

## Guidelines for the catering service of ARPA Piemonte

### 1. Summary of the legal and regulatory framework

The legislative and regulatory framework is a binding constraint to be considered in the definition of the criteria and procurement procedures, particularly in the light of the latest developments. The following is a useful summary with respect to the specific case.

#### Legislation on public procurement

The new Directive 2014/24, the Law 221 of 12.28.2015 and the new national code for public procurement (D Lgs 50/2016) insist on the importance of using the most economically advantageous tender (MEAT) as criteria for the award, noting in particular:

- The importance of evaluating the cost (and not the price) of the good / service purchased
- The importance of using instruments able to assess the whole-life cost (LCC) of the good / service purchased, considering also when possible the cost of so-called negative externalities, to get them "internalized" in the value sales of the product / service

#### Requirements for green procurement in the food catering sector

As regards in particular the environmental aspects of purchase, the current legislative situation requires public bodies to adopt forward-looking purchasing criteria. In fact, the environmental annex associated to the Finance Act (Ministerial Decree of 25.07.2011 Environment, Annex 1) requires that at least 50% of the services purchased in the restaurant business complies with the Minimum Environmental Criteria (CAM), and further changes will be introduced by the revision process of EU GPP criteria for catering services currently being coordinated by the JRC.

Of particular interest is the evolution of the regulatory framework for energy efficiency of appliances for professional use, which has been started and will reach completion in 2017 the definition of the most standards (energy efficiency classes / ecodesign requirements / technical standards for performance verification) for the following categories of equipment:

Product category	Technical standard	Label
HOUSEHOLD REFRIGERATING APPLIANCES	EN 62552:2013 Household refrigerating appliances - Characteristics and test methods.	AVAILABLE
REFRIGERATED STORAGE CABINETS AND COUNTERS	prEN 16825:2015 Refrigerated storage cabinets and counters for professional use - Classification, requirements and test conditions	AVAILABLE

ICE MAKERS	Draft Capitolato CECED Italia, Febbraio 2015 Test schedule for energy efficiency measurements of ice makers	DECEMBER 2017
BLAST CHILLERS	CEN/TC 44/WG 2 N 85 Blast chillers and freezers cabinets for professional use — Performance characteristics and energy consumption	2021
PROFESSIONAL OVENS	CENELEC TC59X_WG18_11 Energy Efficiency of combination ovens for professional use	DECEMBER 2017
PROFESSIONAL ELECTRIC DISHWASHING MACHINES	prEN 50593:2015 Electric dishwashers for commercial use - Test methods for measuring the performance	DECEMBER 2017
CLOTHES WASHING MACHINES	CLC/FprTS 50640 Clothes washing machines for commercial use - Methods for measuring the performance	DECEMBER 2017
TUMBLE DRYERS	CLC/FprTS 50594 Tumble dryers for commercial use - Methods for measuring the Performance	DECEMBER 2017
FITTED KITCHENS	Program under evaluation	

## 2. The environmental policies of ARPA Piedmont and the current service contract (reasons for the choice of the type of delivery and the business model)

The current contract was signed according to "fixed price" model, which provides for the recognition of a unit price / meal at the service provider regardless of the number of meals provided. The analysis has highlighted some possible areas for improvement, summarized as follows:

- The type of contract chosen leaves to ARPA Piemonte the responsibility for electric utilities, water and payment of invoices, as well as costs related to the handling of waste produced (TARSU / TIA). This choice does not encourage the efficient management of these aspects by the successful supplier.
- Despite the tender documents and a specification that fully apply the CAM (minimum environmental criteria) for catering services, the points awarded (compared to the 100 total available), for the energy aspects of waste management have been a total content of: 5/100 for the energy efficiency of appliances (limited to the evaluation requirements for non-professional appliances), 15/100 for the commitment to the non-administered food to public benefit organizations (with limited results from the constraints imposed by legislation food hygiene) and 10/100 for the use of COVERS and reusable napkins or paper with a low environmental impact
- The layout of the space did not provide for an assessment of the overall environmental and energy performance at a technical project level and organization of the service of preparation / delivery of meals
- The report on the service management mode, although foreseen by the regulations, did not set specific standards regarding the maintenance and use of equipment and space by operators, merely requiring to describe the "maintenance and cleaning" provided at the cooking area and distribution area of meals

- The constant control over the execution of the service is expensive for the buyer, which has no defined in the procurement procedures for the service provider the systematic transmission of documentation (eg. Documentation for the Ecolabel certification paperwork used)

### 3. Issues that emerged from initial analysis of needs and performance of the contract

The initial environmental review of the service, carried out through audit activity that included the use of questionnaires, interviews with operators and monitoring activities on the field, highlighted a number of problems primarily associated with electricity consumption and production / waste management.

