TURIN SUSTAINABLE SCHOOL CATERING

From the INNOCAT project onwards

Elena DEAMBROGIO
City of Torino – Resp. Smart City, EC projects and Innovation Unit

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KEY FIGURES: TURIN SCHOOL CATERING SERVICE (1)

Size of the service:

- **45.000** meals a day
- **5.800** alternative menus for ethic/religious reasons
- **1.150** special diets for food intolerances

The catering service is performed by **specialized catering companies,** not direcly by the City of Torino. The companies are selected trough an open procedure.

The service is **managed, coordinated and controlled by the City of Torino.**

KEY FIGURES: TURIN SCHOOL CATERING SERVICE (2)

- **Three years** contract (possibility to be renovated for further 2 years)
- **22.000 meals** delivered in three year , but it is necessary to consider the snack for kindergarten ~ **7.000.000**
- The urban area is divided in **eight lots**, each lot correspond with one or two district
- Each lot considers the **preparation of fresh meals for kindergarten and carried meal for primary school**

THE CONTEXT: GPP POLICIES

- In 2008 Italy adopted the « **Action Plan for the environmental sustainability of public purchaising»** . Within this Action Plan, a set of Minimum Environmental Requirements (so called **CAM**) for the catering services have been approved.
- The City of Turin has developed **targeted policies for the strategic use of public procurement .** (GPP – social clauses – now focus on PPI within Torino Smart City.
- More specifically, there is a policy in the school sector, called “Smart School” which focuses on the link with catering procurement and educational path

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MAIN CHALLENGES TO BE FACED

1. **ASSURE FOOD SECURITY AND QUALITY**
2. **HUGE DEMAND TO BE HANDLED DAYLY**-> 7 MILLIONE MEALS PER YEARS
3. **MITIGATE THE ENVIRONMENTAL IMPACT OF THE CATERING SERVICE** ALL ALONG ITS LIFE CYCLE
4. **USE THE CATERING SERVICE FOR EDUCATIONAL PURPOSE**

   School population : about 71.502 people aged 0-13 (per year)

   Teachers - School Staff – Families -> overall community of about 230.250.000 citizens
5. **REINFORCE THE LINK BETWEEN FOOD AND TERRITORIAL CULTURE**

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CHALLENGE 1) ASSURE FOOD SECURITY AND QUALITY SOLUTIONS

TARGETED TECHNICAL SPECIFICATIONS - CRITERIA

- Food production methodologies (organic or integrated pest management farming)
- Seasonality
- Production & delivery methodologies
- Quality certifications for targeted food categories

CONTROL ON EXECUTION

- Controls carried out by internal staff (about 3.000 control session per year)
- Controls carried out by external body – Turin Chamber of commerce Chemical Laboratory
- Internal Quality Certification
- Customer satisfaction Surveys

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CHALLENGE 2) HIGH DEMAND

- **Market analysis** for the introduction of eco-innovative solutions
- Subdivision in **Lots** for better management
- **Service externalized** but strong role of the public authority in terms of strategy, contract management and execution control in order to assure homogeneity in the level of efficiency of the service into the overall territory

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CHALLENGE 3) MITIGATION OF THE ENVIRONMENTAL IMPACT

- **Reinforced Execution Monitoring of the sustainability requirements** , in order to stimulate compliance and innovation.
- **Study of the climatic impact of the current eco-frinedly contract for school catering service** in terms of $CO_{2\ (Carbon}$ footprint Indictor) in order to map the areas of improvements and define targeted measures for the next procurement.
- **Early market engagement** with interested stakeholders of the whole supply chain.

All this within the INNOCAT project!

