C4ET

Citizens
For
Energy Transition

Citizens for Energy Transition (C4ET)

Why? For whom? and how?

Pedagogical programme to guide the project's activities

Co-funded by the Erasmus+ Programme of the European Union

Pedagogical programme of the project

Citizens for Energy Transition (C4ET)

European citizens at the heart of the action

Erasmus+

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Purpose of this document and why we decided to make it public

The following document provides a detailed structure that will guide the development of pedagogical materials and tools under the Erasmus + project, Citizens for energy transition (C4ET).

From the very beginning of the project, the project's consortium decided to make this document public and available online. The main reason behind this decision is the willing to share thoughts and approaches on how to improve education and raise awareness of adult Europeans. Through this, the C4ET team intends to contribute to the construction and development of an inclusive process, built on the mix of cultures, experiences and skills at European levels.

This document thus aims to foster mutual understandings on how to develop innovative education materials towards citizens, not only between the project's partners but also at a wider scale between organisations engaged in similar initiatives. The final objective of this document, which remains open to any suggestions, is to contribute to enrich these initiatives and scale them up in other sectors.

I. Elements of context

I.1: Why the energy transition?

Our energy systems are closely related to major challenges: climate change, economic and social development, poverty eradication, food security, health, conservation of ecosystems, peace and security, among others. In a context of significant growth of energy demand and confronted to the necessity to tackle climate change, there is an urgent need to use energy more efficiently and promote the development of clean and renewable sources of energy.

To this extent, the European Commission sets itself ambitious objectives for 2030: a 40% reduction in the EU (European Union)'s greenhouse gas emissions compared to 1990; An increase in the share of renewables in the EU's energy mix to 27%; and a 27% increase in energy efficiency. This follows the 3*20 programme for 2020, where a 20% target was set for these three indicators.

In order to move towards low carbon energy production and consumption, all stakeholders must now take action and adopt sustainable practices and behaviours. In this context, citizens play a major role, as consumers but also as part of wider groups (a company, a region or a country for example) in which they could advocate sustainable actions. Still, the majority remains unaware of the risks, challenges and opportunities of the energy transition.

The project C4ET, coordinated by the non-profit association ENERGIES 2050 and implemented in 6 countries of the EU, aims to tackle this issue through the design of an interactive and holistic training programme designed for adult citizens. This programme receives support from the Erasmus+ programme of the European Commission.

I.2: The project C4ET

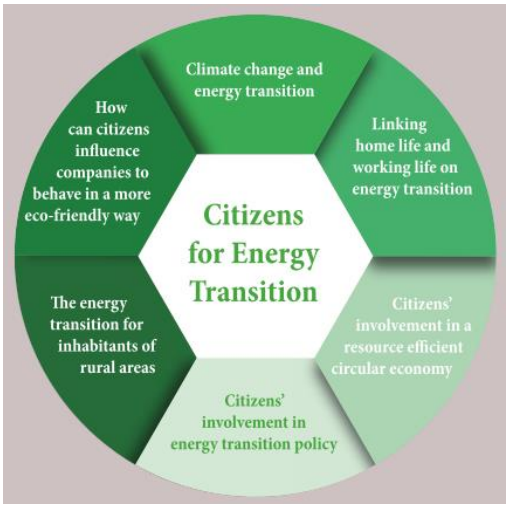
The project Citizens for Energy Transition (C4ET) aims to raise adult Europeans' awareness on energy issues by developing an integrated and pedagogical educational strategy, adapted to all. The final objective is for europeans to make a direct link between the global energy and climate challenges and their daily habits, eventually enabling them to move towards more sustainable lifestyles.

To address this challenge, the project's consortium adopted a holistic approach based on 30 innovative, sustainable and pedagogical tools. This team of 6 partners from 6 countries of the European Union (France, Belgium, Germany, Hungary, Italy and Croatia) provides a good synergy thanks to the qualified mix of transnational, transectorial and interdisciplinary backgrounds, cultures and fields of expertise. The project started in October 2015 and has entered its operational phase.