#### Aspects associated with the consumption of electric energy

The consumption of electrical energy presents possible margins for improvement, both as regards the operations of preparation of the meal that the management of the equipment and, and the sizing of the same. The lack of connection to the gas network is a technical constraint

#### Aspects related to waste production / management

- o The amount of costs for the waste collected through the public service (and related TARSU) could be further reduced through the use of different solutions and more than the single recycling
- o The reduction of waste products could benefit from a better menu planning with respect to user requirements and the elimination of certain materials and packaging used, in accordance with the provisions of the regulations regarding safety and food hygiene

Objectives identifies for environmental performance improvement:

General objective	Specific objective	Requisites analyzed
Improvement of the environmental performance of the service	Reduction of electricity consumption	Energy efficiency of professional equipment Design requisites of the physical space for meal cooking and distribution Requisites for organization/management of the service and staff training about use and maintenance of equipment
	Reduction of the volume of waste produced	Solutions for the reduction of not necessary materials and single use packaging and products
Assure an eco-efficient service, for	Transfer to the service provider of the management	Change in the management of utilities, and the invoices for

a cost reduction all along its the life cycle	of the energy issues and related costs	energy procurement and waste management
	Reduction of the volume of waste collected by the public service	Solutions for on site management and reuse of wastes
		Alternative solutions for the recovery/recycling of the different types of waste generated, to reduce the amount of the fee for the public waste collection service according to the opportunities allowed by the city council regulation

#### 4. Summary of conclusions that emerged from market engagement

The preliminary analysis and direct involvement of the market conducted by Environment Park (market sounding), via online questionnaire and interviews with potential suppliers, have highlighted some types of innovative solutions whose adoption could be encouraged through the introduction of technical specifications and policies rewarding to regulate / specification level.

#### Main issues discussed with potential suppliers

##### Electric energy consumption

Particularly useful was the confrontation with the representatives of the most important trade associations to Italian and European level in the field of equipment manufacturers (EFCEM sector), suppliers of food services (Angem) and designers / installers of kitchens and cooking centers (ASSOGI) . The simultaneous presence of the entire supply chain operators allowed to highlight better the barriers that still exist today compared to the further overall improvement in energy efficiency of the services provided.

Main topics investigated:

- current level of innovation in the field of professional appliances
- the different possibilities to satisfy the need to demonstrate and certify the performance of the equipment
- principles and criteria to be considered in the design and implementation of the service as a whole
- alternative business models for food catering service

##### Waste reduction and management

Market engagement activity has involved different types of suppliers, with the aim of identifying solutions - among them also complementary - applicable not only to the specific case of ARPA Piedmont but also in catering services such as that carried out at Environment Park, also

characterized by the possibility of takeaway of meals and organization of banqueting services from the same supplier of food catering service in the office canteen.

Main topics investigated:

- solutions for the reduction of waste sent for disposal by the public service, with particular reference to the most significant fractions (organic waste and packaging)
- solutions for the reduction of the impacts of the life cycle of waste produced (in situ management)
- biodegradable / compostable solutions for the amount of crockery and non-reusable packaging used for pre-portioned meals distributed to users

