



IRIS

Integrated and Replicable Solutions
for Co-Creation in Sustainable Cities

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Launch of T.T. #5 Activities on Citizen Engagement and motivating feedback (Nice)

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Executive Summary

The actions initially planned to be implemented in Nice had to be modified following the withdrawal of beneficiary 15 VEOLIA. Beneficiary 46 ATMOSUD is added to the consortium per 1 May 2019. ATMOS will take over one of the three demonstrators 15 VEOLIA was planning to execute, # 1 Public awareness campaign for mobility. Beneficiary 45 COFELY is added to the consortium per 1 May 2019. COF will take over two of the three demonstrators 15 VEOLIA was planning to execute. # 2 Citizens collective engagement and # 3 Citizen individual engagement.

Nice intends to roll out the Citizen Empowerment solution through the application of three distinct solutions:

- a) Changing mobility habits and improving Nice's air quality by conducting public information campaigns using real-time data, promoting carpooling in a Grand Arenas office area and mobilizing students in sustainable development.
- b) To increase the global understanding of the energy environment through the use of "I am learning energy": an innovative pedagogical device for primary and secondary schools and their teachers, recognized by the Ministry of National Education. Raise teenagers' awareness of their immediate environment through technical visits. Reaching families through educational workshops as in their apartment.
- c) Integrate an "energy spot" included in the web-portal that Côte d'Azur Habitat develops for its tenants. In the web portal the Vertuoz Habitat and Community solution will be integrated, a web-service that provides access to all the "energy" services of its building.

These solutions will be implement in Nice, Grand Arenas and Moulin's Area. The ambitions of this transition track #5 "Citizen engagement and Co-creation" consists of: design and demonstrate feedback mechanisms and inclusive services for citizens to achieve that citizens are motivated to (1) save energy, (2) change their habits (3) use shared e-mobility instead of private cars. To achieve these objectives, three Measures has been developed.

These Measures are:

TT & IS	MEASURE
IS 5.1 Co creating the energy transition in your everyday life	Measure 1: Public awareness campaign Air Quality
IS 5.1 Co creating the energy transition in your everyday life	Measure 2: Public awareness campaign Energy – School & Collège; Youth & Family
IS 5.4 Apps and interfaces for Energy efficient behavior	Measure 3: Citizens individual engagement - IOT invoices

Table 1: Measures for 6.7

This document describes for this transition track the scope, how the work is organized, the involved parties, the elaborated measures, link to other transition tracks and work packages.

The following table shows briefly the insights per measure:

Demonstrator	In a nutshell
#1 Public awareness campaign Air Quality	<u>Brief summary:</u> Three solutions will be implemented : urban awareness campaign, students training project and commuting to work by air quality measurement to develop car-sharing.
	<u>Expected impact:</u> raise the awareness of various targets about the air quality : general audience, white collars, and young people to change the habits of mobility
#2 Public awareness campaign Energy – School & Collège; Youth & Family	<u>Brief summary:</u> The objective is to increase general knowledge of the world of energy and/or their environment in order to raise the awareness of different audiences and encourage them to change their behaviour.
	<u>Expected impact:</u> More acquaintance by children with the subject of sustainability, a positive vibe within youngsters about the IRIS-initiatives who will involve and help their parents.
#3 Citizens individual engagement – IOT	<u>Brief summary:</u> Integrate in the same IOT application the energy consumption of each tenant from different sources and deliver relevant messages related to their behaviour.
	<u>Expected impact:</u> Increase understanding of the link between individual behaviour and its impact on personal energy bills.

Table 2: Summary of the measures

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List of Abbreviations and Acronyms

Abbreviation	Definition
CIP	City Innovation Platform
DoA	Description of Action
EU	European Union
FC	Follower City
IS	IRIS Solution
JALE	J'Apprends L'Energie
KPI	Key Performance Indicator
LH	Lighthouse
LHCSM	Lighthouse City Site Manager
PV	Photovoltaic
RES	Renewable Energy Sources
TT	Transition Track(s)
WP	Work Package

1 Introduction

1.1 Scope, objectives and expected impact

Objective of this deliverable is to provide a detailed overview of the activities for Transition Track #5 within the NICE demonstration. This deliverable is relevant for other organizations, since the subject of citizen engagement is generally known and everywhere a topic of attention.

The IRIS experiments in NICE are implemented into different quarters and for several public.

- An area of social Housing, with specific difficulties (low-income, language barriers, unemployment, eg...) which are representative of these quarters in France as well abroad
- A business district with a high concentration of private car users to promote alternative forms of transport
- A developing district combining housing, shops and offices on the border of the social Housing residential area.

The expected impact is to design and demonstrate feedback mechanisms and inclusive services for citizens to achieve that citizens are motivated to save energy, change their habits and use shared e-mobility instead of private cars.

1.2 Contributions of partners

At the beginning of IRIS project, three measures TT#5 were planned which were to be implemented by VEOLIA, and Nice city.

After one year, Veolia decided to quit the project. Engie Cofely and AtmoSud joined it with their own measures describes below.

The activities within TT#5 are discussed and prepared by ENGIE Cofely, AtmoSud and CAH, the owner of the public housing area.

IMRED for university program, and Nice metropole contribute as well to the task and as overall coordinator and linking pin with other work packages and initiatives.

1.3 Relation to other activities

The following figure shows the relation between the activities in TT#5 as described in the deliverable and the activities within other transition tracks and other work packages.

D6.7 is directly connected to all WP6 tasks (T6.1 as an input, and T6.2 to coordinate the tasks held in T6.7), but also related to horizontal WP, and recurrently to WP10 dedicated to communication activities.

Later in the project, it will be used as an input for WP2 and WP8.

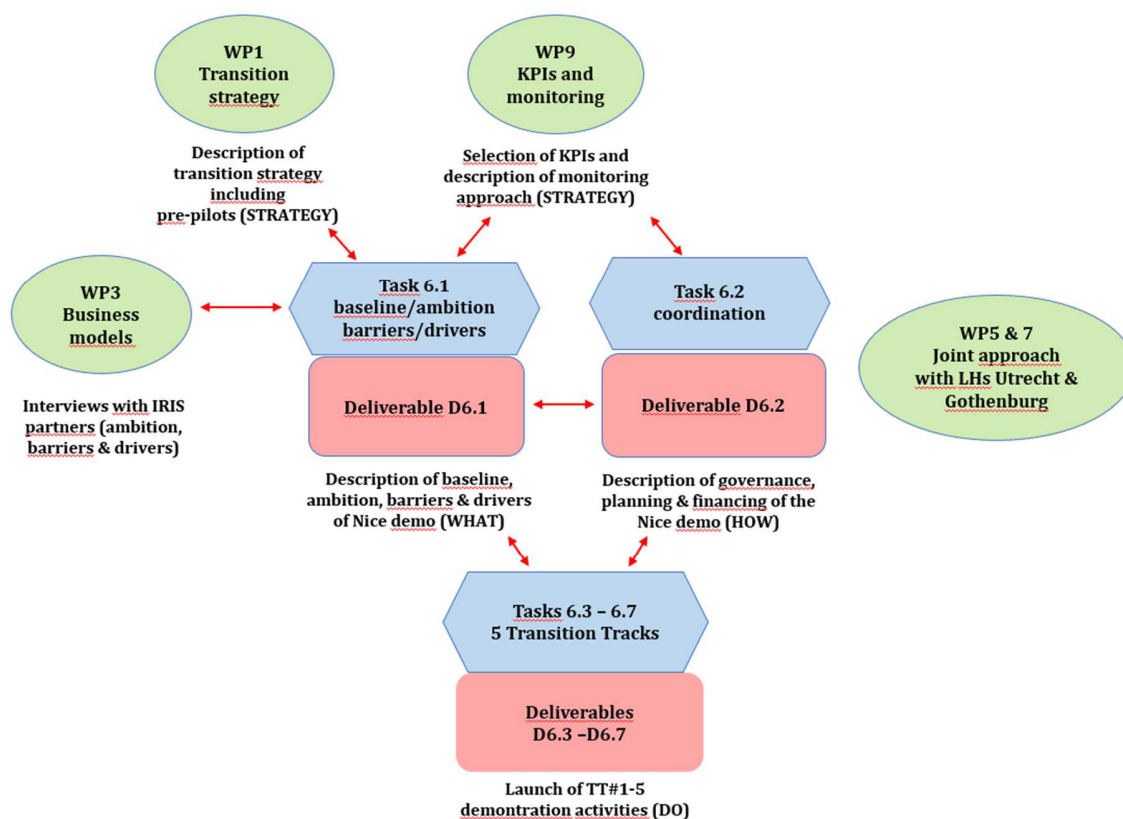


Figure 1 : Relation of this deliverable with other deliverables and work packages (source: Utrecht, mod by CSTB)

1.4 Structure of the deliverable

This document contains the description of starting points for TT#5 activities, which consists of a description of the demonstration in a nutshell, the baseline for TT#5 and the organisation of work.

From chapter 6, the tree Measures within TT#5 are explained and the achieved results reported.

Chapter 9 contains the ethical requirements we've to deal with, when rolling out the activities and monitoring.

The last two chapters contains the output to the other Work Packages as well as a conclusion and next steps.



2 Demonstration in a nutshell

2.1 Ambitions for TT#5

The DoA states that Nice has the ambition is to design and demonstrate feedback mechanisms and inclusive services for citizens to achieve that citizens are motivated to (a) save energy, (b) change their behaviour and (c) use shared e-mobility instead of private cars.

This implies that Nice is working on the design of a careful citizen engagement process involving the involvement of different target audiences in order to respond to the wishes and concerns of citizens. This citizen engagement process has some key advantages:

- Integrated solutions are designed taking into account the needs and possibilities of the users (e.g. language).
- Because integrated solutions are better adapted to the living conditions of potential users, their adoption is higher and maximizes the chances of frequent long-term interaction with the solutions, once the "novelty" has faded away.
- The process of citizen engagement itself increases awareness in the target area and increases public support, thus promoting both initial adoption and sustainable use.

2.2 Demonstration area

The demonstration area for TT#5 is in the Nice Eco Valley district, a continuum of 2 homogeneous areas: Grand Arenas, and Les Moulins.

The TT#5 measures will be implement in different scale of area :

- For #1 : The actions will be implemented in the city of Nice into the tramway & in the Grand Arenas city affair quarter and the Moulin's Area.
- For #2 & #3 : The actions will be implemented in the Moulin's Area situated in the west of Nice near the airport.

The city of Nice and the neighbouring area Les Moulins and Grand Arenas are showed in the next figure.

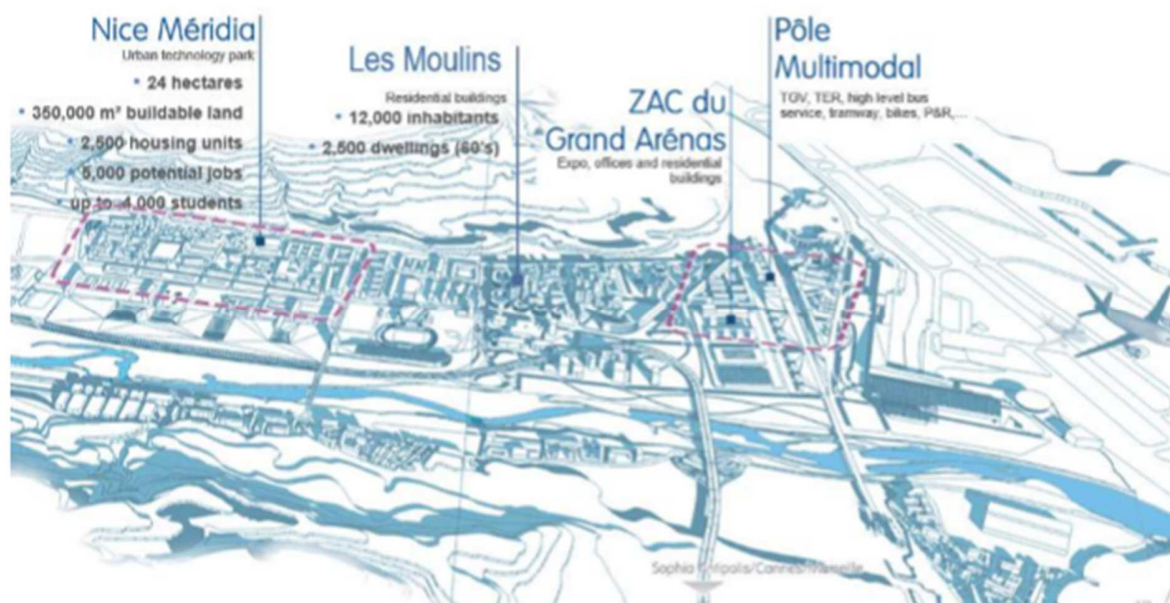


Figure 2 : Overview of the demonstration districts of Nice (source: MNCA)

Les Moulins

Nice Les Moulins is an income-deprived neighborhood in the west part of Nice (2 969 social dwellings built during the 70's, around 12 000 inhabitants) with degraded mid-rise and high-rise buildings and a shared district heating.

Cote d'Azur Habitat, the social housing company in charge of Les Moulins together with the municipality of Nice and the National Agency for Urban Renewal launched an ambitious renovation program with general objectives to demonstrate the feasibility (technical, financial and social) of innovative low energy renovation processes for buildings.

