SPP REGIONS
REGIONAL NETWORKS FOR SUSTAINABLE PROCUREMENT

SPP TENDER MODEL

Low emission vehicles

Joint procurement of 19 vehicles in Niort, France

Purchasing body:	Municipality of Niort
Contract:	Framework contract for supply of vehicles Awarded : October 2016
Savings:	• 11.06 tons of CO_2 emissions saved per year • Primary Energy saving of 0,035 GWh/yr

SUMMARY

- Joint procurement led by the municipality of Niort for the replacement of 19 mainly A and B segment vehicles between 2016 and 2020
- Assessment based on a life cycle cost comparison of the vehicles using the methodology of the Clean Vehicles Directive (2009/33/EC), including environmental externalities
- Minimum value of €336,000 including tax for 4 years
- 4 successful bidders: Garages Chaigneau (Toyota) (main contractor); SCAP Automobilis (Peugeot) ; St Christophe Automobiles (Renault, Dacia) et La Scala Automobile (Fiat).

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www.sppregions.eu

Procurement Approach

The contract tendered was a mixed framework agreement for the replacement of 19 vehicles between 2016 and 2020. 90% of the contract relates to passenger cars in the A and B segment (city and small city cars – appropriate for the urban usage), which are supplied through direct purchase orders by the bidder evaluated highest (Garage Chaigneau for Toyota Aygo and Yaris). The remainder of the contract is for specialist vehicles (sedans, 4x4, police vehicles etc.) – these vehicles are to be purchased by reopening competition between all four compliant bidders.

The tendering approach adopted was guided by a number of priorities, based on the responsible purchasing policy of the City of Niort:

Objective	**Tendering approach**
Economic	
Supporting local economic operators in accessing public contracts	After-sales service evaluated highly in bid assessment.
Improving financial and qualitative performance by: • Taking into account life-cycle costs • Using contract types which stimulate competition • Pool the purchasing activities of public authorities to optimise management of resources	Total cost of ownership (TCO), including externalities, used for financial bid evaluation
	Use of a multi-supplier framework agreement which can be reopened to competition
	Joint procurement between three entities
Internal governance	
Promote the human dimension in purchasing choices as part of efficient and respectful public service	Vehicle safety level taken into account with bid evaluation
Environmental	
Reduce the environmental impact of transport: • Develop a fleet of vehicles with lower environmental impact • Replace all EURO 1 vehicles before 2017 • Achieve a 35% share of alternative fueled vehicles by 2017	Inclusion of pollutant emissions (externalities) in financial bid evaluation
	Choice of small vehicles for urban use
	The multi-supplier framework agreement allows for the purchase of clean (electric or hybrid) vehicles through mini-competition.
	Range of vehicles offered (including clean vehicles) assessed in the evaluation of bids

Joint Procurement

The tender was led by the municipality of Niort on behalf of three public organisations:

- The municipality of Niort
- The Centre Communal d'Action Sociale (CCAS) of Niort
- Vivier water utility (Syndicat des eaux du Vivier), based in Niort

This approach has been used in order to maximise volume, and rationalise resources, and is an arrangement often used by these three entities. As the three entities have a shared garage available for vehicle maintenance, promoting harmonisation of vehicle models helps to optimise maintenance operations (spare parts, training of mechanics etc.).

Market engagement

The tendering approach was established in a way to allow all regional suppliers to respond (while remaining open to competition). Prior to tendering, a series of market engagement and research activities were carried out.

Several meetings with suppliers were arranged, which enabled Niort to:

- Present the responsible purchasing policy of the city and how this relates to the purchase of vehicles
- Verify the market availability of the vehicles required
- Ensure the ability of suppliers to meet pricing requirements (very time consuming and something new for the suppliers)
- Ensure the contract conditions (delivery time, repair etc.) were realistic
- To determine an estimated budget

Life cycle costing

It was decided to base the financial evaluation of the tender on the life cycle cost (LCC) of the vehicles rather than the purchase price – LCC was weighted at 45% when evaluating the offers.