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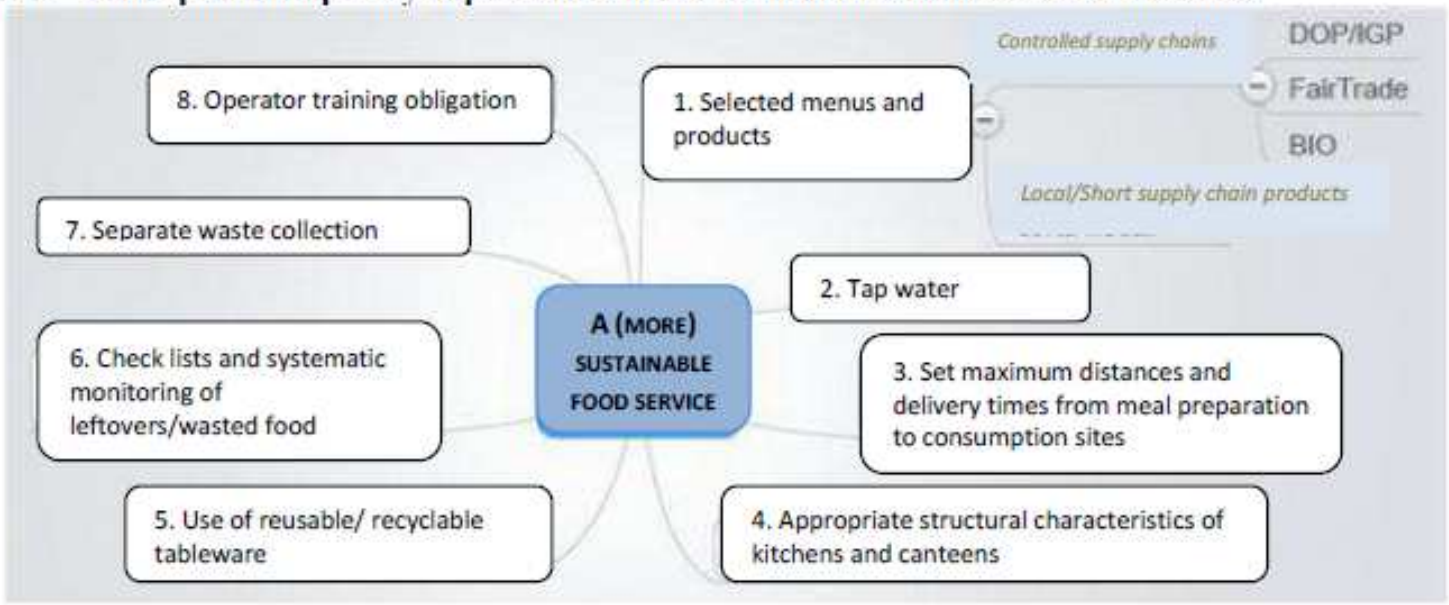
Sustainability Challenges

Figure 1: "Conceptual map: key aspects of a more sustainable food service in schools"



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CHALLENGE 4) EXPLOIT THE EDUCATIONAL POTENTIAL

- **Educational path on food quality and taste variety** - > Il Menu l'ho fatto io
- **Partnerships with Slow Food Movement** (including school gardening, etc.)
- **Educational path on sustainability of food in primary schools**
- **Reinforcement of educational and involvement path in the next contract** (e.g. teenagers, families, etc.)

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CHALLENGE 5) LIASE FOOD AND CULTURE

- **Integration within the menu of traditional and certified food products**
- **Educational/involvement paths** around it

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KEY POINT OF THE CURRENT PROCUREMENT (Contract 2013-2016)

Considering that school catering service represents an opportunity to spread *food education* and has significant impacts on the economy of the territory for the agro-food district, on the 17 January 2012 the City Council approved the **guidelines for the School Meal Plan of the triennium 2013 -2016.**

These guidelines defined two main criteria, closely related to each other, for the redaction of tender specifications:

- **Improve food sustainability**
- **Improve environmental sustainability**

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MAIN EXISTING ECO-FRIENDLY CLAUSES

- **Organic food requests** for several food categories
- **replacement of the disposable tableware used in compulsory education** schools **with dishes and cutlery that may be washed and reused**
- **provide further incentive to make use of ecological means of transport** to distribute food products and meals in the city, so as to improve the quality of the air;
- have the food service companies **use smaller sized low impact packaging materials**, and ensure that full attention is paid to the separate collection of packaging materials and rejects management, also at the cooking centres;
- **specify the use of cleaning and sanitising products with a low impact on the environment.**

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FOCUS ON SUSTAINABILITY ANALYSIS

Aim of the research carried out by DISAFA: determining the reduction in climate-altering gas emissions on the basis of the different choices made in the procurement specifications for the 2012/13 (old specifications) and the 2013/14 school years (new specifications).

In particular, the University:

- assessed **the environmental impact of the food supply chain** in the school canteen service of the City of Turin, in terms of climate changing emissions linked to the production and supply of different selected food. Considering the complexity of the school catering service of the City, the study was performed on the horticultural and fruit supply chain of the product mostly consumed during the school year. However the calculated voices represent with a good approximation the most part of the overall consumption.
- **calculate the climate-altering emissions from meal deliveries to the school canteens of the City of Turin, in terms of the Carbon Footprint of food transport in the city**
- calculate the climate-altering emissions arising from **the use of reusable tableware, tap water, detergents and other ancillary products bearing an ECOLABEL, in terms of the impact of the in-house stages of the food service,**

The **Carbon Footprint** corresponds to the **impact class referred to as having "global warming potential" and it expresses the quantity of CO2 equivalent** (a unit of measure used for all molecules with global warming potential**) released, whether directly or indirectly, by the system being considered at any stage.** The term CO2 equivalent is used to indicate the totality of greenhouse gases, each of them weighted according to its global warming potential. Global warming potential values were determined on the basis of the latest publications by the IPCC (*Intergovernmental Panel on Climate Change*).