## Findings from the preliminary analysis of the market and the meetings of market engagement

### Electricity consumption

- The energy consumption of catering services is affected differently by several factors: technological, organizational, operational (behavior of the operators)
- Contractual arrangements represent an interesting lever to the objective. Vendors seem willing to invest on energy efficiency aspects in the face of broader contractual terms for the service
- In the market of professional equipment, there are features and technical equipments to be considered well-established.
- Innovation leads to a continuous improvement of the environmental performance of the equipment, too fast, which is difficult to "photograph" precisely if compared to the times of a public purchase process
- The characteristics of the service (the service delivery time, extended hours of preparation, menu articulation) impact in a significant way on the consumption intensity
- Buyers (and often suppliers) encounter significant difficulties to "certify" and demonstrate the requirements of the product / service on valid and recognized standards. The Energy Star label, theoretically usable for solutions produced in the US market and sold on the European market, is actually in a legislative and regulatory environment (safety requirements and standards for shape / size) different from the European one, so the different performances are not essentially comparable on a same scale
- The individual equipment tend to be increasingly seen as an integral part of a complex system (the cooking / center inserted in a building); in the case of new projects are entering instruments such as BIM software for controlling the overall performance of the kitchen both in the design phase than in the time after

### Waste reduction and management

- There are dispensers that can be successfully used in this case, in compliance with HACCP standards, helping to reduce the production of packaging waste

- Some materials used in the service (eg. Placemats tray covers) are redundant with respect to the type of user, which is specific and different from other types such as school meals
- The need to employ non-reusable tableware (eg. Take-away meals) can be met through a wide variety of products and compostable materials, always favoring products capable of using lower amounts of material with the same functional properties
- The use of small electromechanical composting facilities for on-site recovery of organic waste may not always be the best solution, it should also consider the use of facilities with solely mechanical manual operation
- The requirement of compostability applies to the product and not the material; in the case of small composting plants it is necessary to verify whether it is produced "home compostable"
- They can be considered innovative devices that combine a % volumetric reduction of at least 90% with a recycling chain downstream of the system that reduces the maximum number of operators involved

## 5. Main aspects to be taken into account in the specification level

Preliminary activities conducted led to define the priority areas, to be checked with the contractor for the purposes of their implementation in the new tender documentation. For each of them have been identified the specific requirements and the related verification mode.

### TENDER STRATEGY

MEAT criteria adoption is foreseen, with a mix of evaluation criteria:

- Selection criteria (applied to the supplier)
- Technical specifications (mandatory basic minimum requirements occurred in the tender)
- Performance contractual clauses (aspects occurred during the execution of the contract, which can lead to bonus or penalty, with reference to the performance indicators defined in advance on the basis of conducted monitoring)
- Awarding criteria (related to requirements evaluated during the tender for awarding any additional scores)

#### a. Contract structure and business model

Considered the possibility, foreseen by the actual agreement, of a contract duration extension, the possibility of not changing the current structure of the contract is evaluated ("quantity and value " model with fixed unit cost), excluding onerous granting of canteen spaces or other forms that do not allow the client to maintain control over the object and on the economic conditions of the service offered.

In line with this hypothesis it is also ruled out the purchase of the equipment currently used by the supplier by ARPA Piemonte, since it is obsolete equipment in some cases and does not have particular energy efficiency requirements.

It is instead proposed to provide one of the following alternatives:

- A % of electricity consumption is paid by the supplier, in% variable in function of the level of consumption per meal compared to the measured baseline (the higher is the savings % over

baseline, much more decreases the % paid by the supplier of energy, in an inversely proportional way)

- All consumed energy is paid by the service provider

This approach, which transfers the responsibility for energy consumption to the supplier without incurring the administrative complication of switching the titularity of utilities, will encourage the provider to invest in its equipment to make it more efficient and, combined with increased duration of the contract - to be extended to at least 5 years - will ensure a return on investments made with mutual benefit for both the contractor and for the contracting entity (intermediate solution compared to the total transfer of the payment to the supplier bills). It will also facilitate the adoption of measures for the training of operators and the proper equipment management / maintenance.

Actual baseline consumption for electricity : 0,8 kWh/meal

**b. Update of basic and warding requirements for energy efficiency of catering equipment**

Reference requirements of individual equipment (relative to the size and the specifications to be requested), verified by technical sheet

Dishwashing equipment

Minimum requisites	<ul style="list-style-type: none"> <li>- Heat recovery from washing water and drying air flow</li> <li>- Heating pump solutions for the pre-heating of the water coming into the boiler (for flight dishwashers)</li> <li>- Monitoring of water consumption and temperature</li> <li>- Cleaning automation</li> <li>- Availability for Service and spare parts</li> <li>- Noise level of the dishwasher</li> </ul>
Awarding requisites	