PROCUREMENT INNOVATION

Use of life cycle costing methodology, taking into account environmental externalities, from the Clean Vehicles Directive

The model applied the following parameters:

Assumptions:

- Vehicle lifetime: 10 years
- Annual mileage: 7,000 km for small city cars / 10.000 km for city cars
- Usage: 100% urban

Costs assessed:

- Purchase price
- Lifetime fuel costs – calculation: lifetime km x consumption per 100km (urban usage) x price of fuel including tax (date fixed in the calculation grid)/100
- Cost of regular maintenance (excluding breakdowns) over 10 years, including:
- Regularity of servicing
- Price of replacement parts
- Time required for maintenance
- Hourly labour costs in garage
- Cost of environmental pollutants (valued according to the calculation methodology outlined in the Clean Vehicles Directive (Directive 2009/33/EC)[1] – calculation: lifetime km x emissions (g/km) of different pollutants (CO2, HC, NOx, particulates)[2] x value assigned to each pollutant in the Clean Vehicles Directive

End-of-life and insurance costs were excluded from the calculation. It is not possible to individualise the insurance costs within the joint procurement approach, so the overall fleet of vehicles and equipment is insured at a flat rate based on a general claims ratio. Additionally, for vehicles with the same engine size, insurance costs would in any case not vary significantly.

The end-of-life cost is also not included because whatever the type of vehicle chosen during the tender, the resale price is the same at 50 € and cannot influence the choice of the vehicle.

Tender specifications and Verification

TECHNICAL SPECIFICATIONS

- Terms of use:
  - Average annual mileage: 8,500 km
  - Urban use: 100%
- Vehicle definition:
  - 5 door, 4 seats
  - Petrol engine
  - Split folding rear seats
  - Power steering
  - Power windows
  - Central locking

[1] For further information: www.clean-fleets.eu/fileadmin/files/documents/Publications/CVD_Operational_Lifetime_Cost_Methodology_-_Clean_Fleets_Factsheet.pdf

[2] Values included in the vehicle data sheet

- White colour
- (Optional) Air conditioning

AWARD CRITERIA

- Economic offer (45 %) - Based on life cycle cost per km (see LCC section above)
- Warranty and after sales service (25%) – length of warranty, response time for breakdowns, use of loan vehicle during repair, spare part delivery time
- Technical performance (10 %) – comfort, ergonomics, equipment
- Range of vehicles offered (10%) – vehicle segments offered, offer of clean vehiclesVehicle safety level (5%) – based on crash test results
- Delivery time (5%)

VERIFICATION

The bidders were required to provide:

- Contractual commitment to the warranty
- NCAP safety test results
- Vehicle data sheet
- Commercial documentation of vehicle range offered

Results

Environmental impacts

Table 1: Environmental savings – green tender compared to current solution

Tender	Consumption (l/year)	CO_2 emissions (tonnes/year)	Primary Energy consumption (GWh/year)
Benchmark (current vehicles)	12,209	34.10	0.109
Green tender (new vehicles)	8.236	22.94	0.073
Savings (33%)	**3,973**	**11.06**	**0.035**

CALCULATION BASIS

- 19 vehicles purchased (both current and new vehicles are petrol driven)
- Average fuel consumption of current vehicles: 7.56 l/100 km
- Average fuel consumption of new vehicles: 5.10 l/100 km
- Average annual mileage – 8,500 km/yr (7,000 km/yr for small city cars, 10,000 km/yr for city cars)
- Calculation made using the tool developed within the GPP 2020 project (*www.gpp2020.eu*), and refined within the SPP Regions project. Available on the SPP Regions website.
  (More detailed calculation tables are included in the Annex below)

Financial impacts

The table below shows the evaluation of the compliant bidders against the award criteria. The selected tender was not the cheapest offer (as cost represented only 45% of the evaluation), but was below the average cost across the compliant bids.