Started in 2011, the renovation program in Les Moulins is planned over 12 years, as a first step of a larger development in the Nice Eco Valley district, to be completed within 20 years (see Figure 3 and 4).



Figure 3 : Overview of Les Moulins area before renovation (source: MNCA)



Figure 4 : Les Moulins area after renovation (source: MNCA)

Grand Arenas

The new international business district of the Nice Côte d'Azur metropolis will be that of the “Grand Arenas”. The Grand Arenas represents a highly strategic sector, at the gateway to the city of Nice and in the immediate vicinity of Nice Côte d'Azur international airport. Its articulation with the international airport and the future multimodal exchange hub of Nice-Airport gives it exceptional accessibility and rapid connections with the whole of the Eco-Valley and the metropolitan area. To the existing tertiary site of 10 hectares, a complementary area of 49 hectares will be added, corresponding to potentially 700 000 m² of new floors-space (see

Figure 5).

Within the Eco-Valley, the goal of the Grand Arenas is to create a lively, innovative and eco-friendly neighbourhood, as the two driving principles of the new international business centres are urban diversity and eco-exemplarity. In addition to the offices and other facilities, a diversified housing offer is ensured (social mix), accompanied by services, shops, hotels or public facilities. The first development phase will be realized by 2021, achieving up to 140.000 m² of new mixed developments.



Figure 5 : Plan of the Nice Grand Arenas project (source: EPA plaine du Var)

2.3 Integrated Solutions in TT#5

The transition track TT#5 has links with :

- **Measure #1 : Public awareness campaign Air Quality**
→ TT#4 – IS.4.1 Sensors data collection in air quality
- **Measure #2: Public awareness campaign Energy – School & Collège; Youth & Family**
→ TT#1 – IS 1.2 Measure optimization of heating Load Curve
- **Measure #3: Citizens individual engagement - IOT invoices**
→ TT#1 – IS 1.2 Measure optimization of heating Load Curve
- **Measure #3: Citizens individual engagement - IOT invoices**
→ TT#4 City Innovation Platform

2.4 Integration of Demonstrators

Nice demonstrator is leading by Nice Metropole Services, NCA. Unfortunately, many changes have affected the overall management of the program as the quit of the leader manager at NCA services, the difficulty to recruit a new person.

For TT#5, the withdrawal of Veolia from the project contributed to a temporary halt of the actions.

With the recruitment of 2 people by NCA at the end of 2019, the overall management of the project became more effective.

Meetings are scheduled each month to monitor the progress of the programme, the difficulties encountered in its implementation and the cross of TT#5 measures.

2.5 Deviations according to the Grant Agreement

As mentioned before, In substitution to VEOLIA partner which withdrawal was declared in the 2nd Amendment to the IRIS Grant Agreement, two new partner companies ENGIE-COFELY and ATMOSUD joined the IRIS project and handled the activities originally assigned to VEOLIA. This change of partners concerns both Measure#1, Measure#2 and Measure#3 with different implementations of the demonstration activities and the introduction of new methodologies and tools. In the 2nd Amendment this adjustments have been processed and task descriptions have adjusted.

The implementation of the task 6.7 goes according to the plan and the progress is described in this report. The remaining deviations deal with the original demonstrators Cityopt and Civocracy and are explained in the following table.

Table 3 : Measures deviations versus GA

Grant Agreement (Task 6.7)	Deviations (i.e. how it is currently being implemented)
<p>CITYOPT</p> <p>Evaluation of the conditions leading households to change their behaviour in response to requests and notifications from energy providers (CITYOPT/ EnergyABC app) – this activity will highlight how a community approach, serious gaming and crowdfunding mechanisms can enhance citizen engagement and participation.</p>	<p>Measure cancelled</p> <p><u>Note</u>: the CITYOPT application was specifically developed as a R&D project 2016-2017 with 130 families involved. A phase II was planned at a district full-scale but abandoned because the contribution of the neighbourhood residents to the local grid flexibility was assessed by DSO as negligible in regards to the contractual complexity. CITYOPT-2 was deprogrammed thus leading the cancellation of Measure 4.</p> <p><u>Current status</u>: measure cancelled</p>
<p>Civocracy online platform</p> <p>Demonstration of the Civocracy online platform currently being implemented by Nice in the context of a collaboration agreement with the Civocracy start-up based in Amsterdam through Nice Metropolis. The IRIS demonstration will aim at connecting others cities in Europe using the same tool and launching joint discussions to exchange on best practices and exchange on common issues.</p>	<p>Replaced by measure #2: Public awareness campaign Energy – School & Collège; Youth & Family</p> <p><u>Note</u> : The Civocracy application was experimented by the City of Nice as a pilot project until 2017 and eventually this tool was not purchased by the city. The new task owner COFELY had to define a new strategy based on in-house methods and tools.</p> <p><u>Current status</u>: Specifically targeting the collective awareness of energy-efficient consumption in a social district, this measure will implement various tools and will deliver different messages according to the target audience:</p> <ol style="list-style-type: none"> 1. the educational tool "I'am learning energy" used at schools and colleges 2. a show (smart) flat under the form of a social grocery store to demonstrate the smart usage of energy appliances 3. family and students guided visits of the district heating sub-station

3 Baseline /Drivers and Barriers

3.1 General Baseline

The D6.1 Report on Baseline ambition and barriers is the reference for this chapter.

The first function (F1), Entrepreneurial Experimentation and Production, is dedicated to identifying the initiatives at the local level and the appropriate quantitative and qualitative efforts in respect to the objectives of Nice LH. Basically, this function identifies the way in which the local ecosystem innovates and how the major actors are involved in this innovation process.

The second function (F2), Knowledge Development, is focused on whether knowledge development is sufficient for the development of the innovation process, and if the type of knowledge created fits with the targeted objectives.

The third function (F3), Knowledge Exchange, analyses whether links between science and industry, or users and industry, are effective, and if knowledge exchanges are sufficient across geographical borders.

The fourth function (F4), Guidance of Search, controls if there is a clear vision on how the industry or the market should develop, if the strategy is grounded on a clear policy goal, and if the expectations of the different actors are sufficiently aligned.

The fifth function (F5), Market Formation, evaluates the current and expected size of the market, and if the different actors diverge or converge in future market appraisal.

The sixth function (F6), Resource Mobilisation, focuses on how resources can be included in the project of the ecosystem, and especially if key resources are available within the ecosystem or outside of it.

The seventh function (F7), Resistance to Change, identifies if there are limits in the development of the project, as this may involve a change of habits in consumption, development and production.

Each of the system functions can be scored on a 5-point Likert scale. If one of the seven functions gets 1, this means that the ecosystem performs very badly in this function; contrariwise, if the function ranks 5, this is an indicator that the ecosystem is very strong in that domain. A spider graph can be represented for the ecosystem under study (Fig. 6).

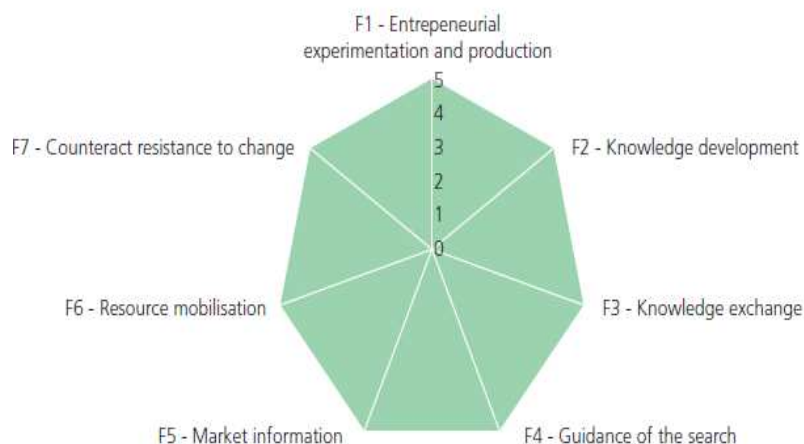


Figure 6 : Overview of functions fulfilment in a spider graph (source: Hekkert et al., 2011)

The identical methodology was used for each Transition Track, and it was able to exhibit the following spider graph for TT5, providing the respective score of Nice and of the control group.

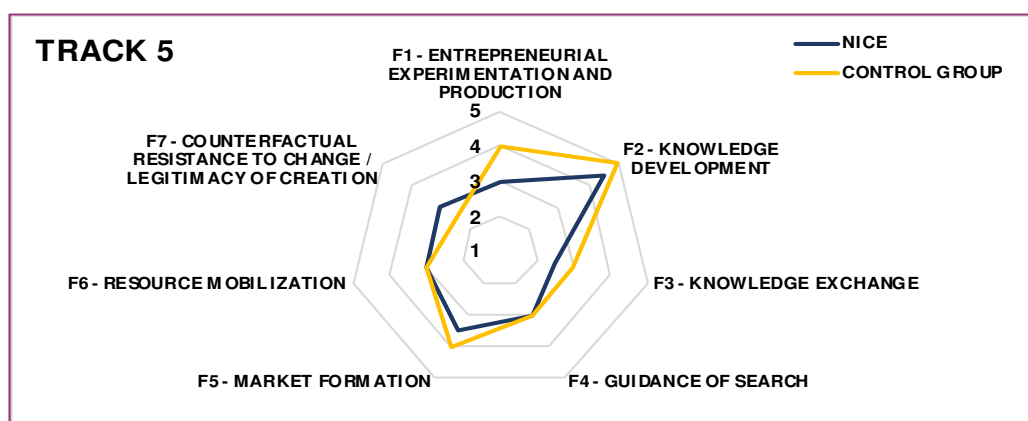


Figure 7 : Spider graph of baseline for TT5 in NICE

The baseline is again given by the blue line, and the ambition materialises when the yellow line expands the blue line.

3.1 Social Baseline and the Moulin's Area for Citizen engagement

The measure "2" & "3" are mainly located in the Moulins district to the west of Nice. According to the survey carried out on the different districts of Nice by CCAS, this district combines many problems :

- 32% unemployment rate;
- 21% part-time employees, 77% of whom are women;
- 20% of employees in precarious employment;



- 62% of people do not have a diploma or a BEPC or college level;
- 82% of workers or employees at the level of the socio-professional categories;
- 88% of residents are renter, population 3 times more affected by poverty than landlords;
- 46% of the population is made up of young people under the age of 30 (the population most affected by poverty);
- a high number of single-parent families;
- 23% of households are taxed (55,8% for municipal level)
- 5% of the population only income from social benefits

These different factors may explain the **poverty rate of 45.7%**, almost twice as high as the communal average of 20.2%, and national average of 14%.

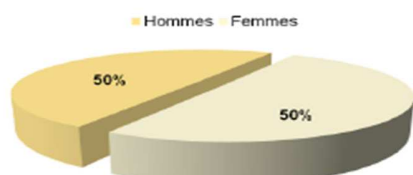


I/ Population

Répartition par tranches d'âge	
0-14 ans	2 178
15-29 ans	2 157
30-44 ans	1 474
45-59 ans	1 889
60-74 ans	1 249
75 ans ou plus	890
Total	9 437

Source : INSEE, Recensement 2013, mise en ligne 18/10/2016

Répartition de la population par sexe



Source : INSEE, Recensement 2013, mise en ligne 18/10/2016

II/ Ménages-familles

Composition des ménages-familles	
Hommes seuls	320
Femmes seules	551
Couples sans enfant	370
Familles monoparentales	767
Familles avec 1 enfant	531
Familles avec 2 enfants	488
Familles avec 3 enfants et plus	597

Source : INSEE, Recensement 2013, mise en ligne 18/10/2016

III/ Logement

Répartition selon le type d'occupation du logement		
Propriétaires	1 081	12 %
Locataires	8 038	88 %

Source : INSEE, Recensement 2013, mise en ligne 18/10/2016

IV/ Formation

Niveau de Diplôme des 15 ans ou plus non scolarisés



Source : INSEE, Recensement 2013, mise en ligne 18/10/2016

IV/ Emploi

Répartition des actifs occupés par catégorie socio-professionnelle		
Ouvriers	988	42 %
Employés	912	40 %
Artisans, Commerçants, Chefs entreprises	122	5 %
Professions intermédiaires	253	11 %
Cadres, Professions intellectuelles supérieures	38	2 %
Agriculteurs, exploitants		
Total	2 293	100 %

Source : INSEE, Recensement 2013, mise en ligne 18/10/2016

Temps partiel et contrats précaires des actifs occupés	
Taux de salariés à temps partiel	21 %
dont femmes	77 %
Taux de salariés en contrat précaire (CDD, Intérim, emplois aidés)	20 %

Un taux de
chômage de
32 %

Figure 8 : Extract of survey "Portrait statistique de quartiers" CCAS de Nice 2017

In addition to this analysis of this social level, the inhabitants of the Quartier des Moulins have a strong immigrant background with a mastery of the French language that can be very low.

For all these reasons, the energy transition and more generally energy is not part of their daily preoccupation, which is more focused on work and income.

3.2 Health/Environmental/Social issues for Air Quality

As noted in the AQ AtmoSud's[1] report of the Alpes-Maritimes department, pollution in the metropolitan area is mainly linked to the emission from fossil fueled vehicles in road network and wood burning. The main elements characterizing AQ are the following:

- AQ is average to poor more than half of the day on the urban coast. Near highways and motorways are observed the highest concentrations of nitrogen dioxide. The annual limit value (40 $\mu\text{g}/\text{m}^3$) is exceeded near major traffic axes and in the main urban center;
- The hinterland, this territory is regularly exposed to photochemical (ozone) pollution linked to the rise of polluted air masses from the coast;
- The daily limit value for fine PM10 particles (50 $\mu\text{g}/\text{m}^3$) is exceeded up to 35 days per year.