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Modeling the catering service for the INNOCAT project

PHASE 1

Calculation of greenhouse gas emissions of the food production stages

Life cycle thinking
http://eplca.jrc.ec.europa.eu/

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e.g. GPP1 - Different production practices for food

	Conventional production systems		School year 2013/2014		Emission save	Variation
Product	Agro-technique	tCO_2 eq	Agro-technique	tCO_2eq	tCO_2 eq	%
Apples	Conventional	82.45	Organic / integrated	57.89	-24.56	-30%
Pears	Conventonal	12.69	Organic / integrated	9.48	-3.21	-25%
Peaches	Conventional	12.53	Organic / integrated	8.95	-3.58	-29%
Potatos	Conventional	70.61	Organic / integrated	43.73	-26.88	-38%
Carrots	Conventional	25.93	Organic / integrated	18.07	-7.86	-30%

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PHASE 2

Calculation of greenhouse gas emissions of the food transportation stages

Life cycle thinking
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e.g. GPP2 - Local provisioning of food

	School year 2012/2013		School year 2013/2014		Emission save	Variation
Product	Origin	tCO_2 eq	Origin	tCO_2eq	tCO_2 eq	%
Apples	Piedmont	3.41	Piedmont	3.41	0.00	0%
Pears	UE supply-chain	1.32	Piedmont	0.70	-0.62	-47%
Peaches	UE supply-chain	1.66	Piedmont	0.69	-0.97	-58%
Potatos	UE supply-chain	7.60	Piedmont	3.32	-4.28	-56%
Carrots	UE supply-chain	6.92	Italy	5.80	-1.12	-16%

Comparison of total greenhouse gas emissions of the five supply-chains studied in the school year 2013/2014 and a scenario with the situation in school year 2012/2013

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PHASE 3

Calculation of greenhouse gas emissions of the food cooking and serving stages, including materials, energy and waste

Life cycle thinking
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e.g. GPP3 - Washable tableware and Tableware in Mater-Bi®

	Carbon Footprint [tCO_2 eq/anno]	
Disposable Tableware-Polypropylene Polystyrene	295.81	
Primary packaging Polyethylene	20.20	
Secondary packing (cardboard)	171.27	
DISPOSABLE TABLEWARE	**487.28**	
Production of melamine dishes	95.45	
Washing of plates and cutlery	42.55	
Washing of glasses	42.55	
WASHABLE TABLEWARE (EXCLUDING TRANSPORT)	180.55	306,73 (-63%)
Transport of tableware	107.32	
WASHABLE TABLEWARE (INCLUDING TRANSPORT)	287.87	199,41 (-41%)
Mater-Bi® life cycle		
COMPOSTABLE TABLEWARE	373.54	113,74 (-32%)

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PHASE 4

Testing the carbon footprint reduction occurred by the adoption of the GPP practices included in the INNOCAT project

Stage of the catering service	GPP Policy
Food production	Different production practices for food Change food component in the diet
Food transport	Local provisioning of food Improvements in local distribution of food
Cooking, storage and serving	Adoption of energy efficient appliances Certified electricity exclusively from renewable sources Electricity from photovoltaic panels
Waste management	Washable tableware Tableware in Mater-Bi® Tap water Optimization (80%) of the recycling of inorganic waste Optimization (90%) of the composting of organic waste

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THE NEW POLICY GUIDELINES 2016-2020

• define the **procurement strategy** and **main sectoral eco-innovative requirements** for the future school catering service contract, as a result of demand analysis, study activties and early market engagement carried out within the INNOCAT project.

•-Objective: propose **a new model for a school catering service having a low impact on the environment** and encompassing **all aspects of the service life cycle in an integrated manner**.

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THE PROCUREMENT STRATEGY (1)

- **Guiding Principles**

INNOVATION – OPENNESS – INTEGRATION

ENVIRONMENTAL SUSTAINABILITY

FOOD QUALITY AND CULTURAL ENHANCEMENT OF LOCAL FOODS

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THE PROCUREMENT STRATEGY (2)

- Open procedure
- Layout of Technical specifications – Basic vs Noteworthy
- Use of MEAT criteria +Evaluation set
- Possible subdivision in territorial lots
- Duration : 3+2 years service contract
- Execution control – Training to personnel and to users as continuing innovation oriented contractual items

MAIN INTERVENTION AREAS

1. **FOOD PRODUCT CHARACTERISATION**
2. **ENERGY CONSUMPTION (with special regard to electrical appliances)**
3. **FOOD PRODUCT AND MEAL LOGISTICS AND TRANSPORT**
4. **DISHWARE**
5. **PACKAGING AND WASTE**
6. **CLEANING PRODUCTS**
7. **OTHER INDIRECT ASPECTS**