	Supplier 1 - F	Supplier 2 - T	Supplier 3 - P	Supplier 4 - R
Total CPK	**€ 549 927,90**	**€ 506 297,70**	**€ 497 758,60**	**€ 492 432,10**
Financial score (45 points)	39,75	43,93	44,60	45,00
Range of vehicules (10 points)	5,00	9,00	8,00	9,00
Warranty (25 points)	20,00	23,50	21,00	21,50
Technical value (10 points)	6,00	7,00	9,00	6,00
Safety (5 points)	4,50	4,50	4,50	4,50
Delivery time (5 points)	3,00	5,00	4,00	2,00
TOTAL	**78,25**	**92,93**	**91,10**	**88,00**
RANK	**4**	**1**	**2**	**3**

Market response

Four local distributors representing the main brands on the French market (Renault, Peugeot, Toyota and Fiat) responded to the tender. This is the result of an active market monitoring and sourcing process, including communication of tender objectives to local suppliers in advance.

The environmental requirements did not influence the offer, as the volume represented by the joint procurement is too small to determine the industrial choices of the car manufacturers. However, preference for the offer of a wide range of clean vehicles offered probably ruled some suppliers out the tender.

Lessons learned and future challenges

The Life cycle costing methodology offered by the Clean Vehicles Directive offers a good bid comparison tool based on the theoretical vehicle cost over its life time. However, it has a number of weaknesses:

- It only assesses the theoretical financial and environmental impact. Real operating costs can only be assesed at the end of a vehicle's life, and are strongly linked with driving behaviour and appropriate maintenance
- The calculations must be carried out on consumption and emission values, which we know, do not correspond with real driving situations
- The value assigned to the pollutants needs to be updated
- It can only be used for passenger cars and light commercial (duty) vehicles up to 3.5 tonnes as consumption and emission data are available. For heavy duty vehicles and other rolling stock (construction equipment, lawnmowers, agricultural equipment, etc.), there is no consumption data for the materials because this is too related to usage.

Two specific challenges faced were:

- Data collection to complete the LCC calculation
- Getting suppliers to understand the approach used, and the need for them to provide more thorough information in preparing their bids

Two key strength factors in the approach used:

- Existence of an internal garage, allowing access to the maintenance history for vehicles similar to those purchased. These histories and the professional knowledge of workers allowed us to determine the frequency and types of maintenance interventions to be carried out over the lifetime and thus to set up the calculation grid.
- The market sourcing and monitoring process, and in particular discussions with suppliers, prior to the tender allowed us to make them commit to this novel approach and to get enough valid bids.

CONTACT

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SPP REGIONS
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Annex 1 - Calculation of environmental savings

VEHICULE DE BASE - BERLINE A - PETITE CITADINE					
MARQUE					
MODELE					
MOTORISATION					
ENERGIE					
FINITION					

CONDITIONS D'UTILISATION
Kilométrage annuel moyen = 7 **000** kms.
Période considérée : 10 ans soit 70 000 kms
Utilisation urbaine : 95 %

PRIX DE REVIENT KILOMETRIQUE					
					Montant TTC
Cout d'acquisition (primes déduites)					0,00
Cout carte grise					0,00

Carburants (Prix de vente moyen TTC en Deux Sèvre au 11/05/2016					
GPL : 0,690 / 0,693 €/l soit	0,692 €/l moyen				
SSP95 E10 : 1,219 / 1,259 €/l soit	1,239 €/l moyen				
GO: 1,019 / 1,050 €/l soit	1,035 €/l moyen				
Autre *(à préciser) :*					
Cout carburant = conso. Cycle urbain/100 km x prix unitaire TTC du carburant proposé x 700					
Consommation cycle urbain / 100 km	0,00				
Prix unitaire TTC carburant proposé	0,000				Montant TTC
Cout carburant aux 100 km	0,00	x 700 =			0,00

ENTRETIEN					
Interventions réalisées dans nos ateliers.				**Tx horaire**	**46,81 €**
Prix pièces tarif public remises éventuelles déduites					
Périodicité : préconisation constructeur si non imposée ci-dessous					