A first phase of surveys and state of the art analysis, focusing on gaps in citizens' knowledge and potential opportunities for improvement, has been conducted. It allowed the identification of six "focus subjects", six different entry points to reflect on the systemic aspects of the energy transition. The importance of energy in every aspects of our daily lives, whether it is at home or at work, in urban or in rural areas, at policy levels, etc. will thus be emphasised. The different materials developed within each subject will still be integrated from an early stage to the whole programme so that they are part of a global strategy.

1.3: Six focus subjects to reflect on energy issues' transversality

The six focus subjects, briefly presented below, provide a good balance between raising awareness on the challenges and opportunities of the transition, helping citizens to influence political and economic decisions and pushing them to adopt more sustainable lifestyles.
Further details are provided in section II of this programme.



Focus subject 1: Climate change and energy

Climate change figures amongst the biggest challenges that we must face today, with accelerating effects and already dramatic consequences. There is now little doubt about the anthropogenic origin of this phenomena; it is caused by our greenhouse gases emissions and closely linked to our consumption and production patterns as well as our energy systems, heavily relying on fossil fuels. Drastic changes are therefore needed: limiting climate change to acceptable thresholds would require to leave at least 2/3 of current fossil fuels reserves underground. This will not happen without a rapid and drastic energy transition, which require the involvement of all citizens, particularly from Europe and other developed economies.

Focus subject 2: Linking home life and working life with regards to the energy transition

"What to do" and "how to do it", those are the big challenges which need to be addressed so that citizens can take up their role in the energy transition. This implies to raise awareness about the impacts of our consumption habits, lifestyles and decisions in the "global energy bill". European companies, with their environmental, energy and resources management systems, can showcase best practices and push forward the adoption of sustainable practices at domestic levels.

Focus subject 3: Citizens-driven circular economy in the built environment

When we build, refurbish or maintain houses, a lot of energy and finite materials are used and wasted. To reduce the environmental impacts of the housing sector, we have to rethink our way of employing these resources and energy, considering waste as an input and using as much as possible renewable resources. The circular economy provides a strong entry point for citizens to start adopting more sustainable consumption patterns.

Focus subject 4: Involvement of citizens in energy transition policies

The energy transition is the responsibility of each and every citizen. Every one of us has the possibility to get involved in local, national and European policies development, and with every decision, with each daily activity, we have the possibility to generate changes. However, a global transition would only be possible if citizens were included from an early stage in policies' development processes. Mechanisms for public participation already exist, but they must now be disseminated and more widely used. Improving knowledge on the subject, through detailed analysis, examples from other countries, and through consultations with local experts, will scale up citizens' influence in policy development processes.

Focus subject 5: Inhabitants of rural areas towards energy transition

Predominantly rural areas are home to around 112 million people in the EU (European Union) and represents over half of the 28 Member States' territories. Traditional processes functioning with oil, coal

or gas are still widely spred whereas opportunities for renewable energy development are strong. The implementation of sustainability standards in the rural world cannot be the sole responsibility of governments, but requires gradual and radical changes in the overall socio-economic system. These can be driven by social and technological innovations and a societal bottom-up transition involving citizens. The energy transition can also have an added value in terms of employment and promotion of sustainable development at local level.

Focus subject 6: How can citizens influence companies to behave in a more eco-friendly way?

Employees can play a significant role in their companies' environmental and energy management policies. By behaving and making decisions in a more eco-friendly way, and by advocating the transition, they can influence the global behaviour of companies and improve policies implementation especially in the domains of corporate social responsibility (CSR), innovation and consumers protection.