In 2018, 60 000 people were exposed in the Alpes-Maritimes to values above the NO₂ regulatory threshold limit values.

The main source of NO_x (nitrogen oxide) emissions in the territory is road transport. The priority air quality concern areas are along the main roads and in the center of Nice, and on the Var plain, up to the Lingostière, Saint-Laurent du Var and Cagnes-sur-Mer shopping centers.

These are the AQ “hot spots” to be targeted by this project’s interventions.

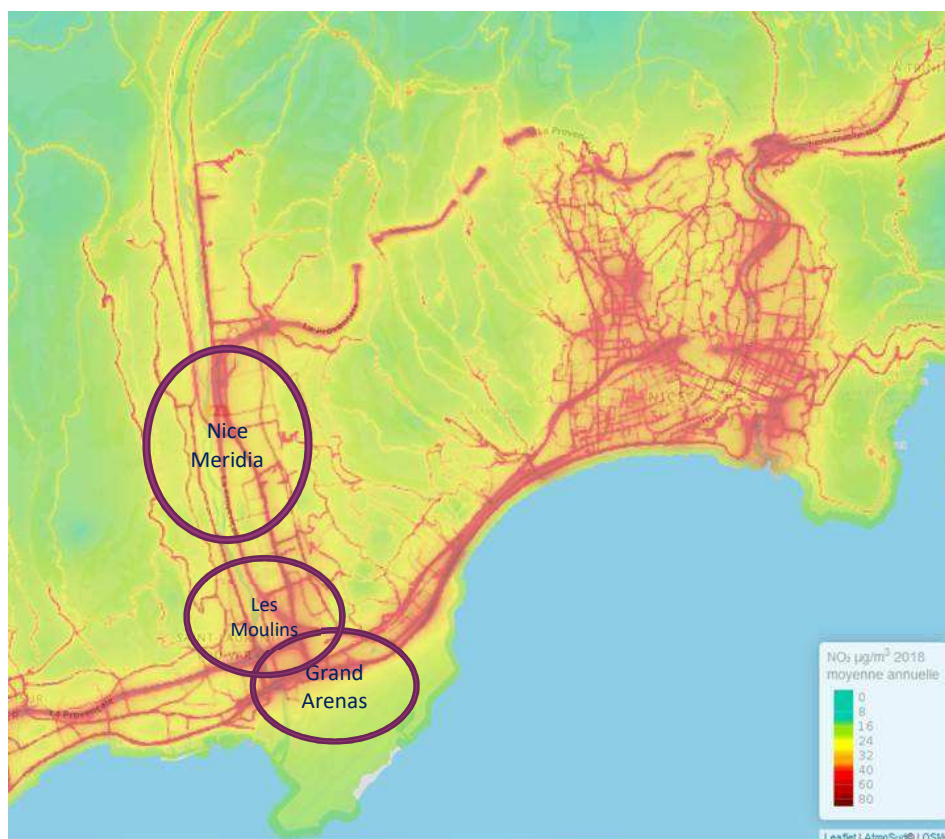


Figure 9 : Average annual map of NO2 concentration in Nice in 2018

Public transports:

Lignes d'Azur is the local stakeholder responsible for the bus and tramway lines in NCA. In 2019, public transport rate increased by 5,8%, with 74,6 million recorded trips, it represents on an average weekday, 302 600 ticket or card validations.

With the urban network reorganization, the tramway is the most used public transports (56.8% of ticket validations in 2019). The tramway lines serve strategic hot spots of Nice such as the city-center (Jean-Médecin), the port (Port Lympia) or the Airport (Terminal 1 and 2), or the Stadium (Saint Isidore).

Concerning the investigation area of the IRIS project, it is crossed by both tramway lines 2 and 3 but also by several bus lines. For all the reasons mentioned above, the area of Nice Meridia is a good location to increase citizen engagement about mobility.



Figure 10 : Map of tramway - Nice

3.3 Drivers and Barriers

For TT5, the relevant strengths and weaknesses identified in 6.1 are resistance to change. Whether the actions implemented by Cofely or Atmo Sud, these barriers may also reflect a limited ability or motivation of consumers and end-users to adopt new energy, mobility and ICT solutions.

As the inhabitants of the neighbourhood are most often in social difficulty, how can we raise their interest in the IRIS project?

Solutions must address their concerns, which are often financial and pragmatic.

Another obstacle is language, as many inhabitants do not have a good practice of French, especially adults.

This is why the actions must be visual, playful, and a good vector to spread the objectives are the children.

As well, a certain lack of confidence in the institutions must also be taken into consideration, and major company as Cofely or Côte d'Azur habitat represent institutions even if it's not truth.

4 Organisation of work

For AtmoSud, the project manager collaborate with all the stakeholders University IMREDD, different services of NCA (CIP, Communication, transport, ..), Property manager for Grand ARENAS...

For Cofely, to help the dissemination of IRIS project, we decide to rely on an association recognized by the residents of the neighbourhood. These association ADAM works since more than 20 years with many stakeholders: social lessor as CAH or ERILA , primary schools, College, family, sport club...

ADAM have already be a support for implement project about energy management.

- Before the installation of LINKY meters to remove resident's fears (ENEDIS)
- **Consomm' autrement project** : Counselling families to the mastery of their individual consumptions by TV channel (Nice Metropole, Veolia, Equitia, M2 Ocity)
- **SMART'UP** H2020 project (Alphéeis) to combat energy poverty.

A project manager for IRIS was recruited by ADAM. She's well recognize by the inhabitants and all the stakeholders.

The mission of the manager consists in :

- organizing the various workshops
- monitoring the smooth running of the workshops
- facilitating and evaluating the actions
- drawing up a quantitative and qualitative assessment of the actions carried out
- operating as the intermediary between IRIS project (partners) and resident participation.

4.1 Key partners

Organization	Task and responsibility
CAH	Landlord/owner of the apartment buildings.
Cofely	Provider of energy into building and leader for T6.7
AtmoSud	Partner for quality air and mobility – implement measure #1
ADAM	Consultants familiar with energy transition and the impact for citizens.
IMREDD	University of sustainable development
NICE METROPOLE	Lighthouse City coordinator and Work package coordinator.

Table 4 : Overview of involved parties in TT#5

5 Methodology: Engagement Ladder

Within the IRIS project the Engagement Ladder is used as a reference tool to determine the possibilities for citizens to influence decision-making, articulating their needs, challenges and problems. This ladder distinguishes 4 levels of engagement.

- Level 1 of the Engagement ladder consists of IS that have no touch point. These integrated solutions will be implemented with the support of concise communication strategies, informing citizens on the impending changes in their environment.
- Level 2 of the Citizen Engagement Ladder implies the involvement of citizens in actively contributing to the storytelling about the IRIS changes in their own neighbourhood, as part of the communication strategies. These citizens will have a higher level of engagement in being able to effectively communicate the IRIS integrated solutions and objectives from their own citizen perspective.
- Level 3 of the Engagement ladder contains the integrated solutions that allow citizens some kind of agency, control or steering of the integrated solutions. For this we introduce the notion of active touch points. Through these active touch points, citizens should be able to influence the outcomes of the KPI's of the IRIS project through their own behaviour.
- Level 4 of the Engagement ladder contains those integrated solutions where there is an existing touch point that can be adapted, modified, simplified or enhanced within the possibilities of the IRIS project or integrated solutions where new touch points will and shall be developed.

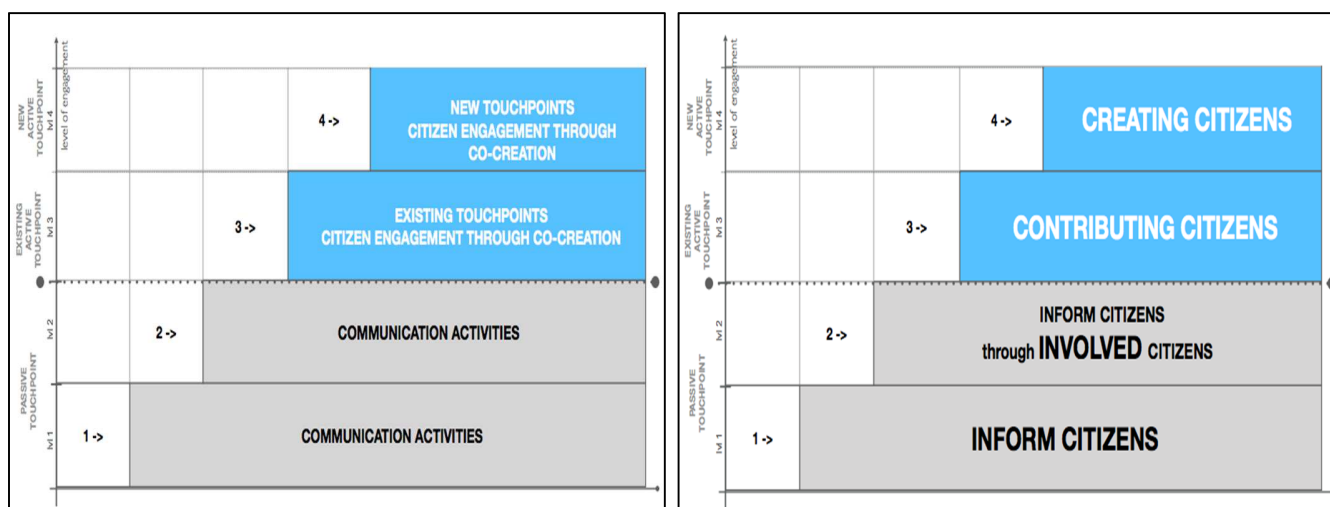


Figure 11 : Activities and solutions on the different steps Engagement Ladder

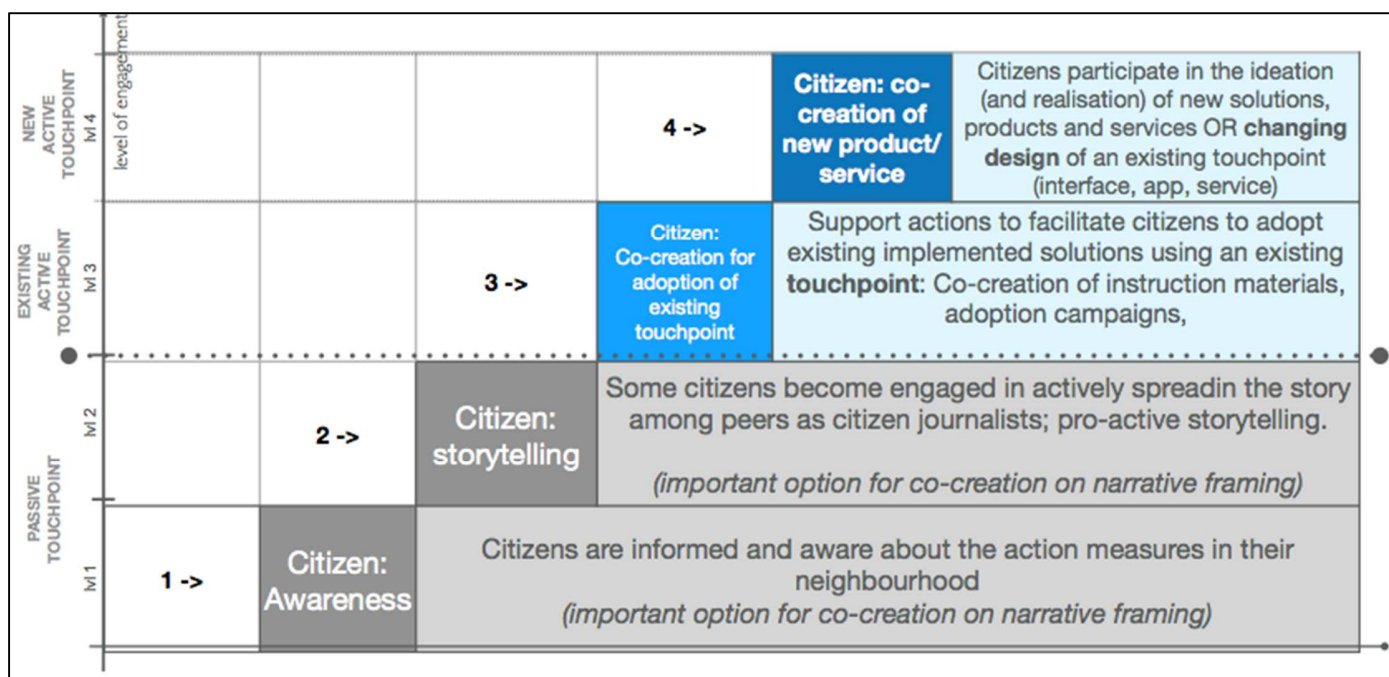


Figure 12 : Outline of the citizen engagement ladder with possibilities for involvement of citizen in the implementation of the IRIS measures

Detailing of the approach for each step on the ladder

- **Informing citizen (level 1):** Citizen awareness needs to be for the whole IRIS project. Therefore a key communication message needs to be developed. Guiding principle in the communication are:
 - Focus on the impact of measures on the day-to-day life of citizens and how the measures can help in the challenges of everyday life in an underprivileged district.
 - Due to the sub-average language and education level of a substantial part of the population, information will spread through word of mouth
 - Add content and information to existing channels for citizens rather than the creation of new and unknown channels – e.g. TRAMWAY SCREEN
 - To increase knowledge of the principles behind the integrated solutions, existing educational materials will be used in combination with physical examples in the district to increase awareness and understanding of the technologies involved. e.g. J'APPRENDS L'ENERGIE.
 - Multichannel approach: website, (existing) educational materials, information through local partners, schools and where necessary door to door information in writing will be used to complement one another.
- **Informing citizens through citizen actors (level 1/2):** Citizen storytelling will be applied through actions in schools and College. Children are vectors of messages toward their parents and close circle.
Existing volunteer district news networks (ADAM) will be key for the citizen approach, in addition, cooperation with the local primary and community college is in the early stages.
- **Contributing and creating citizens (level 3 and 4) :** Students, teachers, workers and residents will participate in the co-creation of several web-based tools to improve air quality and adopt better energy behaviours. For e.g. Measure#3, Vertuoz Community & Energy data, reference tenants are relevant relays for implementing co-creation processes.

