Intake workshop: City reportof Grand Lyon

1st step toward the Transformation Agenda

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Content

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1 Agenda of the Intake workshop

The intake workshop has been divided in several steps:

- **Preparation of the intake:**
  - **Selection of 10 themes** (9th of Oct. 2013). Transform partners (Grand Lyon, Hespul and ERDF) worked on a first selection of 10 themes in line with the SEC keys elements and local considerations (current deployment of the actions, level of integration in Grand Lyon policies, etc.)
  - **Selection of the 3 themes (25 Oct and 5 nov 2013).** Two workshops have been organised with Grand Lyon departments and Transform partners to proceed to a down selection of 3 themes. This workshop have been the opportunity to discuss the link of themes with the policies lead by the other departments of the Grand Lyon (integrative approach) as well as to have a preliminary qualitative assessment of the selected themes.
- **Intakeworkshop:** the first preliminary working groups about Smart Cities hold in December and January in a rectricted comitee (several departments of Grand Lyon, ERDF and GRDF). The objective was to prepare the meetings which will involve the key stakeholders planned to begin in February..

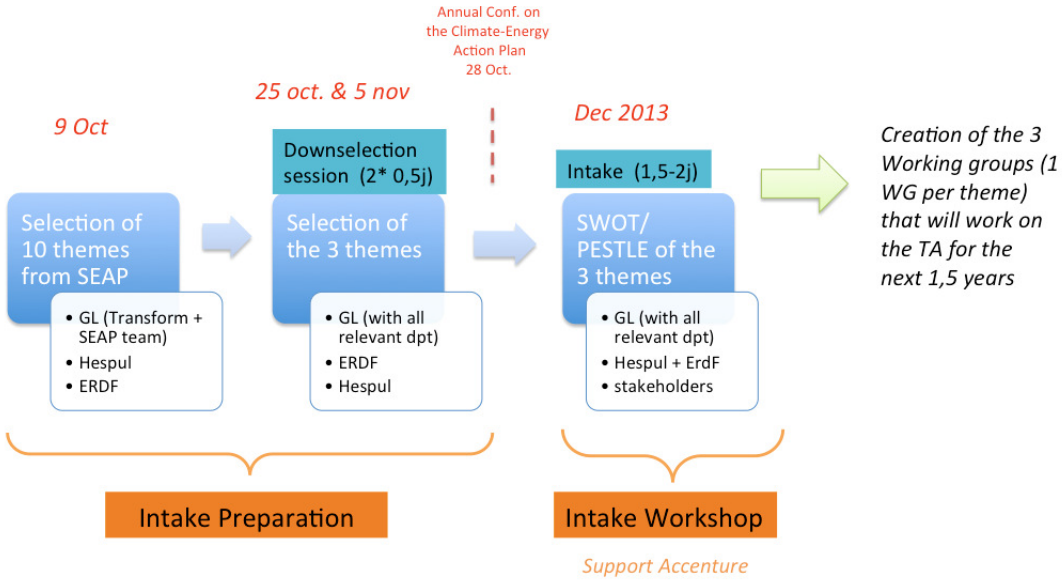


Figure 1: The agenda of the Intake workshop: a 3 step approach

2 Down selection of the themes to be addressed by the TA

2.1 Step 1 – selection of 10 themes

The objective of this first step is to lead to a short list of 10 themes starting from the 26 actions of its 2020 Energy and Climat Action Plan (Plan Climat-Energie Territorial). First steps consisted to check compatibility of these themes with:

- the smart City (Ville Intelligente) strategy of the Grand Lyon,
- the new Energy Strategy of the Grand Lyon,
- and TRANSFORM objectives and key elements

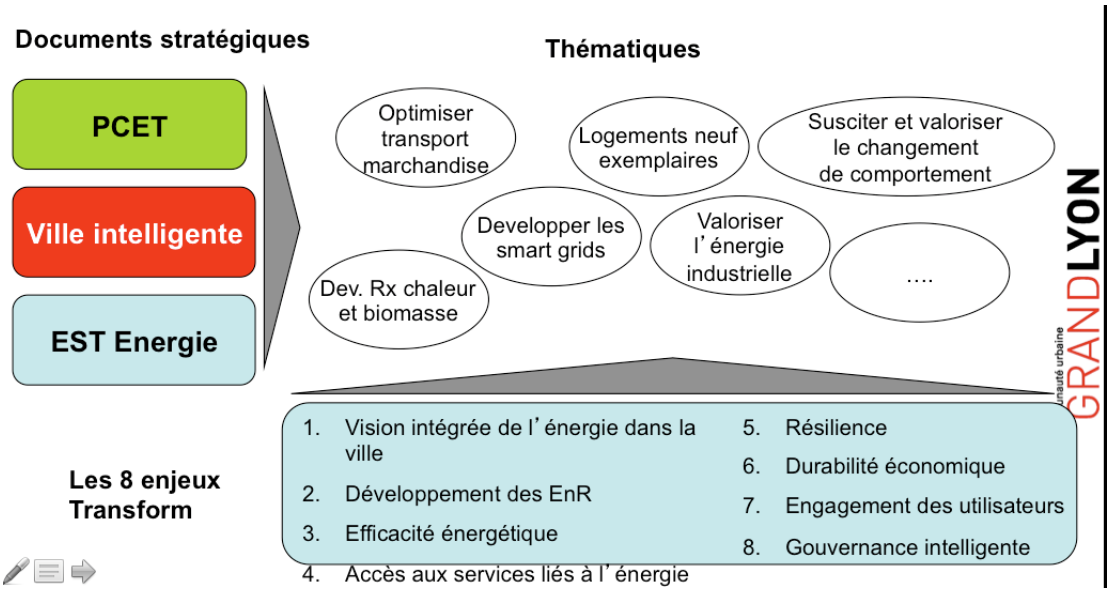


Figure 2. Crossing three strategic documents of the municipality with the eight challenges of TRANSFORM.

This approach leads to a first selection of 28 sub-themes (or theme Tier II in Accenture method), the 26 actions of the sustainable climate energy action plan plus two new priorities of the energy department that had not been clearly identified as such in the sustainable climate energy action plan. All 28 sub-themes fit in one of the following overarching categories:

- Private companies
- Mobility/ Transport
- Housing
- Energy
- Transversal issues

Each of the 28 actions has then been graded on a scale of 0 to 5 on the following criteria:

1. **Internal development of the action in Grand Lyon**: the action was graded 5 if the municipality has deployed all the levers that it can to achieve the objectives.
2. **Progress compared to the 2020 objectives**: the action was graded 5 if the objectives are fully reached.

One other criteria was taken into account to down select a few themes, that is the **potential impact of the measure on CO_2 emissions reduction**. As an illustration, the action "*Ensure the thermal refurbishment of the existing social housing stock*" is rated 5 on the means deployed by the municipality since all the work has been done to schedule and design the refurbishment of the existing social housing stock in Grand Lyon. However the action is rated only 2 on the progress towards 2020 objectives because refurbishment is progressive and operations are spread over the 10 years (SEAP covers the period 2010-2020).

Table 1.List of the 28 measures and their impact in terms of CO2 emissions reduction, investment of the municipality and compatibility with the vision of the energy department.