Electric ovens and tops

Minimum requisites	<ul style="list-style-type: none"> <li>- Induction technology (tops)</li> <li>- Convection Technology with air recirculation (ovens)</li> <li>- Three layer and insulated window surfaces</li> <li>- Variable-speed fans when doors are open</li> <li>- Availability for service and spare parts</li> </ul>
Awarding requisites	<ul style="list-style-type: none"> <li>- Combi technology (convection / steam / both)</li> <li>- heat recovery from air for the production of steam (steam ovens)</li> <li>- Microwave (for re-heating operations)</li> <li>- Vacuum cooking systems</li> </ul>



Refrigerating equipment (Climatic class 4, single/double door/undercounter)

Minimum requisites	<ul style="list-style-type: none"> <li>- 75&lt;IEE&lt;85 (Class E)</li> <li>- Triple layer gaskets</li> <li>- Heat recovery solutions</li> <li>- Reduced GWP and ODP refrigerants (propane R290)</li> <li>- High efficiency insulating solutions (ciclopentane)</li> <li>- Interruption of the ventilation when opening</li> <li>- Interior lighting efficiency (LED)</li> <li>- Outside digital temperature screen</li> <li>- Availability for service and spare parts</li> </ul>
Awarding requisites	<ul style="list-style-type: none"> <li>- IEE&lt;75 (Class D or minor)</li> <li>- Gas leakage control</li> <li>- Intelligent systems of internal air circulation</li> <li>- Automatic de-icing systems (not timed)</li> </ul>

Air treatment and ventilation

Minimum requisites	
Awarding requisites	<ul style="list-style-type: none"> <li>- Heat recovery</li> <li>- Temperature control</li> <li>- Automatic solutions for the ventilation speed control</li> </ul>

c. [Update of requirements and criteria relating to the type and composition of packaging and service materials used in providing the service](#)

For dispensers, placemats and various packaging not single-use solutions are required, that are compatible with the needs of hygiene, contact and food storage (HACCP compliant dispenser, bag in box supplies with a shelf life and a remaining life after delivery of at least 180 and 60 days respectively)

d. [Introduction of new execution of the service control criteria](#)

Following control modalities will be foreseen:

- The control by ARPA Piemonte of the measured energy consumption against the target set by the contract, through the installation of monitoring systems (meters)
- The implementation of regular surveys to assess users' satisfaction, aimed at changing the menu planning to maximize the number of users of the service and reduce the amount of food prepared and not distributed or wasted
- A program of actions for final users awareness about the aim of reducing the waste amount
- periodic transmission of records of monitoring and maintenance carried out on the equipment, designed to ensure optimal performance

e. [Introduction of more precise inquiries about the initial and continuing training of operators, and related reporting mode to the contracting of the activities](#)



- i. Supply, annexed to tender specification, of operative instructions about use and maintenance of dishwashers, refrigerators, cooking techniques, and in particular:
  1. Maintenance of the seals and cleaning of the refrigerator thermal exchangers
  2. Method of optimization of the filling levels of ovens and dishwashers
  3. Energy optimization of preliminary operations for the cooking and washing steps
  4. Programming of times and on / off of ventilation and extraction systems criteria
  5. Cleaning the filters and air intakes
- ii. Ask for regular transmission of the records relating to training activities

f. **Development of an overall plan of the kitchen, according to innovative methodologies**

The applicant must prepare a local construction project carried out in compliance with the existing constraints and the functional areas identified by ARPA Piemonte, providing for each area an allocation of equipment able to meet as effectively and energetically more efficient the minimum identified requirements of the service.

Following elements will be positively evaluated:

- Total installed electrical capacity minor than the current one
- A demonstrated improvement of the energy management by proposals for improvement of the service and layout of the equipment or the organization of the service (placement of refrigeration equipment, reduction in area undergoing ventilation / extraction, optimization of extraction paths' air, ...)
- Project presentations, for the engineering part, through the use of tools and methodologies BIM (Business Information Modeling), which offer the possibility of use of information and template libraries loaded directly from manufacturers of equipment, downloadable and usable for the overall design of the local canteen from the existing situation of the premises (in this regard see the EFCEM BIM tool, available on the website [www.efcembim.net](http://www.efcembim.net)).