Creating Citizens				4 Citizens Co-creation of new product/service	M#2 - School/ College : Co-creation of intervention	M#1 – Mobility/Air quality student training project
Contributing Citizens			3 Contributing Citizens	M#3- Vertuoz community Data energy consumption	M#1 - Commuting to work	
Citizens Storytelling		2 Citizens Storytelling	M#2 – Smart Flat	M#2 – I like my Sous-station		
Citizens Awareness	1 Citizens Awareness	M#1 – Urban awareness campaign				

Figure 13 : Result of the mapping exercise Engagement Ladder for Lighthouse city Nice TT#5

6 M#1 – Public awareness campaign on air quality

6.1 Approach

AtmoSud's contribution to citizen engagement with innovation about the air quality consists of three steps:

- Improvement of air quality measurements
- Upgrade of the AZUR air quality model with hourly forecast and real time information
- Release of concrete citizen engagement solutions linked with technical innovations

The data provided by AZUR and measured are the cornerstone of the citizen engagement solutions. Since they are local and real time data, they will play a significant role in supporting citizen engagement in the district. Therefore, they underlie all of the solutions for every targets mentioned hereinafter.

6.1.1 Data exploitation

AtmoSud Innovation :

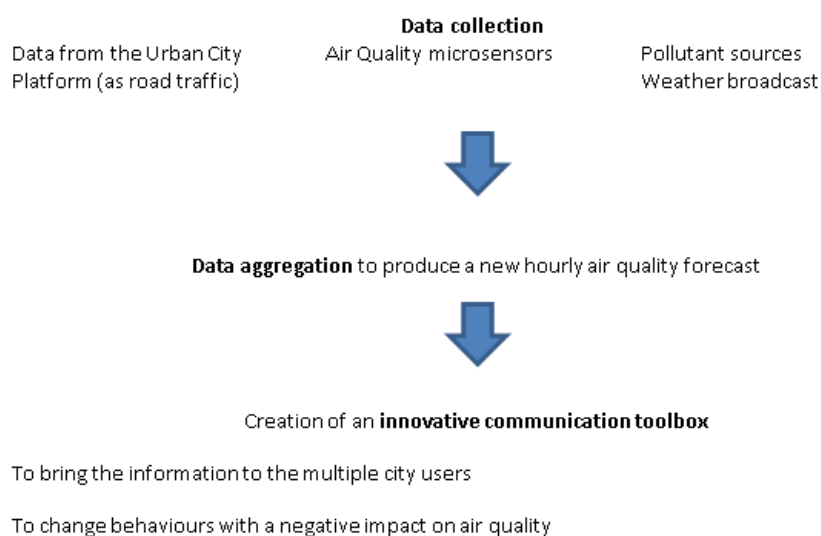


Figure 14 : AtmoSud's innovation strategy in the framework of the IRIS project

6.1.2 Target segmentation

In order to offset the heterogeneous features of Nice Eco Valley District, the chosen strategy is to divide the audience into target groups. Depending on its characteristics, each group will be reached with a specific communication to generate citizen engagement.

By analyzing the population, several groups stood out: city dwellers, low-income and disadvantaged households, children, teenagers and students, professionals etc. After discussing with ENGIE Cofely, it was decided to distribute the targets between Engie and AtmoSud.

AtmoSud's initiative will target:

General public

The chosen approach for this target **is an urban awareness campaign.**

A vast and very heterogeneous target from a demographic perspective. Therefore the chosen media to reach them will be mass media. However, in the framework of the IRIS project, the goal is to reach locals from the city or the investigation area. Consequently, mass media enabling geographic segmentation will be selected such as local urban screens (in public transports and on the road).

White collars

Target are employees and head of companies working in the Arena business area. Most of them are using their car daily to reach their workplace. the chosen approach for this target is to raise awareness about the air quality and specially the negative impact of road transport by **promoting soft mobility during commuting trips to and from work.**

Due to the high density of companies, the business district The Arenas is a relevant geographic testing area which will be our use case for this measure.

University students and high schools

The approaches planned with high schools are **awareness sessions with our dedicated program "Air and me"**, an interactive pedagogical slideshow to raise awareness. By obtaining an education about sustainability issues young people will act accordingly as adults. Reaching teenagers through education is a long term investment, but they are also able to change their habits at their own level, and to influence adults' behaviors. More information about the "Air and me program" [here](#).

Concerning university students, the selected use case involve students with a sustainable development major, so it will be an easier audience to reach. If they share the values related to the environment, they are not obviously engaged into concrete actions. The project will help them to **convert their convictions into commitment**. Of course, some of them might already act upon their values, then, the project will provide them knowledges to become more qualified **ambassadors for their peers and relatives**.

Students will be committed into a **training project** part of their classes. This training aims at creating an awareness action to help changing behaviors, based on the context of the IRIS project. By working on a practical project, they will **gain a useful “professionalizing” experience** to highlight in their future professional life.

6.2 Detailing of the activities

6.2.1 Solutions

6.2.1.1 Urban awareness campaign

The work undertaken with NCA consists of **promoting air quality and mobility benefits linked with the new tramway line achievement and the public transport network reorganization**. Indeed the goal is to **convert a one-off action, take the tramway or the bus, into a regular habit**.

The engagement mode for this demonstrator consists of a **reinsurance campaign** which relies on positivity and environmental impact. It will **inform citizens that if they take public transport this act fosters the air quality**. By being conscious of the benefits on the environment, citizens may change their habits.

Informative awareness messages and visuals will be broadcast on media such as urban screens (on the street, in tramway/bus stations, etc.) and digital mass media such as **the website of the partners, or local applications**. Moreover the communication can be strengthened by an inbound strategy. Citizens should have the opportunity to learn more about this topic by finding the reference information on the website of AtmoSud.

The content will be delivered thanks locally collected data. Several options are considered: air quality condition, carbon emissions gain, mobility alternative suggestions, eco-friendly practices, etc. These user-oriented messages, will require to collect and share multi-sources traffic and activity data on the City Innovation Platform. This challenge will be handled thanks to a partnership between AtmoSud, NCA and IMREDD.

Engagement Ladder :

Concerning the urban awareness campaign, the goal on the engagement ladder is level 1. Indeed the aim of this campaign is to communicate about the air quality and mobility to help citizens change their behavior.

Thus, the co-creation is mostly with NCA environment and communication departments. With them, we evaluated the screen display network available and start to design pedagogic messages to strengthen the consistency with NCA’s public transport policy and its promotion.

To enhance citizen engagement beforehand, a survey can be conducted in order to define the type of content the audience would like to receive, and identify their needs and expectations. If the citizens participate in the awareness campaign’s design the engagement level will increase further.

6.2.1.2 *Commuting to work*

The aim of the initiative in the business area is to **help white-collars to change their commuting behavior, by choosing public transports or other alternatives to the individual car**. Nearby, a plethora of offer is available, going from public transports (buses, train, and tramway), to a car-sharing device established by the district itself and city blue vehicles (bicycles and electric bicycles etc.).

The data collected thanks to local measurements and the AZUR model, will play a crucial role to raise awareness about the air quality in the business district. To spread these data to the target audience, several **pedagogic communication tools** are considered: air quality condition, road congestion index, local traffic information, itineraries solutions, etc. These tools will **be displayed on several media within the business district**, which are currently being discussed (intranet, pedagogic display panel, etc.). In addition, the Arenas is currently working on how to accompany internally with communication (lever of motivation, ludification, etc.).

On the one hand, the tools' features will depend on the possibilities offered by both air quality and traffic data collected. On the other hand, **a survey will be carried out to produce a relevant and useful pedagogical service**. Estimate the targets' needs, expectations, and journeys, unveil the mobility determinants, are the best ways to **rightly highlight soft mobility and car-sharing assets**. This co creation of tools through surveys and interviews would lead to reach a higher level of the engagement ladder. **The survey can be collectively conducted by partners of IRIS** (AtmoSud and IMREDD) by involving students majoring in sustainable development in the process.

Engagement Ladder :

Concerning the business district, the link was established through the CEO club, in charge of the area management. The co-design phase unveiled the context features to rely on, such as an existing car sharing device in the district, and other mobility alternatives.

During the exchanges, the club asked AtmoSud for more details about the air quality status in the area. We are currently working on an air quality study with display simulations. This sharp overview will associate potential pedagogic messages to several air quality levels, and their frequency.

To reach the level 3 of the citizen engagement ladder, employees will be interviewed during focus groups or through online polls to co-create pedagogical tools. The purpose is to collect their needs and expectations to make the communication more valuable for them.

6.2.1.3 *Mobility/Air quality student training project*

This solution consists in **co-creating with students majoring in sustainability an action** to encourage behavioral change about air quality and mobility. This training will offer the opportunity to explore various

awareness approaches such as serious game, event, awareness tool, etc. Besides, to brightly connect the concept to the local environment, and strengthen the attitude change, **real data sets, and real maps will be exploited.**

Local students from several academic campuses located in Nice Eco Valley District will be committed from University Côte d’Azur for example. The diversified profiles of students who major in environment and sustainable development are highly relevant for this task.

The ambition to reach the fourth level of engagement in the ladder is pursued with this solution. For the students involved, the chosen approach is a pedagogical method particularly promoted in sustainable education called “Project-based learning”. They will gain skills and knowledges about air quality and mobility challenges by working on a pedagogical project based on these topics. **Because they will be the designers of the concept, their expected level of engagement is at the top.**

Engagement Ladder :

This solution has the highest co-creation potential (level 4 of the engagement ladder).

Indeed, concerning high-schools, the Air and Me educational program (<https://airandme.org>) is the result of co-creation with multiples scholar establishments of the Region and of the city of Nice. From the very beginning, the tools were created thanks to the collaboration of three steering committees: a scientific committee (doctors, air quality experts), a teaching committee (teachers, facilitators etc.), and a user committee (pupils, teachers, students).

Concerning students, the aim of the solution is to co-design solutions for behavior change. Their mission during the sessions will be to suggest and implement actions to change citizens’ habits about mobility. Depending on students profiles this project will be adapted to their courses. For instance, for the sustainable communication Master degree of the IMREDD, it was integrated into a research-action course with a focus on educational communication.

6.2.2 Feedback and behaviour change assessment

For every undertaken action, the citizens’ feedbacks will be collected in order to analyze their level of behavior change. Several impact assessment tools are in progress:

Concerning our students’ target, during awareness or training session, they will have to answer a before and after questionnaire to evaluate the usefulness of the session, which actions they are ready to start, which behavior they can change, if they want to share about these topics with their relatives, etc. In addition, a digital survey tool linked to our “Air and Me” awareness program is currently being developed, it might be exploited in the course of the IRIS project as well.

About our white-collars target, the impact will be measured thanks to a survey and possibly focus groups within the business district. The CEOs’ club offered to disseminate the poll internally and to provide their contacts file if needed. Another measurable index of behavior change will be the figures extracted on the car-sharing device (kilometers travelled, number of users etc.).

Concerning the impact assessment on the wide audience, three options are possible:

- Streets interviews in order to check in the field if the urban messages contribute to influence behaviors
- A survey by a polling organization, with a focus on profiles with criteria which correspond to our target audiences
- The setup of a digital poll, which could be broadcast on several media (websites of partners, direct link on our communication displays etc.)

Eventually we are considering the processing of weak signals of the air quality variation in the district linked to our citizen engagement actions.