PCET Action Plan		Thematic Impact on CO2	Costing (M€)	EST Energy Convergence
Travel / Transport	Continue non-motorized travel plan	1%	15 M€/year	No
	Organize the city to regulate car use	1%	*On-going*	No
	Optimize the motorization of private vehicles	1%	1.8 M€/year	Yes
	Optimize motorization and improve the organization of merchandise transport	2%	*On-going*	Yes
	Act on mobility behavior: encourage a shift to modal means and create a mobility center	1%	1.1 M€/year	No
	Act on mobility behavior: optimize roadway networks	0,50%	0.1 M€/year	No
	Develop alternatives to the use of private cars	0,50%	0.5 M€/year	No
	Encourage a shift from cars to public transportation	1%	20 - 40 M€/year	No
Housing	Build exemplary new social housing	0,1%	*On-going*	Yes
	Guarantee the BBC level for private housing construction	0,3%	*On-going*	Yes
	Ensure thermal rehabilitation of the social housing pool	0,4%	100 - 200 M€/year	Yes
	Develop rehabilitation of the private pool	2,5%	229 M€/year including 41.5 M€/year for GL	Yes

Companies	Support small and medium-sized companies in improving energy performance	4,0%	*On-going*	No
	Support the development and structuring of the private offer (in particular for the sustainable building industry)			Yes
	Promote the building and renovation of exemplary office buildings	2,4%	250 M€/year	Yes
	Create a club including the main greenhouse gas emitters and encourage action to reduce emissions			No
Transversal	Commit to an action plan for the Greater Lyon cultural heritage and services	1%	5 M€/year	No
	Produce a PLU compatible with the 3X20 and factor 4	1,6%		Yes
	Compensation of CO2 emissions with a climate-energy fund	0,6%	2.5 M€/year	Yes
	Encourage and highlight behavioral change	4,0%	20 M€/year	Yes
	Reach 90% of the population covered by the community PEC in 2014 and accelerate the renovation of the community cultural heritage	0,5%	5.2 M€/year	No
	GES observatory		0.2 M€/year	No
Energy	Develop smart grids		*On-going*	Yes

	Give value to industrial energy	0,1%	*On-going*	Yes
	Develop heat and biomass networks	1,6%	10 - 15 M€/year	Yes
	Contribute to structuring the regional wood industry	1,6%	*On-going*	Yes
	Structure and develop renewable energies	20% EnR	*On-going*	Yes
Adapt the territory to climate change				
Outside the PCET Action Plan				
Energy planning	elaborate a future energy master plan			Yes
Urban planning development	Prepare the diversification of the roadway transport energy mix by encouraging the development of energies other than those base on petroleum			Yes

The three criteria were used to present graphically the 28 themes shown in the diagram of Figures 3 and 4. On these figures, actions are located according to the progress towards 2020 objectives (x-axis) and to the internal development of the action in Grand Lyon (y-axis), while a third dimension was introduced, the size of the dots, representing the relative impact that the action has on CO_2 emissions reduction. As an example, the measure "*Develop the refurbishment of the existing private housing building stock*" weighs more (labelled as "*4.5 Rehab privé"* on the diagram) than "*Ensure high energy performance of new housing buildings"* (labelled as "*4.2Privéneuf BBC*") since the volume of new buildings is very low in comparison with the existing building stock.

The diagram reveals three identifiable zones:

- Zone 1 on the right hand side: these are actions having both good progress compared to 2020 objectives (rated 4-5 on 5) and a good or average deployment of means within Grand Lyon for their realisation.These actions have also the particularity to have relatively low impact on CO_2 emission reduction.
- Zone 2 in the left top corner: these are actions that are not well advanced (rated 0-3 over 5) but that are mobilising a lot of effort from municipal services (rated 4-5 on 5).
- Zone 3 in the bottom left corner: these are actions that are not well advanced and characterized by a low level of resources being invested in them by the Grand Lyon.

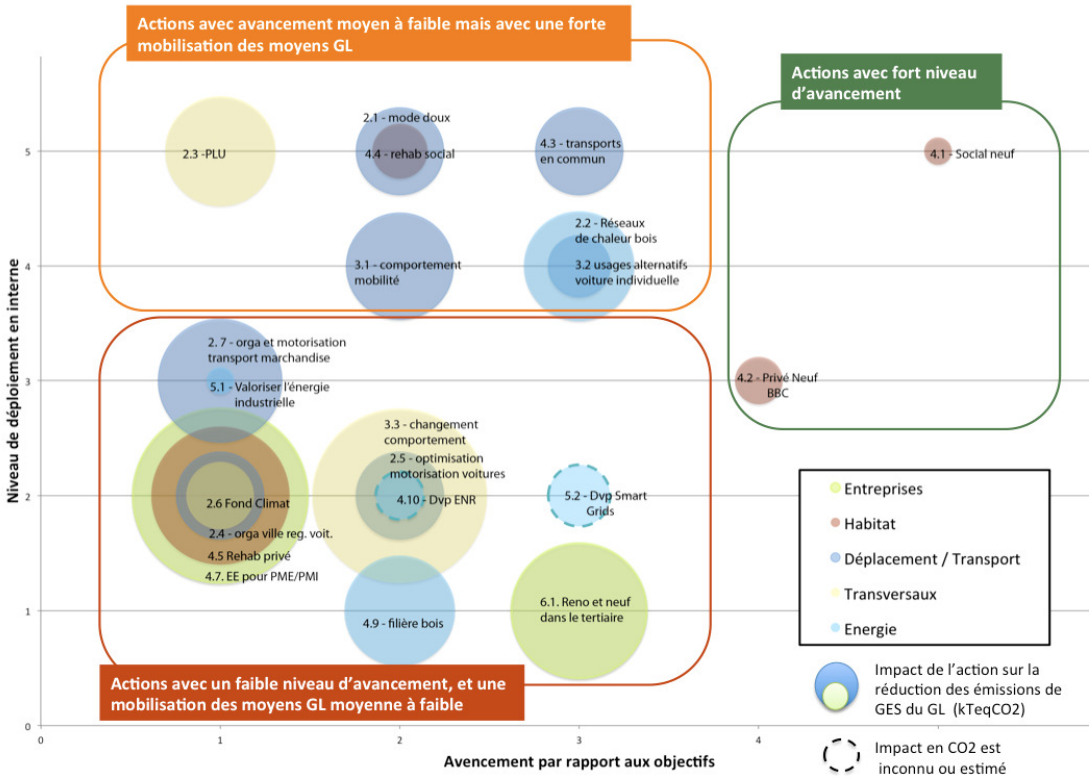


Figure 3. Diagram of the 28 actions plotted in terms of the progress towards 2020 objectives (x-axis) and the internal development of the action in Grand Lyon (y-axis).

Zone 3 will be the focus the Transformation Agenda since the objectives is to identify barriers and solutions to inject momentum in these measures by reinforcing efforts currently deployed by Grand Lyon.