FOOD

-> - all Organic or Integrated Production (including a % of organic aquaculture fish + organic Pasta
-> innovative food products: canned or syrup fruit (substituting sweets)
-> traditional products (e.g. Ham; dairy products; PAT products such as Rubatà; Honey; Torcetti, Canestrelily, Giandujotto, etc.)
-> reduced meat in the menu (veggy meal implemented twice a week + alternative veggy meal available on request – reduction of veal meat, only twice a month)
-> educational projects

Main Optimization:

50% reduction of meat-based meals

ELECTRICAL APPLIANCES

2. APPLIANCES			
2. 1 Electrical Appliances in schools	2.1.1	Request of professional electrical appliances classified with energy class corresponding to the A class (or higher) and/or use of appliances whose energy efficiency has been tested – with appropriate means – and certified by expert organisations.	Noteworthy
	2.1.2	Proposal of energy saving projects inspired by energy and/or water saving criteria, such as for instance, gasket replacement, burner maintenance, etc.	Noteworthy
	2.1.3	Provision of Specific training for the users, resulting in greater awareness and a more efficient use of the appliances.	Noteworthy
2.2 Electrical appliances in cooking centres	2.2.1	Request to propose a project designed to enhance the efficiency of the cooking centres and reduce their impact on the environment	Noteworthy

Further optimization: *- electricy from solar panels*

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TRANSPORT & LOGISTICS

3. LOGISTICS AND TRANSPORTATION OF FOOD PRODUCTS / MEALS			
Logistics	3.1	Adoption of mobility management systems	Noteworthy
	3.2	Provision of driving style ("ecodriving") training for the drivers	Basic
	3.3	Proposal of projects aiming to optimise the logistics aspects by taking action on the different parameters involved	Noteworthy
Transport Fleet	3.4.1	Use of vehicle with the Euro V category or higher	Basic
Transport Fleet	3.4.2	Use of "green" vehicles, i.e., vehicles running on natural gas or LPG, or, in particular, electric vehicles.	Noteworthy

Further Optimization: *creation of distric cooking centres*

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DISHWARE, PACKAGING & RECYCLING

Ongoing actions to reduce food waste:

-Portions adequate to the different targets;

-Introduction of meals identified by the users through educational projects like “Il menu l’ho fatto io”

-Training to professionals (e.g. portioning; recycling)

-Online booking of meals (day by day)

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DISHWARE

4. DISHWARE			
	4.1	Use of reusable dishware in compulsory education schools .	Basic
	4.2	Provisions for low environmental impact collection and sanification of re-usable dishware.	Basic
	4.3	Alternative Use of disposable dishes, cups and cutlery from an EC supply chain, in lieu of reusable dishware, provided that they are made of biodegradable and compostable materials	Basic
	4.4	Use of single-serve containers made from biodegradable and compostable materials for Special diet meals,	Basic

Further Optimization: - *Increase of 50% of recycling*

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PACKAGING & WASTE

5. PACKAGING AND WASTE			
	5.1	In pre-duty schools, use of multi-serve packs for a set of food products such as: fruit juices, snacks, toasted bread, biscuits, and the like.	Basic
	5.2	Other Innovative solutions to reduce packaging	Noteworthy
	5.3	Training on proper waste disposal for the operators	Basic
	5.4	Proposal of educational projects for compulsory education school and preschool users,	Noteworthy
	5.5	Extension of the already existing requirement on the use of biodegradable and compostable bags to other items (such as foods to be kept at ambient temperature), even in bigger quantities,	Basic

Further Optimization:

- *Increase of 50% of recycling*

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CHEMICAL CLEANSING PRODUCTS

6. CHEMICAL CLEANSING PRODUCTS			
	6.1	Use of detergents and other cleaning products that bear an Ecolabel or have similar characteristics in terms of being free of harmful substances	Basic
	6.2	Use of detergents and other cleaning products in the kitchens are kept in rechargeable containers	Basic
	6.3	Provision for specific training for the operators on the use of cleaning products in order to prevent excessive quantities from being used and at the same time ensure effective cleaning and disinfection.	Basic
	6.4	All types of tissue paper (paper handkerchiefs, napkins, toilet paper, kitchen rolls) have to bear an Ecolabel or equivalent	Basic
	6.5	Bags for organic refuse must have eco-friendly characteristics (e.g., made of biodegradable and compostable plastic, or made of paper).	Basic

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NEW SUSTAINABLE CATERING POLICY GUIDELINES: NEXT STEPS

•These guidelines represent **an official policy document** for the city of torino:

-technical approval: December 2015

-Political approval : March 2016

-First renegotiation of the current contract covering further 1 year sept 2016-sept 2017): already implemented the food side (organic pasta + traditional products introduced + reduced meat in menus)

-- Next procurement will be launched by 2017 and will be fully inspired by the new policy

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- **THANKS FOR THE ATTENTION**

elena.deambrogio@comune.torino.it

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