6.2.3 Governance

Main stakeholders

The ongoing partnership between Metropole NCA, AtmoSud and the IMREDD will assist the governance model. The governance missions could be established as follows:

Stakeholder	<u>Missions</u>	
Missions	<u>Data</u>	<u>Citizen engagement</u>
<u>NCA</u>	<ul style="list-style-type: none"> - Provide urban media - Provide access to the city platform - Share data to improve air quality models 	<ul style="list-style-type: none"> - Validate and follow each step of the projects - Provide logistics support
<u>AtmoSud</u>	<ul style="list-style-type: none"> - Improve the local measurement network - Estimate in real time the air quality - Predict the air quality on an hourly basis - Analyze the air quality 	<ul style="list-style-type: none"> - Create innovative citizen engagement demonstrators - Design awareness messages - Design awareness tools - Prepare and animate awareness sessions/trainings
<u>IMREDD</u>	<ul style="list-style-type: none"> - Provide innovative methods of data collection - Share urban data to improve air quality models 	<ul style="list-style-type: none"> - Involve students as designers or users of a citizen engagement action
<u>Common missions</u>	<ul style="list-style-type: none"> - Succeed in centralizing exploitable mobility data 	<ul style="list-style-type: none"> - Conduct surveys to identify the audience's needs/expectations - Conduct surveys to measure the impact on behavioral change

		- Design of the awareness messages, contents, infographics
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Others stakeholders

<u>Citizens</u>	<ul style="list-style-type: none"> - Contribute to the implementation phase - Co-design pedagogical contents
<u>Educational institutions</u>	<ul style="list-style-type: none"> - Involve students as designers or users of a citizen engagement action - Host awareness sessions
<u>Business Area</u>	<ul style="list-style-type: none"> - Broadcast awareness content on their media - Involve employees as designers and users of home-work trips tools - Involve employees to assess the impact of the citizen engagement

6.3 Planning and progress

Keys stages of the technical devices are:

- Summer 2020: micro sensors installation in the district
- 2021: availability of AZUR air quality hourly forecast

Concerning the link to the City Innovation Platform, our IT department is currently working with the administrator to connect AtmoSud's data with the CIP. In addition, IMREDD offered to improve the air quality data model with traffic and activity data. A list of required data is currently in progress and an inventory of propositions will be delivered by IMREDD shortly.

About the collective work of partners with youth, Engie and AtmoSud coordinated their actions. To not overlap Engie's measure which targets children (primary and middle school), AtmoSud will target university students and high schools.

A first contact with IMREDD about involving students in the co-creation of an awareness action has been warmly received. Indeed the Mobility/Air quality student training project can be involved into an "action research" class of the Sustainable communication Master's degree, starting in March 2020. This is the reason why details about the agreements, are to be determine before the end of the month.

Eventually concerning our work with the business Area, AtmoSud was invited on January 13. to introduce the project to the CEOs' club. This meeting ended with a partnership agreement, the details of the collective action is currently in progress. 4 actions are being validated:



- installation of a microsensor on a road close to the area.
- Pedagogical content and messages about mobility and air quality on the intranet
- Commitment of workers into the project beforehand (to co-design) and after (to assess the impact)
- installation of an educational panel to display awareness content in the business district

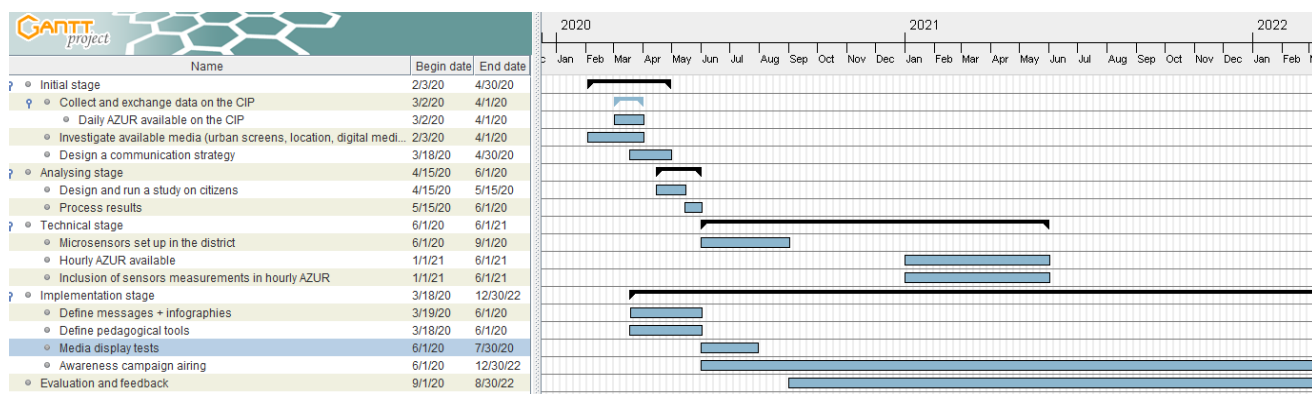


Table 5 : Planning of awareness campaign Air Quality

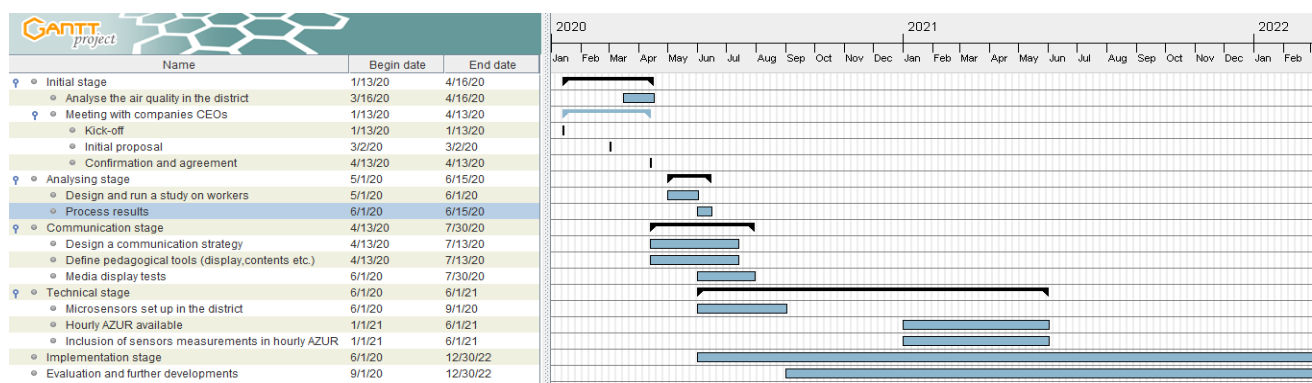


Table 6 : Commuting to work

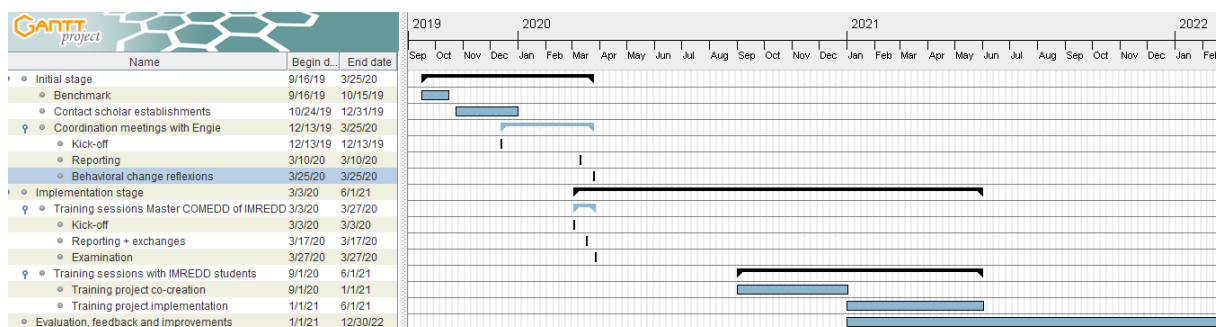


Table 7 : Student training project



Figure 15 : Design of the future educational panel in real time

On the panel “Air quality: ☺ – Continue to ride bicycles”

6.4 Linkage to other TT

Solutions mentioned above are part of TT#5 citizen engagement, and fully linked with other TT.

Concerning TT#3, the IS3.2 “Smart e-mobility” about electric vehicles will be continued by bringing forward other sustainable alternatives for the mobility.

Concerning TT#4, the use case is the City Innovation Platform which provides several services related to energies and mobility such as monitoring electric vehicles. This platform will be fed by additional data

from AtmoSud and IMREDD concerning the air quality and the traffic. The data collected on this platform will enable to create citizen engagement.

6.5 KPI's

KPI number	Unit	Details	Object of assessment
10.32 People reached	Number	<ul style="list-style-type: none"> Number of people reached in public transports (tramway, bus) Number of students/high schools pupils participating in the project Number of persons interviewed during polls 	Urban awareness campaign Commuting to work Student training
10.19 Increased environmental awareness	Likert scale (no unit)	<ul style="list-style-type: none"> Questionnaires/Interview/Polls Emissions and air quality indicators variation Travelled kilometers on car sharing devices in the Business district (before/after awareness campaign) Number of users of car sharing devices in the Business district (before/after awareness campaign) 	Urban awareness campaign Commuting to work Student training

Table 8 : KPI for Measure 1

6.6 Risk management

The main risks regarding this are:

- Technical: The data are inoperable/complex or too expensive to process
Mitigation measure: If it is related to measured data, equipment can be replaced. If the collected traffic or activity data are inoperable and don't enable to establish an associated service, an alternative one with operable data will be designed.
- Social: Targets have no concerns about the initiatives
Mitigation measure: depending on the case, the mitigation measure would be to define a different communication approach to raise their interest, or to find another audience among the targets.
- Social: Citizens don't recognize the solutions as useful and/or relevant
Mitigation measure: Involve citizens beforehand through surveys.
- Social: The number of participating citizens is low



Mitigation measure: Involve local stakeholders (such as associations) and their community and/or social network to contribute to find volunteers to take part to the project.

6.7 Conclusion

The citizen awareness campaign will enable to take advantage from local collected data to generate citizens' engagement. The three solutions suggested by AtmoSud (urban awareness campaign, students training project and commuting to work) intend to reach a wide range of the population and to undertake complementary work with the other stakeholders involved in the project. Thus, with this campaign, numerous societal benefits are expected in the following fields:

- **Data sharing** : improve the air quality data thanks to an innovative measurement system, centralize mobility data from several sources on a common API, strengthen innovative data collection)
- **Awareness and behavior change**: raise the awareness of various targets about the air quality (general audience, white collars, and young people), raise awareness through diverse pedagogical approaches such as participatory governance and project-based learning), bring the air quality and mobility to the attention of the population and the education system.
- **Quality of urban life**: serve citizens needs for mobility, reduce car traffic during rush hours, on the street and in parking lots, improve social exchanges between stakeholders located in the same area
- **Educational and professional opportunities**: increase knowledges and skills about the air quality of students majoring in sustainable development, offer the students the opportunity to take part in a European project related to their studying city, with a valuable professional perspective.



7 M#2: Public awareness campaign on energy

7.1 Approach

The objective of the TT5 is to increase the commitment of citizens towards the implementation of virtuous behaviour in the field of sustainable development and in particular the mastery of energy.

This new measure replaces the citizen applications "Service Bleu" and "Civocracy" of the city of Nice which covered all urban issues without a specific focus on the issue of energy consumption and its environmental footprint. The new measure specifically targets the optimization of the awareness of energy consumption.

The area chosen for the implementation of the actions is composed of collective social buildings managed by several social lessor: Côte d'Azur habitat, Erilia, Logement 06... Most of the inhabitants are from foreign origin. Some families have been present in their flat for several years. They feel at home.

It is an area where residents can combine several problems: low level of education, poor fluency in the French language both orally and in writing, low income, unemployment, addictive behavior, trafficking of all kinds...

In this context, we have therefore chosen to work with different audiences and to adapt the tools and messages according to the target audience.

1. Children and college student
2. Teenager
3. Adults

The focus is on children who are more receptive than their parents to the messages we want to get across. Studies show that they are good vectors for their entourage and that they spread the good word in their families.

From a technical point of view, heating and hot water are produced collectively by a centralized boiler and delivered via substations at the base of the buildings and in the apartments.

The apartments are heated by the floor and the tenants do not technically have the possibility to regulate the temperature in their flat. It is the social lessor who decides, and the temperature is delivered contractually at 19°C.

So there is a disinterest in this aspect of energy control by tenants.

On the other hand, electricity is subscribed by each household autonomously.

As a result, financially they can act by their behavior on their cold water bill, hot water bill, and their own electrical consumption.

7.2 Detailing of the activities

To implement the activities, Cofely decide to use the “I’m learning energy” program. “I am learning energy” is an innovative teaching device for primary school and college and their teachers recognized by the Ministry of National Education, <http://www.japprends-lenergie.fr/>.

**J'apprends
l'Énergie**

- Created in 2013
- A web site with educational resources for teachers
- Professional speaker “Energy Ambassador” involved to the classroom 150 meeting
- 7500 childrens made aware



J'apprends l'Énergie, en quelques mots...

Animez vos cours et activités avec des outils innovants, créatifs et motivants !

Développé par une équipe dédiée réunissant professionnels de l'éducation, experts pédagogiques et scientifiques, acteurs de l'énergie, designers et game designers, ce dispositif entièrement gratuit vous propose des supports qualitatifs et attractifs, offrant ainsi aux élèves une immersion dans le monde de l'énergie vraiment différente !

5 000 jeunes ont été sensibilisés par nos actions pédagogiques en 2015-2016.

Plus de 10 000 enseignants utilisateurs sont inscrits au site J'apprends l'Énergie. Et vous ?

J'apprends l'Énergie, c'est aussi...

Plus de 300 ambassadeurs en France prêts à vous rencontrer pour des interventions en classe, sur le thème de votre choix (les métiers de l'énergie, les filles et les sciences, la transition énergétique...), des visites de sites de production, des rencontres lors de grands événements publics...

Des stages enseignants organisés de concert avec le CERPEP (Inspection générale).

Un nouveau site d'e-learning sur la transition énergétique et ses métiers : le Mocc.