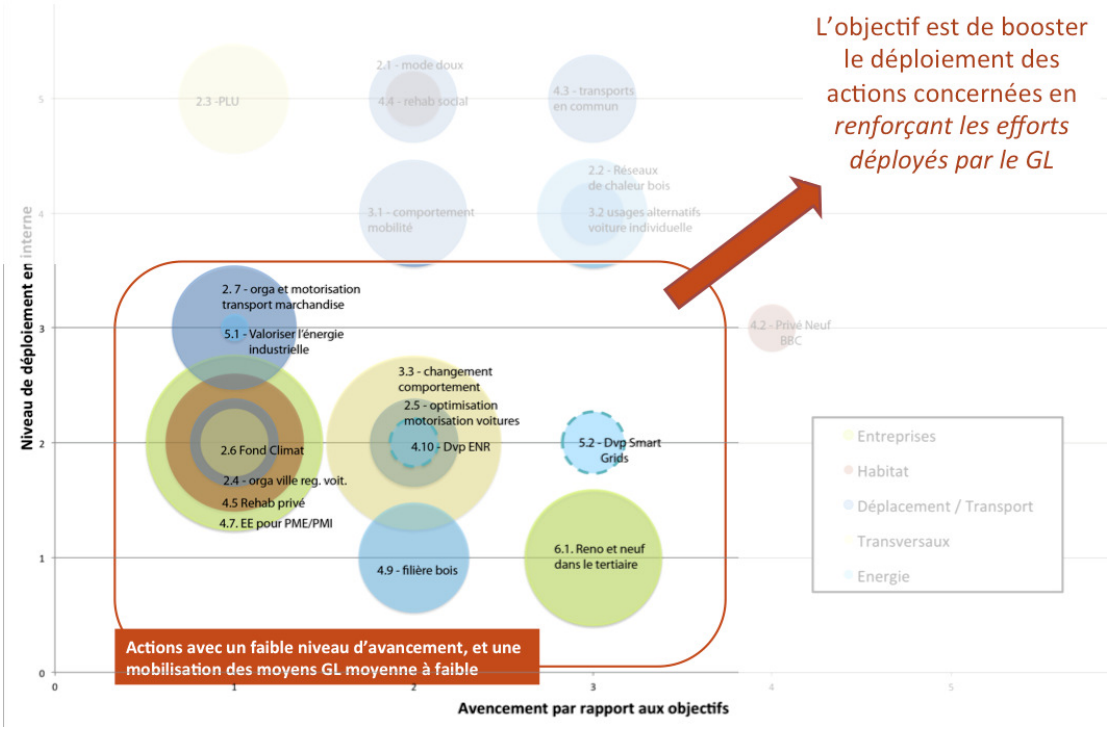


Figure 4. Down selection of sub-themes by favouring actions that have a low level of progress and for which not many means have been invested by the municipality.

This down selection work has led to a selection of 8 themes by merging related sub-themes. These are shown in the table 2 below.

Table 2. Selection of 8 themes for TRANSFORM.

Category	Measure
Transport	Prepare the diversification of the energy mix of road transportation by encouraging the development of alternative energies
Housing	Develop the refurbishment of the existing private housing building stock
Enterprises	Favour the construction and refurbishment of tertiary buildings to reach high energy performance
Cross-cutting themes	Elaborate the future Grand Lyon Energy Master Plan
Energy	Develop smart grids
	Value waste industrial heat
	Structure and develop the renewable energy sector
	Citizen investment and participation in renewable energy projects

2.2 Step 2. Detailed analysis of the 10 themes and priority setting with the Grand Lyon departments

The 8 themes have been analysed by local TRANSFORM partnersin detail using the following criteria:

- impact in terms of CO2 reduction
- progress with regards to the objectives and key actions that have been led
- compatibility with the policies of the different departments inside the municipality
- levers that the municipality has to have a real impact
- possible synergies amongst different departments
- interactions with other stakeholders
- examples of actions that could be led in TRANSFORM to take this theme forward.

The template below shows these elements and all the detailed analysis of each theme is available in French in Annexe.

The analysis has then been discussed with Grand Lyon services, in order to complete the analysis and attempt to set priorities based on the interest shown by the different departments to invest some time investigating the theme and based on possible synergies between departments to ensure the integrative approach.

This has been done with two workshops to ensure the participation of all the departments of Grand Lyon concerned by the themes.

Workshop 1 took place onOctober 25th 2013 and addressed the following themes:

- Prepare the diversification of the energy mix of road transportation by encouraging the development of alternative energies
- Elaborate the future Spatial energy master plan
- Develop smart grids
- Value waste industrial heat

Workshop 2 took place on November 5th2013 and addressed the following themes:

- Develop the refurbishment of the existing private housing building stock
- Favour the construction and refurbishment of tertiary buildings to reach high energy performance
- Structure and develop the renewable energy sector
- Citizen investment and participation in renewable energy projects

Below is the list of all the services that participated inthe workshops:

Workshop on October 25, 2013:

- General Delegation for Urban Development / Department of Planning and Urban Area Policy / Travel
- Water Department / Sustainable development strategy
- General Delegation for Urban Development / Department of Planning and Urban Area Policy

Workshop on November 5, 2013:

- General Delegation for Economic and International Development / Company Services Department
- Department of Planning and Public Dialog / Citizen participation mission
- Sanitation Department /GDD/EMO
- DP/GDD/Waste Treatment Division

/ Urban area strategy

- General Delegation for Urban Development / Department of Planning and Urban Area Policy / Energy mission
- ERDF
- ERDF
- HESPUL

- General Delegation for Urban Development / Department of Housing and Urban Social Development / Programming and management
- General Delegation for Urban Development / Department of Planning and Urban Area Policy / Travel
- General Delegation for Urban Development / Department of Planning and Urban Area Policy / Urban area strategy
- General Delegation for Urban Development / Department of Planning and Urban Area Policy / Energy mission
- ERDF
- HESPUL

Atelier du 25 octobre 2013 :

- Délégation générale au développement urbain /Direction de la prospective et des politiques d'agglomérations/ Déplacements
- Direction de l'eau/ Stratégie développement durable
- Délégation générale au développement urbain /Direction de la prospective et des politiques d'agglomérations / Stratégie d'agglomération
- Délégation générale au développement urbain /Direction de la prospective et des politiques d'agglomérations / Mission Énergie
- ERDF
- ERDF
- HESPUL

Atelier du 5 novembre 2013 :

- Délégation générale au développement économique et international /Direction des services aux entreprises
- Direction de la prospective et du dialogue public/ Mission participation citoyenne
- Direction de la propreté /GDD/EMO
- DP/GDD/Division gestion des déchets
- Délégation générale au développement urbain /Direction de l'habitat et du développement social urbain/ Programmation et gestion
- Délégation générale au développement urbain /Direction de la prospective et des politiques d'agglomérations / Déplacements
- Délégation générale au développement urbain /Direction de la prospective et des politiques d'agglomérations / Stratégie d'agglomération
- Délégation générale au développement urbain /Direction de la prospective et des politiques d'agglomérations / Mission Énergie
- ERDF
- HESPUL

These two workshops led to the definition of sub-themes or key questions for each themes, the assessment of the capacity of Grand Lyon to address these themes during the TRANSFORM project as well as the point of view of the Grand Lyon services on the pertinence of these sub-themes.

This work led to a further down selection by rating each theme on a Likert scale from 0 to 5 on the following response to the following questions (a Yes leads to a grade close to 5 and No close to 0):

- Is the sub-theme already in the line of work of the Grand Lyon departments?

- Does Grand Lyon have levers to work on this sub-theme?

- Is this a priority given by Grand Lyon?

- Is this sub-theme transversal and allows for collaboration amongst different departments?

- Does this sub-theme allow for involving local actors?

Table 3 below summarizes the output of the workshop with Grand Lyon departments.

Two themes have clearly been identified as priorities:

- Theme 4. Prefiguration of the energy Master Plan
- Theme 5. A new function of “flexibility facilitator” in the development of smart grids

One theme has been removed: Theme 3: Construction and refurbishment of tertiary buildings to reach high energy performance .This theme will be addressed at the Smart urban Lab level (WP4).