g. **Overall LCC analysis of the service**

In accordance with the current directives on public procurement, the supplier will be required to prepare an analysis of the costs of the service life cycle, obtained from LCC analysis of individual devices for their expected use. For the calculation it will be used a simplified tool provided by the contracting authority (see <http://ec.europa.eu/environment/gpp/lcc.htm>), together with a theoretical scenario of reference for the service to be used for the input data to the calculation tool LCC (n ° of meals/ day, discount rate, depreciation period, unit costs of the resources and materials used by the equipment, ...) and of the instructions for the sources to be used in order to ensure the accuracy and quality of results

## ANNEX

List of the companies which actively participated in the market sounding and market engagement activity

### Manufacturers of products and solutions for catering service

Organization	Detail about the product/service provided
ALPI GRAIE srl (TECPUR)	Sistemi di distribuzione di acqua potabile alla spina, tramite impianti professionali di microfiltrazione e microgasatura
Comai Torino Srl	Stazione di controllo operativa con sensori per apparecchiature frigorifere (perdite gas, consumi, temperature) e con oltre 60 parametri sotto costante controllo su piattaforma SMIT (Web GIS) per collegamento in remoto via internet con il sistema di controllo E' inoltre possibile inserire allerte e allarmi con e-mail ed SMS per superamento soglie, perdite di gas, anomalie parametri
Saldometal srl divisione FRIECO	Sistema di riduzione volumetrica di rifiuti inorganici. Tale sistema permette di SMINUZZARE i rifiuti in plastica, alluminio, vetro e carta/cartone, in PICCOLE PARTI da 1 CM circa. PERCENTUALE DI RIDUZIONE DEI VOLUMI RIFIUTI DI OLTRE IL 95%, con DIMENSIONI CONTENUTE.
Grimar srl	Cogenerazione ad inseguimento termico. Soffitti aspiranti con recupero di calore.
Electrolux Professional SpA	HSG (combinazione in spazi ridotti di tre tecnologie Infrarossi ,grill e microonde con un risparmio di costo d'esercizio del 25% rispetto ai prodotti tradizionali), Frigoriferi ECOSTORE e lavastoviglie a capottina ad alta efficienza con innovativi sistemi di recupero del calore, connectivity
For Tecno Service Snc	Sistemi di trattamento dell'aria con pompe di calore taglia picchi, abbinati a layout del posizionamento delle attrezzature
VERONESI SRL	SISTEMI INTEGRATI PER ABBATTIMENTO ODORI, con aspirazione e reintegro aria  Soffitti aspiranti (brevetto Pagula System)

BIOOPS SRL	<p>Prodotto brevettato e certificato che blocca la fermentazione nei rifiuti ad alto tenore di sostanza organica, determinando:</p> <ul style="list-style-type: none"> <li>- assenza di odori molesti;</li> <li>- assenza di liquidi sgradevoli e pericolosi;</li> <li>- pressochè scomparsa del rischio biologico.</li> </ul> <p>Il prodotto è biodegradabile al 100% e perfettamente compatibile con gli impianti di smaltimento finale siano essi di compostaggio o biogas</p>
Ecozema - Fabbrica Pinze Schio Srl	<p>Produttore di catering monouso biodegradabile e compostabile. i prodotti derivano da fonti rinnovabili e a fine vita</p> <p>soluzioni per pasti monoporzione veicolati e ATM (confezionamento in atmosfera modificata)</p>
ERICA	<p><a href="http://www.ecoristoranti.it/">http://www.ecoristoranti.it/</a></p>
Ecotecnologie	<p>Distributore di stoviglie per catering monouso biodegradabile e compostabile certificato secondo EN 13432, in vari materiali:</p> <ul style="list-style-type: none"> <li>- Mater Bi (posate e prodotti realizzati da lastre di spessore fino a 1 mm)</li> <li>- PLA (prodotti realizzati da lastre di spessore fino a 1,65 mm)</li> <li>- Polpa di cellulosa</li> </ul>
Novamont	<p>Mater Bi per piatti e vaschette che resiste a 70°C fino a 2 minuti, che può essere una valida alternativa alla polpa di cellulosa.</p> <p>Gli spessori minori sono certificati anche "OK compost home"</p>
Fkur	<p>Prodotti in plastiche biodegradabili (BioFLEX e BioGRADE) ed in alcuni casi compostabili.</p>