Pour toute question contactez-nous par mail : japprendsenergie@engie.com

www.japprends-lenergie.fr

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Et pour suivre l'actualité de «J'apprends l'Énergie», rejoignez-nous sur Facebook, Twitter et Youtube :

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ENGIE aux côtés de l'Éducation Nationale.

L'énergie est un métier et une responsabilité.

En tant qu'expert, ENGIE s'engage aux côtés des enseignants afin d'expliquer aux jeunes les défis et les enjeux du monde de l'énergie.

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J'apprends l'Énergie

Un dispositif pédagogique innovant dédié à l'énergie et ses nouveaux enjeux

PRIMAIRE / COLLÈGE / LYCÉE

Figure 16 : “J'apprends l'énergie” flyer

It was decided to implements it towards several publics with ADAM.

- The primary school
- The Collège
- The teenagers

7.2.1 Axis 1 - USAGE AWARENESS - COMPREHENSION AID

SCHOOLS AND COLLEGE :

Engagement Ladder :

The actions implemented at the primary school or college are entirely built with the teachers and reach level 4 of the Engagement Ladder. Indeed, all the stakeholders (academy, directors, teachers..) participate in the elaboration of the sessions of workshops that will be integrated in the pedagogical program of the year 2020-2021.

Indeed, the IRIS project must be part of the national pedagogical programme, then the programme implemented by the school and finally according to the axes chosen by the teachers.

For this implementation, meetings are scheduled at the various decision-making levels:

- Academic: sept /nov 2019
- Schools with Director :January 2020
- Teachers : Februarys 2020

This process allows a real adaptation to the needs of teachers and according to the target audience, while maintaining the objectives of the IRIS project. If necessary, the project defined (as presented above) can be reviewed and adapted throughout the year.

Implementation of the action

The schools and Collège in the Moulins are located in a “REP+ “, priority education, area. This implies a specific resources dedicated to these schools and a particular governance by a coordinator REP+.

These aspect was not clearly identify at the beginning, and we have to reviewed the strategy to engage school and college director to IRIS project. We first thought that school director can engage themselves but it wasn't the case. Many appointment has been necessary with Coordinator REP+ to explain and convince her that the project is relevant for the schools and the teachers.

Several barriers had to be lifted :

- The actions must be consistent with the educational program fit by the schools.
- The actions must be complementary and fit into a structured project – no one-time actions
- Professionals who speak with structured and non-commercial speech (no trade).
- Finally, actions must be concrete and playful.

At least, a meeting with all the teachers of the primary schools was scheduled and the project validate.

- ✓ 3 primary schools with each 4 classrooms are agreed for the IRIS program to begin in September 2020.

Target : Cycle 2 et 3 (7 to 10 years) - The schedule of the program is :

1. Increase the knowledge of energy in general –
Duration: 1 sessions per class of 1h30
How it's produced, transported, delivered...
2. Presentation of 4 renewable energy –
Duration: 1 sessions per class of 1h30
solar, wind, biomass, water
3. Focus to 1 renewable energy by school
Duration: 2 sessions per class of 1h30
This step will allow the new knowledge acquired during the first two stages to be applied directly and eco-gestures to be addressed via virtual game, or role play.

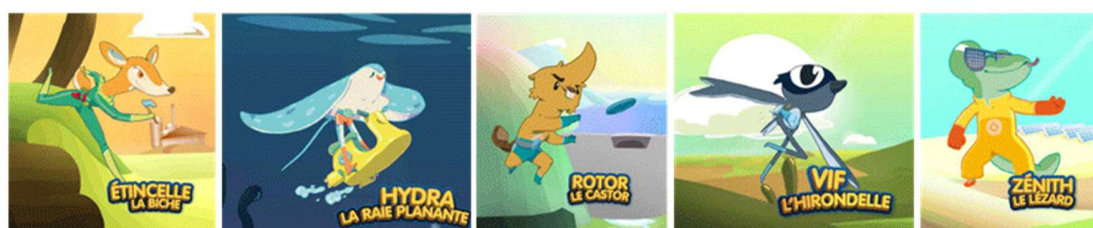


Figure 17 : e.g. of game for Energy Behaviour

4. From theory to reality - build of a 3D model – one by classroom.
Duration: 2 sessions per class of 1h30



Figure 18 : e.g.: 3D models built by children

5. Presentation of 3D model during a special day of Energy with parents.

Duration – one afternoon

- ✓ Collège : an new appointment with the Director is scheduled on march, after the February holidays. The aim is to plan a meeting with the teachers – technology, biology, scientific – to co-elaborate with them the IRIS actions about Energy as made in primary schools.

ADULTS AND FAMILY : SMART FLAT – SOCIAL GROCERY STORE

In order to reach families also, the approach is to utilize an existing structure in the neighborhood to which many families adhere: the "social grocery store".

This grocery store offers families food and hygiene products at very modest prices.

ADAM's family mediation unit manages this structure and home economics or cooking workshops are regularly organised for groups of adults, mostly women.

The grocery store room looks like a house and contains the various household appliances found in a home (oven, fridge, lamps, hotplates, computer, television, etc.).

For IRIS, the aim is to offer specific workshops focusing on energy in the home.

- ✓ 9 workshops / year
Duration : 2 hours – 10 persons

Engagement Ladder :

This action is at level 2 of Engagement Ladder. The usual audience of the social grocery store, is questioned on the notions of family economy related to energy. It's informal conversation to identify their interest. From their answers, a 1st workshop is structured with the resources of "I'm learning energy" and the experiments of ADAM.

At the end of the workshop, a debrief is made to focus to their need and adapt the next workshop.

Volunteer participants are invited to recruit other participants from their neighbors or relatives for new sessions.

7.2.2 Axis 2 - AWARENESS OF INDIVIDUAL ACTS / COLLECTIVE FEEDBACK

Youth – 15-18 years old – not during educational time :

- ✓ I like my sub-station : The association ADAM has a program of extracurricular activities that it sets up during the holidays. In order to awareness teenagers, 14-16 years old, to the Energy

saving, it appears more relevant to explain them at first the specific aspect of their owned living area.

Visit of the central heating production and sub-station for delivery heating and hot water.
Before the visit, to capture public attention, a teasing is made with 2 surveys : one about energy, one about technical aspect.
The answers are given during the visit by the technical professional Cofely.
A shared lunch finish the activity.

Engagement Ladder :

This action is at level 2 of Engagement Ladder.

We are planning to ask some young people who are more interested in the theme of energy/environment to act as a guide in future sessions. This will allow them to take a deeper ownership of the discourse and to the issues.

Implementation of the action

- ✓ 2 visits are planned at each holidays
Duration : 3 hours – 15 teenagers



Figure 19 : photos of teenagers during "I like my sub-station" action

7.3 Planning and progress

Below, the programme for the scheduled activities for this measure.

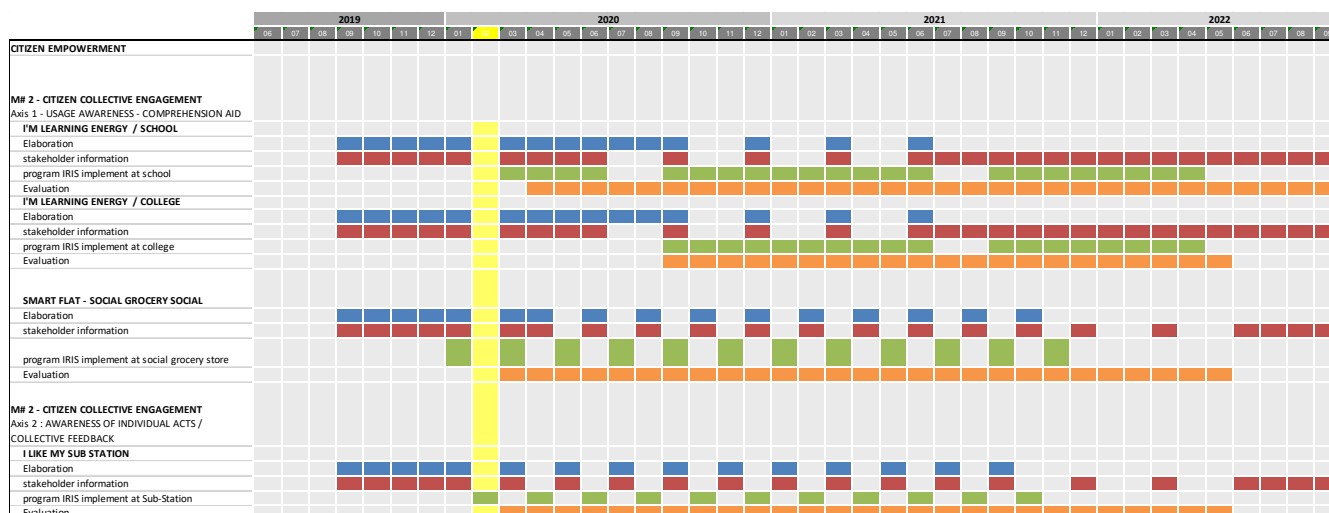


Figure 20 : Timing of activities measure 2 – Citizen collective engagement

7.4 Linkage to other TT

This activity is certainly linked to the other activities in the other transition tracks within the Demonstration Area Nice. In the area of the Moulins, the TT1 Load Curve is implemented into the tower 13 and 14. The inhabitants of these building are concerned by the experiments of temperature sensor in their flat to manage the heating temperature. ADAM association is involved as well to explain the purpose of these technical aspect and to facilitate the work of technical.

7.5 Monitoring

Monitoring of this Measure consists of collecting data regarding the amount of people reached, the motivation to change behaviours, and the improving their understanding of their energy environment With this data, we know why people chose to change behaviour and the impact of these program.

7.6 KPI's

The relevant Key Performance Indicators for this Measure consists of:

KPI	Unit	Detail	Object of assessment
10.17 Increased awareness of energy usage	Likert scale (no unit)	Survey Training/ Awareness sessions at school & college	Axis 1 - USAGE AWARENESS - COMPREHENSION AID Primary school pupils Student- - Smart Flat
10.18 Increased Consciousness of citizens	Likert scale (no unit)	Visit and specific survey completed by teenagers	Axis 2 : AWARENESS OF INDIVIDUAL ACTS / COLLECTIVE FEEDBACK I LIKE MY SUB STATION
10.19 Increased Environmental awareness	Likert scale (no unit)	Training/ Awareness sessions at school & college	Axis 1 - USAGE AWARENESS - COMPREHENSION AID Primary school pupils Student-
10.32 People reached	Number	Number of participants in the sessions	Axis 1 - USAGE AWARENESS - COMPREHENSION AID Primary school pupils Student- Smart Flat

Table 9 : KPI for Measure 2

7.7 Risk management

The main risks regarding this Measures are:

- Collège : no agreement to implement IRIS program in the REP+ Moulins area.
Mitigation measure: work with different college outside the REP+ area.
- Teenager: no concerns about this initiative and no one during the visit
Mitigation measure: associated with a winning game or with recognition as a diploma.
- Social: tenants of CAH with children on the mentioned schools, can accuse CAH to misuse children to influence parents and others to support plans.

Mitigation measure: invite the parents of the children and tell them the story and the benefits of this initiative for themselves and their children.

7.8 Progress achieved up to M24

Since the integration of Cofely into IRIS PROJECT, the first objective was to find an association well recognized in the district and to contract with it to implement the actions. In September 2019, a contract with the description of different activities has been signed between Cofely and ADAM.

The contents of the school intervention is on progress based to the proposal described chapter 7.2.

For teenager, a first visit in February has been done. The contents have to be analysed and perhaps reevaluate

The main work which have to be schedule now is how measure correctly to have relevant KPI.

For that, we plan to have exchange with IRIS partner as Jutta Schade to have REX about survey already implemented.

7.9 Conclusions

Regarding this Measure, we are confident that the projects are being carried out properly in schools and with teenagers. We find a good partner with ADAM and the employment of a project manager for IRIS.

At the college level, the risk of not meeting the adhesion of teachers persists.

8 - M#3 – Citizens individual engagement - IOT invoices

8.1 Approach

As a reminder, the objectives related to IS 15.4 were to lead interview on this experimentation regarding the level of engagement of end-users and potential benefits if rolled out at a large scale.

This objective will remain unchanged but will not be supported by the Cityopt application. Indeed, the results of the first phase of experimentation showed that it was more interesting to implement electrical flexibility on buildings rather than on an individual level.

Thus, this part will be set up within the framework of another project on part of the buildings owned by the Nice Côte d'Azur Metropolis. This is why we have refocused the measure on individual energy savings.

In addition, the CUSA demonstrator is also replaced by this new measure due to the change of partner carrying this experimentation. However, the objective as well as the population targeted by this new measure remains the same as those initially planned.

Measure #3 consists in providing tenants with a global source of information on their energy consumption related to the housing they occupy by grouping their different consumption from different sources into one application.

In addition to the general approaches of Measure #2, this axis makes it possible to individualize the storytelling and to encourage people to adopt virtuous behaviours.

Given the technical specificities of the district of Les Moulins, the families living in this district have a fragmented approach of their environmental and energy impact related to their housing.

Their energy bill is made up of four different sources on which tenants have more or less the opportunity to act, if any.