Other themes received very similar marks(12 or 13):

- Theme 6:Value waste industrial heating thermal grids will be an important point addressed by the WP4 and is therefore not selected here.
- Theme 2: Refurbishment of the existing private housing building stock is already heavily addressed by the housing department of grand Lyon and is removed of the list.
- Theme 8: Citizen investment and participation in renewable energy projects has received a very important support form several Grand Lyon departments and is therefore selected.

		Préparer la diversification du mix énergétique des transports routier	Développer la réhabilitation du parc privé	Favoriser la construction et la rénovation des locaux tertiaires exemplaires	Elaboration du futur schéma directeur de l'énergie	Développer les réseaux intelligents (smart grids)	Valoriser l'énergie fatale	Structurer et développer les énergies renouvelables	L'engagement citoyen dans les ENR sur le territoire
		1	2	3	4	5	6	7	8
1	Portage par les services du GL	1	4	0	5	4	2	1	1
2	Capacité de mise en œuvre par la collectivité	2	2	2	4	2	3	3	2
3	priorité donnée par les services Grand Lyon	2	1	3	5	5	2	3	4
4	Synergies entre les services du GL	3	2	1	5	4	3	3	2
5	Synergies entre les acteurs locaux	4	4	4	5	5	3	2	4
TOTAL		12	13	10	24	20	13	12	13

Tables 3. Themes rating after the conclusion of the workshops with Grand Lyon services.

2.3 Description of the 3-5 themes

Theme 1 - Implementation of an Energy Master Plan	
Theme description	The Community Council deliberation no. 2012-2754 dated February 13, 2012, which approves the Lyon Urban Community energy-climate plan, provides for the implementation of an Energy Master Plan as one of the tools for carrying out its action plan. The Energy Master Plan envisaged by Greater Lyon is a tool for the regional planning of an energy transition. This tool aims to give a prospective vision of energy planning to be implemented over the Grand Lyon area in order to better understand the energy consequences of public policies and to guide and enrich the implementation of a local energy policy. In this context, it proposes an optimal vision of the organization and development of the energy system (production, networks, consumption) over the territory which will meet the goals of sustainable development and the smart city and which takes into account: - the area's current state; - energy transition goals; - the area's resources, advantages and constraints; - territorial public policies and their consequent projects (development, travel, housing, waste, etc.).
Objective with respect to the 3X20 goal (CO2, energy, etc.)	There is no cost target for 3X20. However, energy system planning will be done with the goal of reducing CO2 and increasing EnR production.
Qualitative analysis of project status	This action is not a separate action PCET action; rather, it provides a tool for PCET territorializing. Its implementation has been planned for in energy mission work. At this stage, an analysis has been made of the methodology implemented with the identification of participants and necessary tools. The Transform project could accompany the energy mission in carrying out the initial work.
Costing of theme actions	A first budgetary allocation has been committed to by Greater Lyon through the organization of an energy mission and the launch of an AMO.
Sub-theme proposition	Work on the key factors for implementing an urban planning and energy approach from the viewpoint of regulatory and legal aspects and computer tools. – work on infrastructures → link with the energy-planning workshops - already in operation Tool core definition (input and output data, type of results) Describe the points of interface between the Energy Master Plan and the master plans of other departments (water, streets and roads, etc.) + prioritizing (according to critical points) Identify services with an impact on energy
Associated Greater Lyon services	Energy mission, PLU, travel, urban area strategy (DD urban planning, PCET), water, sanitation, GDEID

Key players	Organizing authority for electricity and gas networks, communities, network operators (heating/cooling, electricity and gas), ALE, SEPAL (SCOT), region (SRCAE), etc.
Link with the policies of different GL services	This theme is a priority of the main service concerned and falls within PCET objectives.
Capability of the community to implement	Other energy departments (water, sanitation, etc) don't have enough time. For example, network operators are heavily solicited to recover heat from waste water. The water department is not suited to leading the participants because it is an interested party → role of TRANSFORM and the energy mission Include the evaluation of fatal energy If we focus only on the implementation of the sub-theme, the community has the necessary competence to federate the interested parties around the theme of planning. Regulatory obstacles could limit the scope of action by the community and its access to energy data. The goal of this work is also to highlight these blocking points.
Synergy between GL services	Synergy targets: - The energy mission: steers implementation of the Energy Master Plan - PLU-H services: can set energy and climate goals within the PLU-H regulations (existing approach) - Travel, water and sanitation services: present strategies and master plans which must be taken into account in energy planning - Urban area strategy: responsible for sustainable development strategy implementation and therefore linked to sustainable urban planning - The PCET: is involved in reaching PCET goals
Synergy between local players	- Region: backs the strategic SRCAE document which gives rives to the regional outline for connecting EnRs. Energy planning must be SRCAE compliant. - SCOT: Energy planning must be SCOT compliant. - Communities: validate planning choices for their area. - ALE: is the Greater Lyon relay for energy and provides expertise on energy-related themes. - Producers: initiate the energy project in the territory.
Territorializing of the implementation strategy	Within the TRANSFORM framework, the territorializing of energy strategies adds value -> This theme is considered at the territorial level.
Examples of actions	- Work on the implementation of a method for building an energy master plan by following these steps: o Identify the interested parties o Analyze urban planning and network methods o Analyze framework documents on urban planning and energy (contracts, regulations, strategic documents) o Analyze existing IT resources and the functionalities required o Identify how these planning approaches interact with legal and contractual levers in order to achieve energy planning which responds more closely to the goals of energy transition o Define the contents of an Energy Master Plan

Theme 2	
Theme title	**Develop smart grids**
Theme description	Smart grids are a subject of increasing interest in France. They are based on large-scale instrumentation of consumption and production sites, as well as transforming stations and other network equipment, using sensors (energy, power, temperature, sunlight, etc.). Smart grids offer an interesting way to: • reduce electricity consumption at peak periods, • sensitize users on reducing their overall consumption, • optimize electrical network operation and decrease loss, • improve network planning and management methods, • improve EnR integration, • improve municipal energy planning. These goals are attained through a central smart grid function which quickly restitutes consumption and production data (raw or processed) to a smaller geographical mesh. Five smart grid projects are being developed over the Greater Lyon area: Greenlys, Nedo/Toshiba, Smart Lyon, Watt et Moi and Move in Pure.
Objective with respect to the 3X20 goal (CO2, energy, etc.)	Experiments are being carried out, and it is difficult to determine deposits in terms of CO2 and energy. As an example of potential reductions in energy consumption, we can cite the following results which come from French research program feedback: • unitary impact of monitoring energy consumption (consumption display) is approximately -3% in the residential sector and -1% in the office sector; • the active tracking of energy services (load piloting, programming by use, etc.) can lead to a 10% savings in energy in the residential sector and from 30-40% in the office sector; • the minimization of loss and the possibility of postponing network investments through smart grid solutions are still difficult to evaluate and strongly depend on the penetration rate of certain equipment and local flexibility (load capacity and production to increase or decrease on demand) • the tracking of renewable production often allows detecting defects which lead to a loss in production. On photovoltaic installations, a breakdown which is undetected for one month in summer or spring can result in an annual production loss of around 15-20%.
Qualitative analysis of project status	A certain number of experiments have been started without the participation of Greater Lyon, which might present a problem when it comes to recovering results. Greater Lyon participates in the NEDO-TOSHIBA project. Expected results include benefits from the implementation of a territorial monitoring tool (for the moment, at the Confluence pilot site), benefits from the implementation of a tablet display in social housing occupied by a population which is not familiar with technological tools (Internet, etc.) and the ability to tie electric vehicle recharging to a PV installation. Current blocking points: access to consumption/production data (by the community), restitution of data to the public area, social acceptation of the technologies.
Costing of theme actions	Costing being established Tracking of different smart grid projects in the Greater Lyon area - already in place
Sub-theme proposition	Different sub-themes may be identified which do not involve the same level of technological deployment or the same players: 1. **End consumer approach**: smart grids as a tool to sensitize users to the reduction of energy consumption, specifically during peak periods. 2. **Community data approach**: how the community can use data from smart grids for territorial monitoring (analysis of the data and its legal status). 3. **Large Distribution Network (LDN) approach:** how smart grids can contribute to the optimization of driving and operating the distribution network →value stems from the integration of these new means within planning methods; it is thus preferable to discuss this subject under Theme 4. 4. **LDN approach: planning methods to be implemented by the LDN to include** the

