulfills the established energy-saving expectations: all localities obtain large savings in emissions (measured in t/CO₂, see graph 2).

Graphic 2. 10-year emission savings for each locality (in t/CO₂)



Source: own-produced based on Quarks S.A final report.

It should be pointed out that all these technical observations were implemented in collaboration with the members of the trust, who fulfilled a control function and additionally guaranteed a participatory process. Later, this documentation was shared with international organizations who

provided their comments. Once the tender was carried out, the bidders were monitored and the received offers were qualitatively and quantitatively validated.

The luminaries were delivered in each of the municipalities during the same year

that this tender was held. This shows that the implementation of programs against climate change at the local level can be effective if there are adequate financial tools and economic in addition to technical and political collaboration between the municipalities involved, an executive secretary such as the RAMCC, and national and international organizations that provide technical advice for the projects. All of these articulations made it possible, in a year with many restrictions, to accomplish the announced goals and even to set new goals for the future. •