Désignation	Périodicité	Cout unitaire pièces TTC	Temps barêmé unitaire	Nombre d'interventions sur durée de vie	Montant TTC
Filtration & carburation					
Filtre à huile (périodicité à préciser)					0,00
Vidange type huile (périodicité à préciser)		4,12			0,00
Quantité huile (à préciser) →					
Filtre à air (périodicité à préciser)					0,00
Filtre à carburant (le cas échéant) périodicité à préciser					0,00
Jeu de bougie (périodicité à préciser)					0,00
Filtre habitacle (le cas échéant) périodicité à préciser					0,00
Freinage					
Jeux de plaquette AV	2 ans			4	0,00
Jeux de disque AV	4 ans			2	0,00
Kit garniture (le cas échéant)	4 ans			2	0,00
Jeux de plaquette AR (le cas échéant)	4 ans			2	0,00
Jeux de disque AR (le cas échéant)	5 ans			1	0,00
Amortisseurs					
Jeu amortisseurs AV	5 ans				0,00
Jeu amortisseurs AR	5 ans				0,00
Direction					
Biellette de direction D & G	4 ans				0,00
Rotule de direction D & G	4 ans				0,00
Distribution (le cas échéant)					
Courroie distribution (à préciser) périodicité à préciser					0,00
Batterie	5 ans			1	0,00
Embrayage complet	6 ans			1	0,00
Pneumatiques					
Train AV pneumatiques (id. monte origine)	4 ans			2	0,00
Train AR pneumatiques (id. monte origine)	6 ans			1	0,00
Jeu de raclette essui glace AV	2 ans			4	0,00
				Total TTC	0,00
			MONTANT TOTAL GENERAL TTC *(1)+(2)+(3)+(4)*		0,00

COÛT ENVIRONNEMENTAL					
				Coût unitaire émissions	
Emission CO2 ..... (g/km)				0,00003	€/g
Emission polluants réglementés HC+Nox (g/km)				0,001	€/g
Emission polluants réglementés Nox (g/km)				0,0044	€/g
Emission polluants réglementés Particules (g/km)				0,087	€/g
Coût environnemental pour 70 000 km				-	€
P.R.K. = Montant total Général / 70 000 km					- €

Screenshots from calculator:

Input	Baseline					Green tender				
	Quantity of vehicles	Average distance per vehicle per year (km/yr)	Kind of fuel	Amount of fuel per 100 km		Quantity of vehicles	Average distance per vehicle per year (km/yr)	Kind of fuel	Amount of fuel per 100 km	
Standard Engine - fuel 1	19	8.500	Petroleum	7,6	l/100 km	Petroleum	500	Petroleum	5,1	l/100 km
Standard Engine - fuel 2			Diesel		l/100 km	Diesel		Petroleum		l/100 km
Electro Engine			Electricity		kWh/100km			Electricity		kWh/100km
Hybrid Engine										
Electricity (combined test cycle)			Electricity		kWh/100km			Electricity		kWh/100km
Fuel (combined test cycle)			Diesel		l/100 km	Diesel		Diesel		l/100 km

Total consumption and emissions	Baseline				Green tender			
	Annual fuel consumption		Energy consumption (GWh/yr)	CO_2-emissions per year (t)	Total amount of fuel during the life time of the vehicles		Energy consumption (GWh/yr)	CO2-emissions per year (t)
Standard Engine - fuel 1	12.209	l	0,109	34,01	8.237	l	0,073	22,94
Standard Engine - fuel 2	0	l		0	0	l		0
Electro Engine	0	kWh	0,00	0	0	kWh	0,00	0
Hybrid Engine								
Electricity (combined test cycle)	0	kWh	0,00	0	0	kWh	0,00	0
Fuel (combined test cycle)	0	l		0	0	l		0

Savings	Total savings (Baseline / Green tender)			
	Energy savings (GWh/yr)	CO_2-savings (t/yr)	% of energy savings	% of CO_2-savings
Standard Engine - fuel 1	0,035	11,07	33%	33%
Standard Engine - fuel 2				
TOTAL FOR THE PROJECT	0,04	11	33%	33%

About SPP Regions

SPP Regions is promoting the creation and expansion of 7 European regional networks of municipalities working together on sustainable public procurement (SPP) and public procurement of innovation (PPI).

The regional networks are collaborating directly on tendering for eco-innovative solutions, whilst building capacities and transferring skills and knowledge through their SPP and PPI activities. The 42 tenders within the project will achieve 54.3 GWH/year primary energy savings and trigger 45 GWh/year renewable energy.

SPP REGIONS PARTNERS

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