	new methods of forced drainage and injection into the production network (RT2012 construction types), new means of production and flexible use (contractual reduction of the peak) →this aspect is not discussed in other smart grid projects and is therefore interesting 5. Hybrid theme: the role of the community as an integrator of flexibility deposits (consumption and production which may be piloted to provide relief for the network): the community is a neutral third party which has knowledge of use, flow, etc., and can assume the role of achieving interaction between network managers and flexibility players (developers, building operators, property managers, producers, etc.). 6. **Transversal approach:** ○ What governance and business model are needed for a multi-energy smart grid covering a given district? ○ What role does the community play in implanting smart grids over its territory (related to the transformation of community roles)?		
Associated Greater Lyon services		*Role of service*	*Commitment*
	Energy mission		Strong
	Urban area strategy		
	Data observatory and value creation		
	DGDEI		
	Part Dieu mission		
	DPDP (Forecasting and Public Debate Department)		
Key players		*Player's role with respect to the theme*	*Commitment*
	Electrical network management (ERDF)	- Responsible for equipping the network with sensors and installing new meters - Studies on the benefits of using different technologies in the network - Studies on the network impact of renewable energies	Strong
	Gas network management (GRDF)		Average
	Energy suppliers (GDF Suez, EDF)	- Experiment with different consumption display modes - Test new types of rates - Experiment with load piloting (shedding) - Measure the social acceptability of smart grid technologies	Strong
	Technological solution suppliers (Toshiba, Schneider, Atos, etc.)	- Supply technologies for load piloting and production in the residential and office sectors (energy box) - Supply technologies to improve network operation (management of voltage plans, self-healing of average voltage, etc.) and to have an idea of network topology (smartscan) - Experiment with charge and discharge of electric vehicles - Propose technical solutions for the implementation of territorial monitoring	Strong
	Consumer association (UFC Que Choisir)	- Represent consumer interests in discussion on data ownership and new meter functionalities	Strong
	Research institutes (INSA, NEDO, etc.)	- Supply alternative studies of the network - Study new energy configurations (photovoltaic-electric vehicle, fuel cell, etc.)	?
	Competitiveness center (Tenerrdis, etc.)	?	?
	Institutional funders (ADEME, Région, etc)	- Fund and supervise studies - Organize project feedback in France and Europe - Propose priorities and energy scenarios	Strong
	Decentralized energy producers (private individuals,	- Supply system services (no regulatory mechanism has as yet been implemented) - Supply data on the production program (currently for	Low

	companies, etc.)	major installations only)	
	Developers (SPL de Confluence, Mission Part Dieu, etc.)	- Improve network dimensioning - Maximize the 1% of renewable production - Test the introduction of technologies to reduce energy consumption	Average
	Consumers (private individuals, companies, etc.)	- Test technologies proposed by industrialists - Provide feedback on their usefulness (help reduce energy bill, etc.)	?
Link with the policies of GL services	Link with the smart city strategy / EST energy / PCET		
Capability of the community to implement	The capability to operationally implement the smart grid project is rather low. However, by positioning itself as a pilot territory for developing the smart grid demonstrator and by including this as a strong axis of its energy strategy, Greater Lyon can create (and has already created) true local momentum. Greater Lyon can position itself by encouraging certain aspects of the smart grid which correspond to territorial needs. But this is somewhat premature for now because the demonstrators do not yet show sufficient results.		
Synergy between GL services	Sharing of energy data (housing, travel, etc.) Sharing of communication tools between the different operators (water, gas, electricity, heating) and users		
Synergy between local players	Implementation of the different functionalities of a smart grid (certain of which are listed as sub-themes) requires coordinating a great number of the above-mentioned players. This coordination could be facilitated in part by Greater Lyon. Certain institutional players in other regions are positioned this way (this is the case of the CCI of the PACA Region, which published a smart grids charter for eco-neighborhoods).		
Territorializing of the implementation strategy	This theme allows territorializing the other themes.		

Examples of actions	**LDN approach: the new planning modes to be implemented by the LDNs to** - provide a framework for impact studies carried out over LDN territory which would correspond to the reality of a dense urban area (impact of different types of recharging stations on the electrical network according to their location, impact of energy renewal on contract power, impact of consumption display on behavior, etc.) **Community data approach:** - identify needs in terms of energy data (all services) to improve policies implemented (choice and evaluation) - work on data access to resolve CSI issues (commercially sensitive issues) - implement systematic multi-criteria feedback and compare the different demonstrators with each other and with other solutions (e.g.: personalized support for people in a precarious energy situation vs. consumption display in housing) **End consumer approach** - implement a display test campaign for daily consumption (or even real-time consumption) for a certain number of public buildings to encourage the private sector to do the same - Work on awareness of new technologies and their adoption by users and evaluate whether user needs have been taken into consideration for the different technological solutions proposed.

Theme 3			
Theme title	**Citizen commitment to EnR over the territory**		
Theme description	In the context of its supporting role in EnR development, one of Greater Lyon's strategic goals in energy is to encourage the creation of EnR projects, in particular participatory projects.		
Objective with respect to the 3X20 goal (CO2, energy, etc.)	The European 3X20 goal is reflected in the Greater Lyon PCET project objectives by a four- to five-fold increase in EnR power in order to reach the goal of 20% energy consumption based on EnR by 2020. EnR production over the territory represents 5% of consumption. Target: + 200 GWh/year of EnR		
Qualitative analysis of project status	One way to encourage the development of EnR would be to study the financial aspect and the assistance Greater Lyon could provide for the implementation of citizen participation funds. Support could be financial; Greater Lyon could also play a communication role and could contribute by making municipal land available for these types of projects. Concerning this last point, discussions are currently being held with DLB to make land available for the implantation of a photovoltaic farm.		
Costing of theme actions	No costing		
Sub-theme proposition	How Greater Lyon could encourage the creation of participatory projects to develop EnRs over the territory		
Associated Greater Lyon services		*Role of service*	*Commitment to the theme*
	Energy mission		(strong, average, low)
	PCET		
	DEP		
Key players		*Role of the player*	*Commitment to the theme*
	Region		(strong, average, low)
	ALE		
	HESPUL		
	Communities		
	Banks		
Link with the policies of different GL services	This theme is a priority of the main service concerned and falls within PCET objectives.		
Capability of the community to implement	The analysis proposed would allow evaluating the community's capacity for implementation. Since the initial obstacles are financial, successful action depends on the budget which the community would want to allocate to this action.		
Synergy between GL services	Synergy targets: - The energy mission: participant in this approach - The PCET: participant in this approach through PCET - DEP: intervenes if Greater Lyon plans to create a fund dedicated to this type of participatory investment		
Synergy between local players	- ALE: contributes experience on and knowledge of this type of initiative - HESPUL: contributes experience on and knowledge of this type of initiative - Communities: like Greater Lyon, the communities can promote		

	participatory investments. Certain communities can contribute their feedback.
Territorializing of the implementation strategy	-> This theme is approached on the territorial level
Examples of actions	- A work group can be initiated within the Transform project framework, with a goal of: ○ Making a first assessment of the participatory projects which have been implemented over the Greater Lyon area or other territories: ▪ The way in which the project was organized and the associated participants ▪ Identification of key factors behind success and obstacles ○ Identifying the first action steps by communities in supporting this type of initiative (e.g.: financing or reimbursable down payment for preparatory studies, support structure, partnership with specialized structures of the shared-energy type).