		CONDITIONS	Actor of their consumption	Invoicing Type	Invoice issued by
Heating	Collective	Set température	NO	tantième	CAH
Hot water	Collective	Individual behaviour	YES	m3	CAH
Cold water	Collective	Individual behaviour	YES	m3	CAH
Electricity	individual	Individual behaviour	YES	kWh	electricity suppliers

Table 10 : Type of energy & fluid per dwelling

In 2019, the lessor CAH developed an internal portal for all the tenants of its buildings in Nice. This portal allows tenants to dialogue with the Landlord, to visualize and pay their rent including their heating, hot water and cold water bills.

In addition to the grouping of invoices, we work on consumption data and process it electronically to deliver an individual report to each tenant. This report will be elaborated with voluntary tenants in order to meet their expectations.

In addition, on the website messages will be delivered on the good practices to adopt within a dwelling to reduce its energy and environmental impact.

8.2 Detailing of the activities

We have planned to work upstream with CAH to know the technical specificity of their WEB site, which is proposed precisely as information to their tenant, in order to complete their site.

The action takes place in towers 13 and 14 of Les Moulins, i.e. 140 apartments, the object of the TT1 LOAD CURVE actions.

ENGIE Cofely, with the innovative VERTUOZ or SMART'EO solution, is able to retrieve, thanks to Linky smart meters, the individual electricity consumption data of each tenant.

Above all, it is necessary to obtain the consent of each tenant for this action. For this purpose, ENEDIS, the provider of LINKY Meter, knows the legal data and has standardised consent forms that we will use.

Upstream, in order to remove doubts and questions about the use of this individual data (coming from the landlord or ENEDIS), a door-to-door campaign with the ADAM association is planned among tenants. On this occasion, a census will be carried out of the expectations of the tenants as information on their consumption and if possible a recruitment of reference tenants..



A first survey on the use of the CAH website as proposed before the IRIS measurements will serve as a baseline.

Then, a campaign to collect the consents will be carried out.

The next step will be the aggregation and packaging of individual data within the site, then the choice of the communication modules on these data for a good understanding by the users of the site.

Workshops are planned with the referring tenants in order to achieve a visual rendering as adapted as possible to the users' expectations.

Engagement Ladder :

This action is on the level 3 of Engagement Ladder. Before developing this new service and in order to meet the tenants' expectations, we will carry out a survey on the current use of the intranet, the specific additional needs, the relevance of the new information offered (grouping of consumption).

Level 3 is reached by :

- From the outset, the involvement of reference tenants who will be involved throughout the development of the measure;
- Upstream, a survey carried out by ADAM agents and referents in order to gather information on the needs of tenants;
- Throughout the process, co-creation workshops with the tenants.

8.3 Planning and progress

Below, the program for the scheduled activities for this measure.

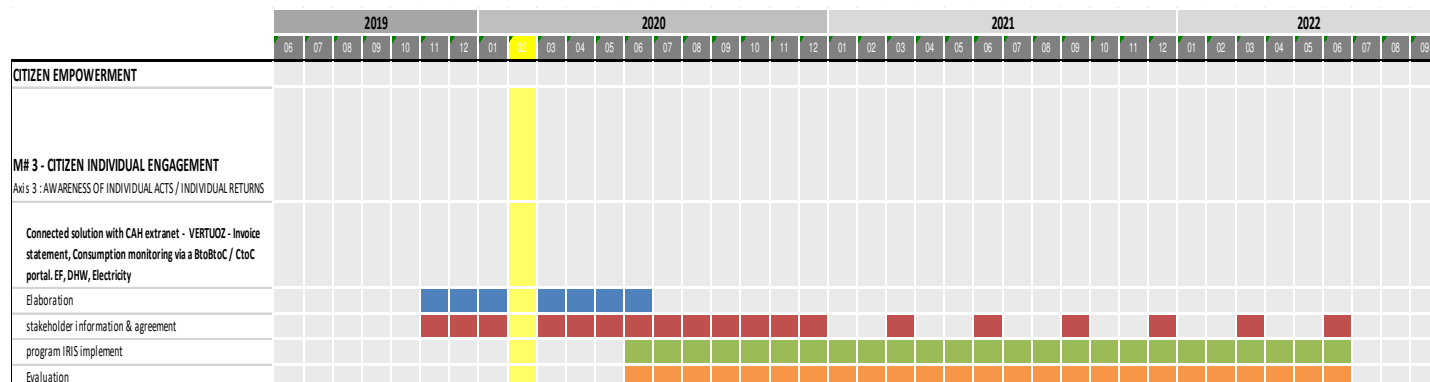


Figure 21 : Timing of activities measure 3 IOT

8.4 Linkage to other TT

This measure is linked to the other activities in the other transition tracks within the Demonstration Area Nice. In the area of the Moulins, the TT1 Load Curve is implemented into the tower 13 and 14. The inhabitants of these building are concerned by the experiments of temperature sensor in their flat to manage the heating temperature. Their involvement in data collection is essential for the success of this measure.

ADAM association is involved as well to explain the purpose of these data collector and to facilitate the work of technical.

8.5 Monitoring

Monitoring of this Measure consists of collecting data regarding the amount of people reached, the motivation to change behaviours, and the improving their understanding of their energy environment With this data, we know why people chose to change behaviour and the impact of these program.

8.6 KPI's

The relevant Key Performance Indicators for this Measure consists of:

KPI	Unit	Detail	Object of assessment
10.32 People reached	Number	Number of connection to the new web services	Axis 3 : AWARENESS OF INDIVIDUAL ACTS / INDIVIDUAL RETURNS
10.45 User engagement	Number	Number of inhabitants agree with the data collector	Axis 3 : AWARENESS OF INDIVIDUAL ACTS / INDIVIDUAL RETURNS

Table 11 : KPI for Measure 3

8.7 Risk management

The main risks regarding this Measures are:

- Social: no-agreement to give the individual data - fear of misuse of their personal data by the landlord
- .Mitigation measure: . organize a demonstration session with the tenants with an explanation of the confidentiality measures that will be applied.

8.8 Progress achieved up to M24

Since the integration in the project, we have been working internally to study different IT tools that could be used, externally with CAH in order to know their IT system, and ENEDIS for the legal aspects.

The next step planned is to launch door-to-door campaigns to raise awareness of the project and identify referring tenants.

8.9 Conclusions

Regarding this Measure, the activities start and are in progress.

This measure should attract the interest of tenants by enabling them to monitor over time the overall consumption of their apartment and the impact of their behavioural change.

It is essential to start from their expectations in order to federate them.

9 Ethics requirements

The scope of this deliverable is to show how the IRIS consortium will address the ethical, data protection, confidentiality and privacy aspects related to the processing of personal data collected by IRIS consortium partners for the purpose of executing the project tasks.

9.1 GDPR compliance

The following table shows the GDPR elements per Measure of TT#5.

Demonstrator	Element and description	
#1 Public awareness campaign Air Quality	Data controller:	NCA for traffic
	Personal Data:	No.
	High risk involved:	No
	DPIA:	Not applicable
	Informed Consent Procedure	Not applicable
#2 Public awareness campaign Energy – School & Collège; Youth & Family	Data controller:	Not applicable
	Personal Data:	No
	High risk involved:	Not applicable
	DPIA:	Not applicable
	Informed Consent Procedure	Not applicable
#3 Citizens individual engagement - IOT invoices	Data controller:	ENEDIS & CAH
	Personal Data:	Yes: name, address and e-mail.& consumption
	High risk involved:	yes
	DPIA:	yes
	Informed Consent Procedure	yes



9.2 Ethical aspects

All activities regarding this transition track are done together with tenants of housing corporation CAH or other citizens of the district of Nice impacted by the measures. The activities are done with respect to these people and their rights (e.g. for the tenants according to french constitution law). Besides, the experiments within this transition track are only possible and feasible with the explicit allowance of the involved people. We do not force people to join initiatives We know that the relation between citizens and the housing corporation and the Municipality of Nice in this district is quite delicate. Therefore, one of our missions regarding this transition track is to launch experimental activities on a save way. So, the experiments we do, may not fear people, increase distrust or lead to other negative outcomes.



10 Links to other work packages

WP6 has interdependencies with most of the other WPs.

WP4 aims at "offering an open, reusable and reliable platform for sharing data, speeding-up innovation, standardization and implementation of smart application." The relevant data from the activities within this transition track contribute to the availability and connectability of data from the housing. With this data, other data solutions and tools can be developed.

WP9 will ensure high quality data and results. Impact assessment will represent the basis for the evaluation of the results of the project and of the effective potential of each integrated solution and technology, providing elements for their scalability and replicability as well as their profitability and potential to develop business models (WP3).

11 Conclusions and next steps

The last months of 2019 allowed us to refine the various measures imagined at the time of the submission of the file and to confront them with the reality on the ground.

A coordination work between AtmoSud and Cofely is regularly carried out in order to avoid soliciting the same audiences and to avoid redundancy.

However, despite the fact that the two main TT5 carriers joined the IRIS project in May 2019, concrete actions have already started to be carried out and we can be proud of this.

This delay in the project gives us an advantage: we can benefit from the first feedback from our partners from the lighthouse cities.

12 References

Source : D6.1	<i>Report on baseline ambition and barriers for Nice Lighthouse_v1.2</i>
Source: JALE	https://www.japprends-lenergie.fr/
Source: Air Quality DATA	https://www.atmosud.org/
Source: Air Quality DATA baseline	https://www.atmosud.org/article/qualite-de-lair-et-tendance-des-alpes-maritimes
Source Air and me project	https://airandme.org
Source ADAM	<i>Project European "Smart-up" about "fuel poverty"</i>
Source Baseline	<i>Portrait statistique de quartiers – Données liées à la pauvreté – CCAS de Nice – 2017</i>



13 Annexes

ANNEXE 1 : KPI

Detailed description of parameter/variable per measure (one for each).

No	Parameter	Value
1	Data Variable Name <i>i.e. Thermal energy consumption, locally produced electrical energy, etc.</i>	10-17 : INCREASE AWARENESS OF ENERGY USAGE
2	Transition Track Number	TT 5
3	Measure Number <i>As it is stated in the measure tracker</i>	M#2 - Public awareness campaign Energy – School & Collège; Youth & Family
4	KPI <i>KPI('s) that are related to the data</i>	10-17 - INCREASE AWARENESS OF ENERGY USAGE
5	Units of measurement <i>i.e. KWh, Euro, etc.</i>	%
6	Baseline (of data variable) <i>e.g. relating to BaU or previous performance data</i>	NC
7	Meter <i>i.e. smart meter, survey, energy bill, etc.</i>	survey
8	Location of measurement <i>Where the measurements take place</i>	During session
9	Data accuracy <i>How accurate is the measurement</i>	medium
10	Collection interval <i>How often the data is recorded</i>	3 times a year
11	Start of measurements <i>i.e. 1-1-2019, 0:00CET</i>	may 2020
12	End of measurements <i>i.e. 31-12-2020, 24:00CET</i>	End of project 2022
13	Expected availability <i>i.e. open data, public, confidential, no data available</i>	Open data
14	Expected accessibility <i>i.e. 1) online without access constraints, 2) online, but requires authentication, and, 3) offline</i>	offline
15	Data format	csv



	<i>i.e. csv file, json...</i>	
16	Data owner <i>i.e. the name of the company that will give access to data</i>	Cofely
17	Comments <i>Further info</i>	-



No	Parameter	Value
1	Data Variable Name <i>i.e. Thermal energy consumption, locally produced electrical energy, etc.</i>	10.19-INCREASED ENVIRONMENTAL AWARENESS
2	Transition Track Number	TT 5
3	Measure Number <i>As it is stated in the measure tracker</i>	M#2 - Public awareness campaign Energy – School & Collège; Youth & Family
4	KPI <i>KPI('s) that are related to the data</i>	10-19-INCREASED ENVIRONMENTAL AWARENESS
5	Units of measurement <i>i.e. KWh, Euro, etc.</i>	%
6	Baseline (of data variable) <i>e.g. relating to BaU or previous performance data</i>	NC
7	Meter <i>i.e. smart meter, survey, energy bill, etc.</i>	survey
8	Location of measurement <i>Where the measurements take place</i>	School & college
9	Data accuracy <i>How accurate is the measurement</i>	medium
10	Collection interval <i>How often the data is recorded</i>	3 times a year
11	Start of measurements <i>i.e. 1-1-2019, 0:00CET</i>	01.10.2019
12	End of measurements <i>i.e. 31-12-2020, 24:00CET</i>	30.06 2021
13	Expected availability <i>i.e. open data, public, confidential, no data available</i>	open data
14	Expected accessibility <i>i.e. 1) online without access constraints, 2) online, but requires authentication, and, 3) offline</i>	offline
15	Data format <i>i.e. csv file, json...</i>	Csv file
16	Data owner <i>i.e. the name of the company that will give access to data</i>	Cofely
17	Comments <i>Further info</i>	-