2.4 SWOT analysis through PESTELGS filter of each of your selected themes.

Theme 1 - Implementation of a Spatial Energy Master plan for Grand Lyon

The Transform working group will work on the following topics:

- define the methodological approach of implementing a Spatial Energy Masterplan
- identification of the stakeholders, work with them in the identification of topics related with energy, identification of their impact and proposal on how to address these topics

Theme1 - I*mplementation of a Spatial Energy Master plan for Grand Lyon*					
	Leading question	**Strength**	**Weakness**	**Opportunity**	**Threat**
Political	*Is the intervention political supported?*	- Political implication of Grand Lyon affirmed by his skills on supporting energy saving and renewable energy development. - An energy department has specifically been created in Grand Lyon administration to address this topic	- Local politics which have a strong impact with energy needs to be more involved in this process.	- To further involve others politics in energy issues	- Some politics are drove by others factors not systematically consistent with the energy and environmental policy (ex. Economical and organisational factors)
Economical	*Is the intervention economically feasible? (is there a business case)?*	- The Grand Lyon has a dedicated budget for the implementation of the spatial energy master plan.	- Few local financial and fiscal incentives to support energy policy (ex. Local energy tax can be used to enhance energy policy implementation)	- If legal framework evolves by giving more energy competences to the town it can be an opportunity for Grand Lyon to redefine a local energy incentives acting	- The actual economical crisis is an unfavourable context to finance the energy transition. Founds may be addressed to others priority topics

				on the following leverages: taxation, circular economy, financials aids…	(unemployment reduction, economy development …)
Social	*Will the intervention be socially accepted?*	- There is no particular issue on the social acceptance of this initiative. The positive aspect are the optimization of the energy management on the town which has direct repercussions on the citizen and the economy development			
Technical	*Is the intervention technically feasible?*	- The spatial energy master plan is an energy pacification document which has no specific technical issues.	- Grand Lyon IT tool and model need to be adapted or developed. - Grand Lyon institution is not in possession of all energy relevant data on his territory	- Development of specific energy model tools, a common database with energy data which can be partially managed as open data.	- Energy data availability (directly related with the Grand Lyon competences)
Environmental	*Has the intervention impact on energy reduction, energy* efficiency, renewable energy and/or CO2 reduction?	- This approach has the advantage of being transversal and having indirect impact on the 3 environmental objectives	- The 3 environmental objectives are not directly quantifiable	- This approach is an opportunity to enlighten others policy on energy issues.	
Legal	*Is the intervention in coherence with the existing legal framework? Is it impacted by any legal barrier ?*	- National legal framework engaged in the 3X20 objectives associated with incentives to develop renewable energy and to invest on reduction of energy consumption.	- The 3X20 objectives are not mandatory	- The national energy transition debate which will lead on a law on energy transition creates a favourable context to	- Delay of national policy implementation - The Grand Lyon competencies on grids administrations are not

		- These engagement and the incentive approach is declined at a regional level and at a communal level in a case by case basis		the Spatial Energy master plan approach - The “Métropole” policy may entrust Grand Lyon competences energy grids organisation.	confirmed.
Governance	*Are all relevant stakeholders involved in the planning process?*	- The internal Grand Lyon stakeholders have been identified and will to be involved in this process.	- The local energy governance is not clearly defined. Many actors, redundancy for some topics and others topics not addressed	- This process will be an opportunity to involve external stakeholders and to clarify theirs roles (Region, cities, associations, industry, universities …).	- The energy governance context is in transition and Grand Lyon competences on energy are not fixed.
Spatial	*Is spatial design (space and program) part of the intervention?*	The spatial design is the result of the Spatial Energy Master Plan	The spatial design can be limited by the data availability.	The spatial design is an opportunity to take into account the different level of intervention of the energy topics (regional level, town level, departmental level) and thereby identify related actors, roles and actions.	The level of accuracy in the spatial design will depend on the topic.

Theme 2 - A new function of "flexibility facilitator" in the development of smart grids

Brief description:

This role consists in, first, identifying the flexibility potentials in production and consumption over a specific area and, second, interacting with the actors responsible for their implementation and activation (building constructors, land developers, retailers, producers, large consumers, etc.). These flexibility potentials may be sought through interoperability of networks, tools to control power consumption and power injected in the grid by decentralised means of production to optimise local grid sizing, etc.

The objective of this new function is to facilitate and guarantee the access to flexibility volumes so that they can be integrated in the planning tools of the distribution network operator and thereby impact investment planning.

As a third party acting in the public interest of the territory, independent of private interests, the municipality could take up this new role. However, an independent third party may also be created ad hoc to implement this function. This SWOT analysis is done on the theme considering that this function could be the responsibility of any independent third party.

Theme 2 - A new function of "flexibility developer"in the development of smart grids					
	Leading question	**Strength**	**Weakness**	**Opportunity**	**Threat**
Political	Is the intervention political supported?	- Strong local political support for smart grid projects. - This role stems from the implementation of an energy master plan that has solid political foundations. - Smart grid demonstration projects are running currently. They deal with innovative solutions based on mature technologies	- Currently, the intervention of the municipality in Smart grids projects is limited. The municipality does not have a clearly assigned role in the transition of energy networks towards smart grids. - No other third party has been yet identified to implement this intervention.	- The active role of the municipality as flexibility facilitator can allow translating political local climate and energy policies into practical realisations by influencing energy consumption and production, as well as prioritising choices. - This function may encourage and boost standardization and interoperability of electrical devices.	- Coordination between local energy policies and the global system must be put in place to avoid degrading the optimum of the whole system.

Economical	Is the intervention economically feasible? (is there a business case)?	- This function is an enabler to make savings on the funding of energy networks' development (gas, heat or electricity) through peak power injected/consumed reduction that may optimise the use of existing infrastructures and lowering the need for new ones. - Smart grid demonstration projects currently running show that the cost-benefit analysis of optimising multi-fluid energy consumption and production for controlling investments in grid is positive.	- Business model for the actor that will bear this function must be developed - Synergies may need to be found with other functions to find a sustainable business model. - The framework for sharing benefits of delayed investment in grids is not well defined. - Investments and costs control at different scales	- Improved knowledge of the territory may enable other benefits. - Job opportunities, creation of new economical areas - Added value thanks to innovation - Creation of a network of local partners with global competencies - Opportunity to optimize the economical local energy balance (energy supply and consumption).	- Sustainability of business model - Coherence amongst different levels of governance must be guaranteed, otherwise leading to a degraded value of the system as a whole - Difficulty to find an acceptable value transfer amongst actors to remunerate the actor responsible for this function. - The flexibility economical framework is for some aspects defined at a national level, which reduces the local latitude on defining new roles and business models. - Absence of a clear national regulation to value the flexibility and absence of dynamic tariffs on consumption.
Social	Will the intervention be socially accepted?	- Two municipality services working on public acceptance of smart grid tools and on data protection. - Some associations are actively participating with collectivities and private companies. - End user associations are actively participating to the	- The municipality needs to improve its efforts on smart grid integration and acceptance in the society.	- Third party that is independent of private interests may improve trust and participation of end-users in smart grids and also the perception of smart metering. - This function favours demand side management actions that help controlling the increase in the electricity bill of consumers.	- Reluctance of end-users to smart metering and smart tools in general, that are perceived as surveillance.

		debate on smart metering and smart grid			
Technical	Is the intervention technically feasible?	- Knowledge of all large land development operations on the municipality's territory, ownership of the electrical grid and control over its concession. Same for gas networks and heat grids (except small private district heating grids). - Several ongoing smart grid demonstration programs and mature technologies. - Local competencies	- Demands a very clear view of existing energy flows and a capacity to anticipate the evolution of local consumption. This requires having access to a very important amount of data and thus coordination amongst many actors (see the SWOT of the masterplan). - Requires technical skills (capacity to roughly estimate flexibility potentials on a zone and grasp its impact on networks).	- This new role gives a clear objective to the finalisation of the masterplan. - Encourages work culture sharing amongst different actors since land planner, municipality services, energy experts and DSOs (at minimum) will have to work in common.	- Multiplication of interfaces between actors and technologies means more complexity - Municipality identifies flexibility potentials that have an availability that is too low to be taken into account in energy networks' planning.
Environmental	Has the intervention impact on energy reduction, energy efficiency, renewable energy and/or CO2 reduction?	- Peak power reduction that may be achieved through this action can displace the need for high GHG emitting electricity. - This function may also facilitates the integration of renewable energy that will lower GHG emissions and primary energy consumption. - This function may facilitate	- Peak power reduction does not necessarily lead to energy consumption reduction. - This work may modify energy consumption at the margin but not profoundly reduce it, while being very time-consuming. - Indirect CO2 emissions of smart tools (control boxes,	- Improved knowledge of the territory may lead to identify inefficient use of energy. - Improved resilience by having control over part of the production and the consumption and decreasing energy consumption. - Identify zones where storage units make economical and environmental sense.	- Uncertainty of achieved energy savings through direct power control and price signals. -Impact of new technology (battery, …) - Local optimization of peak demand may affect negatively peak national demand.

		and lower the cost of network connection of electrical vehicule charging stations by optimising charging modes based on local constraints. This will decrease the carbon footprint of transportation.	meters and other equipment on the network)		
Legal	*Is the intervention in coherence with the existing legal framework? Is it impacted by any legal barrier ?*	- No clear legal barrier to the creation of this new function. - Current urbanistic rule (SRU) that encourages the densification of urban spaces has led to connection costs that reflect local constraints and thus value approaches to reduce energy and power consumption and a general approach to optimize network connection.	The actual regulation does not legitimize the municipality or any other third party is taking up this new role.	- The national energy transition debate creates a favourable context for local authorities to paly a greater role in the energy transition. - The "Métropole" policy may entrust Grand Lyon competences energy grids organisation.	- Instability of the actor responsible for this function - Actor may seek short term optimisation rather than long term optimisation - Arbitration between the interests of several network operators may be needed in search of global optimisation - Cyber-security, legal issues on data protection that constraint data transfer amongst actors
Governance	Are all relevant stakeholders involved in the planning process?	- Emerging relationships between different network users (social landlords, producers, etc.), municipality and DSOs. - The municipality has tight relationships with the energy network operators (gas, electricity, heat).	- Requires coordinator amongst a large number of private actors: private promoters, renewable energy producers, private tertiary enterprises, smart grid technology providers, retailers, etc.	- This new role is an opportunity to develop stronger ties with actors on the territory and to have better knowledge of weak points and potential solutions to attain the objectives of the Climate action plan.	- Actors of the market who tries to win market share: free riders - Not a clear role of each actor - Complex players' acting
Spatial	Is spatial design	- Grand Lyon is on the way of		- Suggest how local and global	- Coherence must be guaranteed

	(space and program) part of the intervention?	developing its master plan.		optimisation may come together.	at different scales to guarantee global optimisation

Theme 3 - The role of the municipality in facilitating citizen investment and participation in local renewable energy projects

Brief description:

Citizen investment in local renewable energy projects is a way to boost the development of renewable energy projects on the territory, improve acceptance of these technologies and support local economy. So far, several structures have supported this activity in France. Although the national regulation have a rather large impact of the feasibility of these projects (low feed-in-tariff, high connection costs, etc), the municipality can have a role in facilitating citizen investment and participation in local renewable energy projects through such actions as creating a fund to finance feasibility studies, providing access to public buildings' roof, interacting with the different actors, etc.

Theme3 - *The role of the municipality in facilitating citizen investment and participation in local renewable energy projects*					
	Leading question	**Strength**	**Weakness**	**Opportunity**	**Threat**
Political	Is the intervention political supported?	- This intervention is written in the Climate action plan of the municipality. - One project of this kind was realised over the summer 2013 in Grand Lyon. - Grand Lyon has ambitious goals for RES development.	- No involvement of the concerned services of the Grand Lyon, basically because this action is not borne by a specific service yet.	- Increase renewable energy installed power on the territory, increase energy autonomy - Inject momentum into private projects - Boost the development of local competencies in the installation of renewable energy systems	- A regional fund exists to support this kind of projects as well. The municipality has to be able to coordinate with this regional initiative.
Economical	Is the intervention economically feasible? (is there a business case)?	The Grand Lyon has dedicated specific human resources to work in this topic	- There is an uncertainty on Grand Lyon financial resources availability on this intervention to coordinate with the regional level to co-fund the projects.	- Support local economy (energy consultants, constructors/ installers) - Take advantage of building roof refurbishments to diminish the cost of projects.	- A large part of the economical feasibility of projects is impacted by national regulation (low feed-in-tariff, high connection costs, etc).
Social	Will the intervention be	- This action favours social acceptance of renewable energy	Even if attitudes are slightly changes, renewable energy	ENR development is an opportunity to reduce CO2	Some RES solutions can not be well socially accepted (wind

	socially accepted?	projects	development is not the first citizen concern.	emissions and improving citizens quality of life of the	power)
Technical	Is the intervention technically feasible?	- One project of this kind was realised over the summer 2013 in Grand Lyon. The municipality may capitalise on this local example. - Local actors have competence in accompanying such projects and can support the municipality in designing its intervention. - Municipality has several levers in hand that it could use to boost participatory projects: creating a fund to finance feasibility studies, providing access to public buildings' roof, interacting with the different actors, etc.	- Municipality has no internal competencies to accompany participatory projects. The municipality has to identify internal services or external actors able to manage technical aspects.	- Opportunity to give a transversal vision and commun strategy on RES and local politics, and making the link between RES development and urban reality an resources (availability of field, identification of new RES resources to exploit from wastes …)	- Limitation of RES ressouces (for instance for solar power the limitation is on the roof availability) - Some RES technology are not sufficiently matures or have not reach the economic balance
Environmental	Has the intervention impact on energy reduction, energy efficiency, renewable energy and/or CO2 reduction?	- Favour the development of RES projects.	- This intervention has a limited impact on renewable energy volumes (example: solar power development is limited by urban density, building structure characteristics, and rules on town planning).	- New RES technology can emerge (valorisation of wasted energy : hot water from swimming pools …)	
Legal	*Is the intervention in coherence with the existing legal framework? Is it*	- The PLU-H (Local Urban and Housing plan) is a regulatory leverage to drive the RES development (land availability,	- Municipality is not entrusted to impose renewable energy targets in refurbishment operations in the private sector.	- Municipality put some conditions on private projects realised on its ownland (for instance, reserve a fraction of	- The government founds on RES development are regressive, this induce to a reduction of private