No	Parameter	Value
1	Data Variable Name <i>i.e. Thermal energy consumption, locally produced electrical energy, etc.</i>	10.18 - INCREASED CONSCIOUSNESS OF CITIZENS
2	Transition Track Number	TT 5
3	Measure Number <i>As it is stated in the measure tracker</i>	M#2 - Public awareness campaign Energy – School & Collège; Youth & Family
4	KPI <i>KPI('s) that are related to the data</i>	10.18- INCREASED CONSCIOUSNESS OF CITIZENS
5	Units of measurement <i>i.e. KWh, Euro, etc.</i>	number
6	Baseline (of data variable) <i>e.g. relating to BaU or previous performance data</i>	NC
7	Meter <i>i.e. smart meter, survey, energy bill, etc.</i>	VISIT
8	Location of measurement <i>Where the measurements take place</i>	Group of individuals – workshop
9	Data accuracy <i>How accurate is the measurement</i>	good
10	Collection interval <i>How often the data is recorded</i>	At each workshop
11	Start of measurements <i>i.e. 1-1-2019, 0:00CET</i>	01.10.2019
12	End of measurements <i>i.e. 31-12-2020, 24:00CET</i>	30.06 2021
13	Expected availability <i>i.e. open data, public, confidential, no data available</i>	open data
14	Expected accessibility <i>i.e. 1) online without access constraints, 2) online, but requires authentication, and, 3) offline</i>	<i>online, but requires authentication</i>
15	Data format <i>i.e. csv file, json...</i>	Csv file
16	Data owner <i>i.e. the name of the company that will give access to data</i>	Cofely
17	Comments <i>Further info</i>	-



No	Parameter	Value
1	Data Variable Name <i>i.e. Thermal energy consumption, locally produced electrical energy, etc.</i>	10.32- PEOPLE REACHED
2	Transition Track Number	TT 5
3	Measure Number <i>As it is stated in the measure tracker</i>	M#3 – Citizens individual engagement - IOT invoices
4	KPI <i>KPI('s) that are related to the data</i>	PEOPLE REACHED
5	Units of measurement <i>i.e. KWh, Euro, etc.</i>	Number, %
6	Baseline (of data variable) <i>e.g. relating to BaU or previous performance data</i>	0
7	Meter <i>i.e. smart meter, survey, energy bill, etc.</i>	Agreement
8	Location of measurement <i>Where the measurements take place</i>	Tower 13 & 14
9	Data accuracy <i>How accurate is the measurement</i>	good
10	Collection interval <i>How often the data is recorded</i>	year
11	Start of measurements <i>i.e. 1-1-2019, 0:00CET</i>	may 2020
12	End of measurements <i>i.e. 31-12-2020, 24:00CET</i>	End of project 2022
13	Expected availability <i>i.e. open data, public, confidential, no data available</i>	confidential data
14	Expected accessibility <i>i.e. 1) online without access constraints, 2) online, but requires authentication, and, 3) offline</i>	offline
15	Data format <i>i.e. csv file, json...</i>	Csv file
16	Data owner <i>i.e. the name of the company that will give access to data</i>	CAH & Cofely
17	Comments <i>Further info</i>	-



No	Parameter	Value
1	Data Variable Name <i>i.e. Thermal energy consumption, locally produced electrical energy, etc.</i>	10.45- USER ENGAGEMENT
2	Transition Track Number	TT 5
3	Measure Number <i>As it is stated in the measure tracker</i>	M#3 – Citizens individual engagement - IOT invoices
4	KPI <i>KPI('s) that are related to the data</i>	10.45- USER ENGAGEMENT
5	Units of measurement <i>i.e. KWh, Euro, etc.</i>	number
6	Baseline (of data variable) <i>e.g. relating to BaU or previous performance data</i>	0
7	Meter <i>i.e. smart meter, survey, energy bill, etc.</i>	Number of inhabitant connected to the energy page
8	Location of measurement <i>Where the measurements take place</i>	Web portal WEB DATA VERTUOZ
9	Data accuracy <i>How accurate is the measurement</i>	
10	Collection interval <i>How often the data is recorded</i>	monthly
11	Start of measurements <i>i.e. 1-1-2019, 0:00CET</i>	may 2020
12	End of measurements <i>i.e. 31-12-2020, 24:00CET</i>	End of project 2022
13	Expected availability <i>i.e. open data, public, confidential, no data available</i>	Open data
14	Expected accessibility <i>i.e. 1) online without access constraints, 2) online, but requires authentication, and, 3) offline</i>	Online
15	Data format <i>i.e. csv file, json...</i>	csv
16	Data owner <i>i.e. the name of the company that will give access to data</i>	CAH & Cofely
17	Comments <i>Further info</i>	-

ANNEXE 2 : PROGRAM I'M LEARNING ENERGY VALIDATED FOR IRIS SCHOOLS



Economies d'énergie et Energies renouvelables: L'eau, la Terre, le Soleil et le Vent

RENTÉE SEPTEMBRE 2020

Etape 1: Présentation des énergies renouvelables



En amont de l'intervention rencontre avec l'enseignant pour co-construire l'animation.



Public cible: Cycle 2 et 3



Durée: 3 séances par classe d'1h30



Intervention de Melissa qui présentera les énergies renouvelables aux enfants en partant du support et des ressources JALE



Support: JALE, les génies de l'énergie: la quête du Greenmix



Etape 2: Selon l'école, intervention d'un professionnel ENGIE, sur une énergie particulière



Attribuer à chaque école une énergie. L'intervention sera différente, en fonction de l'énergie attribuée.



- Ecole du Bois de Boulogne, l'eau : Fonctionnement d'une centrale hydraulique ou d'un barrage
- Ecole des Moulins, la Terre : fonctionnement d'une centrale biomasse



- Ecole de la Digue I, le soleil : fonctionnement d'une centrale solaire ou des panneaux photovoltaïques
- Ecole de la Digue II, le vent : fonctionnement d'un parc éolien ou d'une éolienne



Public cible: Cycle 2 et 3
Durée: 1 séance par classe d'1h30



Support: JALE, fiche d'activités, visite virtuelle



Etape 3 : Une approche ludique à partir des ressources JALE



Cette étape permettra d'appliquer directement les connaissances nouvellement acquises durant les deux premières étapes et d'aborder les éco-gestes.



Les outils et supports d'animation ne seront pas les mêmes en fonction du cycle retenu.



Public cible: Cycle 2 et 3

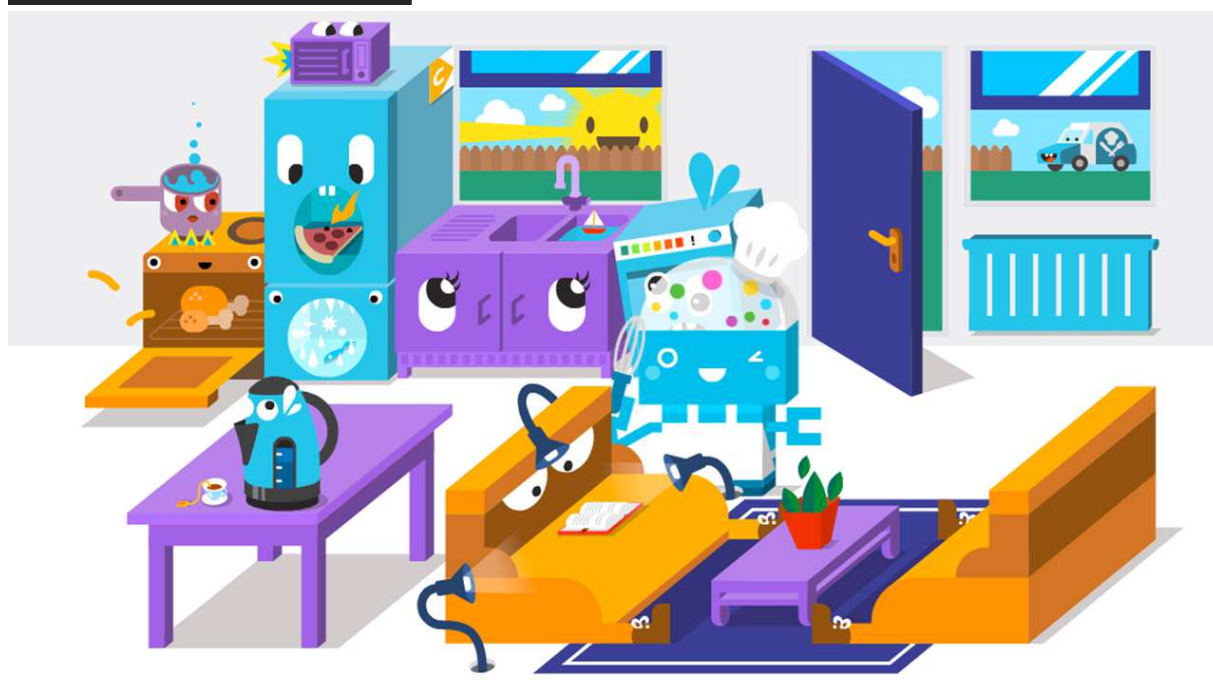
Durée: 2 séances par classe d'1h30



Support JALE, Cycle 2 : Times'up, smartchef la maison toquée, éolienne en lego, dessins



Support JALE, Cycle 3 : mini procès pour sauver la planète, enquête policière pour les éco-gestes, les chevaliers de l'énergie









Etape 4 : De la théorie à la Confection

Encadrés par un maquettiste les enfants produiront leur maquette 3D, lors d'ateliers de confection.

Une maquette par école, sur laquelle les élèves devront représenter l'énergie qui leur a été attribuée.

Ces maquettes reviendront aux écoles et pourront servir de support pour les cours et/ou activités dans les 4 écoles des Moulins.

Durée: 2 ateliers de 2h par classe



Etape 5 : Une rencontre de toutes les classes pour la présentation des différentes maquettes



Cette étape permettra aux élèves de présenter leur maquette à leurs camarades. Ils pourront échanger et découvrir les différentes productions.



Les quatre maquettes produites seront présentées.



Public cible: Cycle 2 et 3



Durée: 1 séance par classe de 2 heures



Support: les différentes maquettes



15 heures par classe pour faire des chevaliers de l'énergie



La maquette 3D: Un projet similaire déjà réalisé

Encadrés par un maquettiste les enfants avaient réalisé la maquette 3D du Street Workout.

Lors d'ateliers de confection, les enfants avaient participé au découpage et collage des différentes pièces constituant la maquette.





ANNEXE 3 : I LIKE MY SUBSTATION VISIT - AWARENESS OF INDIVIDUAL ACTS / COLLECTIVE FEEDBACK

Visite station adolescents

I like my sous station

Etape 1: Distribution des questionnaires

Rendez-vous 10h à l'association Adam, afin de faire un point avec les jeunes sur le déroulé de la journée:

- Visite de chaufferie
- Repas partagé
- Atelier ludique l'après-midi autour de la sensibilisation aux économies d'énergie

Distribution des questionnaires concernant la chaufferie, les adolescents devront répondre aux questions à l'aide des informations communiquées par Christophe.



Etape 2: Arrivée dans les locaux Engie Cofely

Arrivée dans les locaux à 10h30, nous sommes accueillis par l'équipe.

Christophe remet le matériel aux deux animatrices de l'association Adam afin qu'elles distribuent casquettes et surchaussures de sécurité aux 12 adolescents présents.

Ainsi, les jeunes peuvent se préparer pour la visite.



Etape 3: Explication du déroulement de la visite

Christophe fait un point afin d'expliquer aux participants, le déroulement de la visite.

Etape 4: Visite de la chaufferie

Maintenant que nous sommes tous prêts, nous pouvons descendre dans la chaufferie, afin de découvrir l'installation.

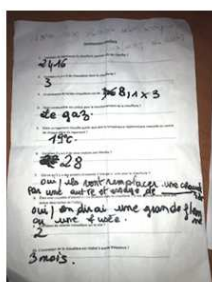
Les jeunes observent, à tour de rôle, le fonctionnement des brûleurs.



Ils découvrent la chaufferie dans son intégralité...

Etape 5: Répondre au questionnaire

Afin de rendre la visite plus dynamique, nous avons travaillé, en amont de la visite, avec Christophe sur le contenu d'un questionnaire. Durant la visite, les adolescents devaient observer et aller vers les techniciens pour pouvoir répondre aux questions.



Etape 6: Visite de sous stations

À l'issue de la visite de la chaufferie et lorsque l'ensemble des participants avaient répondu intégralement au questionnaire.

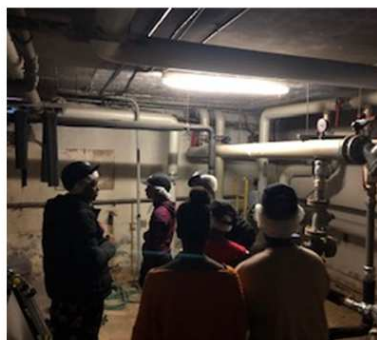
Les jeunes sont très intéressés, et s'interrogent encore sur le fonctionnement de l'alimentation des différents bâtiments. Ainsi, Christophe nous propose de visiter des sous stations.

En route vers les sous stations....



Visite d'une première sous station

Sous station des bâtiments
37 et 38



Visite d'une deuxième sous station

Sous station des bâtiments
18 et 19





Etape 7: Bilan de la visite

Midi approche, c'est l'heure du bilan de la visite.

Les adolescents font le constat suivant: l'état d'insalubrité des sous stations et des conditions de travail difficiles pour les salariés.

Ils évoquent l'idée de sensibiliser les habitants à la nécessité de garder le quartier propre et de respecter les salariés du site afin qu'ils puissent travailler dans de bonnes conditions.

Etape 8: Le repas partagé

La matinée s'est terminée autour d'un repas partagé avec les adolescents dans les locaux de l'épicerie sociale.

S'en est suivi un atelier ludique pour sensibiliser les adolescents aux économies d'énergie et éco geste: Jeux de culture générale, Time's up eco gestes, quizz économie d'énergie