	impacted by any legal barrier ?	specific roles). - The government give founds to develop RES, which can reduce the project ROI.		the investment to local citizens or more generally on RES investments). - The municipality may condition its aid to large RES projects in the tertiary sector to a participation of citizens in the investment. - Install RES on buildings that are being renovated but where investment is a limiting factor.	investments. This can be compensated by the increase of retail energy prices (induce to do self consumption). - Rules on town planning are very strict as to what can be installed and where.
Governance	Are all relevant stakeholders involved in the planning process?	- Municipality, Region and local experts are already working together on related themes. This need to be improved	- Private investors and private building owners will have to be involved in the process. - No visibility for the Municipality and the Grand Lyon of the privates initiatives	- - Opportunity to improve the global governance - For the Grand Lyon to be the local institutional relay on this topic.	
Spatial	Is spatial design (space and program) part of the intervention?	- The special design is an essential part of the intervention to identify and prioritize RES development areas	-No existing tool to visualize the potential RES development	- Opportunity to develop a spatial vision of RES potential project	-

3 TA process, method and governance

3.1 Process and Method

In order to produce the Transformation Agenda, the city will have to work on the 3-5 themes with local stakeholders. Starting from the Intake workshop, cities will have about one year to work on the 3-5 themes with the objectives to come up with concrete measures, business plan and stakeholders commitment.

In this section, could you described the process you will be going through to ensure that work will be achieved by the end of the project (methodologies, timelines, number of meetings, etc.)

If needed you can describes on specific process per theme depending of its focus, involved stakeholders and local constraints.

Reminders:

- *June 2014: First draft of the TA, to identify where things are going well, where cities are facing difficulties and what additional support would be needed.*
- *December 2014: Deadline for the final version of the TA*

3.2 Governance

As it is fundamental to involve as much as possible the local stakeholders in the making of the TA, each city will have to identify the governance model they will set-locally. They have a big flexibility of the process they want to set-up, but had to be set-up by each city before end of November.

Leading questions:

How stakeholder involvement will be ensured during the entire process of the TA making?

Provide as much as possible information about the governance process: who will be the involved partners, at which steps of the process? how their inputs will be included? would you sign o Memorandum of understanding? Would the work lead on an action plan signed by all stakeholders?

Hereafter is an example of the governance model that can be set-up to make the TA

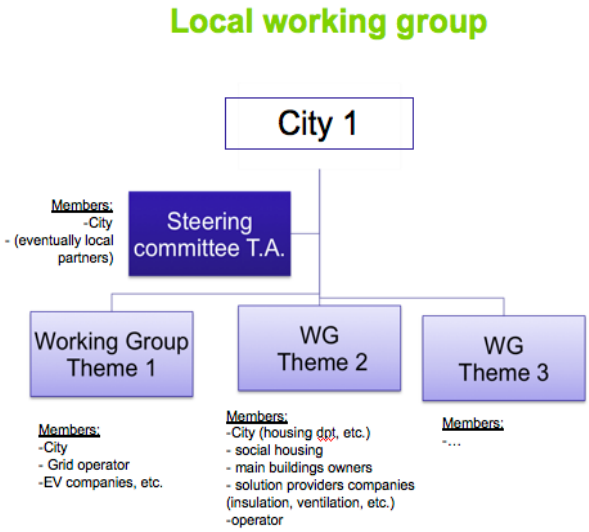
Working groups per theme in each city:

It is important to associate local partners as much as possible to the drafting of the Transformation agenda. Working groups are set up for each theme in order to support the CityCo in the drafting of the transformation

agenda and to ensure that the measures that will be proposed for each theme will be supported by the local stakeholders (the starting point of a collaboration with the local stakeholders being the intake workshop).

TA steering committee per city:

In order to be able to have a general overview of the different themes, linking them with the strategic part of the TA, and consider the interactions between the measures, the city should set up a TA steering committee. This group of person will meet at least 2 times during the project development in order to analyse the development of the TA process in the city.



4 Participation to the Intake workshop

4.1 List of participants

Who participated to the Intake workshop? (List of participants and functions).

4.2 Do you think the intake workshop has been a success for stakeholders' commitment?

- Do you consider the Intake workshop as a starting point of stakeholder's cooperation and involvement within the TA making?

- Have you any inputs to improve the commitment of the stakeholders in the next steps of the TA?

Workshops with Grand Lyon services

Les services du Grand Lyon avaient déja été sensibilisés sur les questions énergétiques via le plan climat énergie territorial dont les objectifs généraux furent approuvés en 2007.

Les mêmes services furent, par la suite, largement impliqués dans une réflexion sur les marges de manoeuvre et la contribution que leur domaine de compétence pouvait apporter dans l'atteinte des objectifs 3 X 20, lors de l'élaboration du plan d'actions du plan climat qui s'est déroulée de 2007 à 2011.

Cette forte sensibilisation "antérieure" des services a contribué au succès des Intake Workshops dans le sens ou tous les acteurs présents ont immédiatement compris les objectifs du projet Transform et vu de quelle manière ils pouvaient contribuer à l'approfondissement des thématiques retenues à l'issue du processus de selection des 3 - 5 thèmes.

Les Intake Workshops du projet Transform ne peuvent donc pas être considérés comme le point de départ d'une coopération et d'une implication des services dans le domaine de l'énergie et du climat, mais ils ont permis de faire émerger de nouveaux champs d'investigation jusqu'à présent peu explorés.

Les 3 thèmes retenus ont suscité un fort intérêt de la part des services, notamment du fait qu'il s'agit de sujets émergents sur lequel le Grand Lyon était pour l'instant peu positionné.

Les groupes de travail thématiques élargis aux parties prenantes sont programmés à partir du mois de Février ; ils devraient permettre de construire une vision partagée sur les orientations et la stratégie à développer pour chacun des thèmes.

- ➔ Permet de partager avec tous les services sur la thématique de l'energie.
- ➔ Permet de les sensibiliser et les mettre au niveau et d'introduire des nouvelles réflexions au sein des services sur des éléments en lien avec l'énergie
- ➔ Cela créé de la transversalité entre les services et permet d'impulser des dynamiques qui auront un impact au delà des thématiques choisies dans le cadre de TRANSFORM.

On ressent vraiment l'effet plan climat, car tt les services ont bien intégré la question de l'énergie dans leur réflexion (personne ne débarque, et tt le monde est tres pertinent sur le sujet)

Tous les services sont bien rentrés dans le projet TRANSFORM., et on bien compris les enjeux.

Tous le monde était super impliqué et motivé par les discussions. (intérêt très fort des services)

Besoin d'un retour auprès des services une fois qu'on aura de fait l'analyse SWOT des 3 thèmes sélectionnés