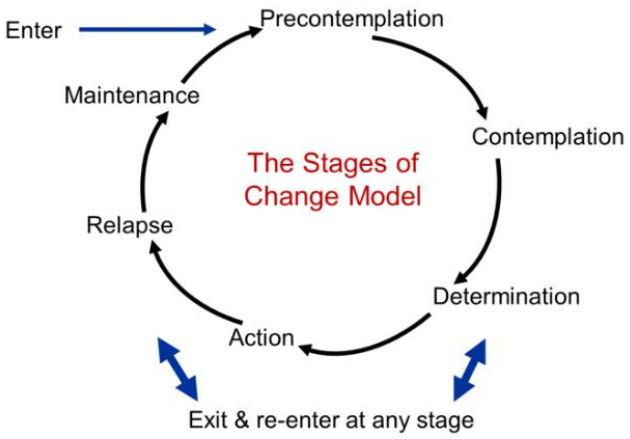
1.4: Insights and guidelines for materials development

C4ET's aim is to empower citizens so they can become the actors and ambassadors of the energy transition, in rural areas and urban areas, at home, at work and at local, regional and international levels by getting involved in policies.

Our target group

To achieve this goal, each tool will be tailor-made to address the needs of different groups of people, from "new comers" to those already engaged with significant knowledge. To this extent and according to « the Transtheoretical Model[1] », five stages for behaviour change can be identified:

1. ***Pre-contemplation stage*** (people unaware of the problem) >> Create awareness: change values and beliefs
2. ***Contemplation stage*** (people aware and having a desire to change) >> Persuade and motivate
3. ***Preparation stage*** (people ready, intend to take action >> Educate
4. ***Action phase*** (citizens practice the desired behaviour) >> Facilitate action
5. ***Maintenance stage*** (citizens already used to good behaviours) >> Reinforce actual good practices.



The first step is therefore to create awareness, then to motivate, educate and facilitate/improve actions. The tools will be adapted to each of these objectives so that they allow users to move step by step towards behaviours compatible with energy sustainability.

Strategy and guidelines for tools' development

[1] Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992 – check http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories6.html for more information - source of the figure above

A 5-days joint learning event was organised in April 2016 and gathered all of the project's partners. The consortium was able to assess already available materials, tools and methodologies, designed for citizens and related to the energy transition. This "Labtool" ("Laboratory of tools") was also an opportunity to share knowledge on existing practices and to debates on the do's and don'ts for developing new materials.

Particular attention was brought to the tools' adaptability, their added value from a citizen's perspective, and their sustainability after the project ends. Over 35 tools were tested during this event, ranging in several categories: calculators, videos, games, databases, e-books, leaflets, among others. Through testing and brainstorming sessions, the team was able to define a set of essential criteria to guide the development of C4ET's 30 tools. These criteria are briefly introduced below:

1. The tools **build on existing initiatives** and fill the gaps identified in the state of the art. Very often, training materials developed for citizens barely duplicate what is already there. Thanks to this event and the analysis that were conducted, the team C4ET is in a position to exploit potential synergies and ensure the relevance of its tools.

2. The tools **will be adapted to citizens**: they will be user-friendly, pedagogical, and simple enough to deliver clear messages. They will build-up citizens' knowledge and push them to act towards the energy transition. Each tool will focus on specific target groups and will be tailor-made as well as innovative.

3. The tools and pedagogical program **will suit to the project's objectives**, be feasible with available means, and sustainable as they should last well beyond the formal end of the project. The links between the six different focus subjects will be enhanced so that these tools are not only used by themselves but are integrated into a wider and global approach of the energy transition for citizens.

Moreover the partners agreed on the following qualities for the tools:

- Innovative
- Stimulating
- Offer critical thinking
- Action oriented
- Connected together
- Technical qualities: Downloadable , Not only web based, Sustainable (the tool must be used even after the project), Transferable (in all languages), Within means available.

Finally , various types of tools have been identified as relevant to the project's scope and objectives, such as E-books ; Quiz ; Posters; Rollups ; Videos ; Toolbox ; Leaflets ; Prezi presentations ; Moodle platform ; Methodologies to organize energy transition related event ; Interactive map ; Educational game ; Board games; Calculators.

II. Presentation of focus subjects: scope and aims

II.1 Climate change and energy transition

Climate change: a global challenge

Credit UNFCCC – COP21 in Paris

The world as we know it is confronted to its own limits; the pressures on the environment and on energy resources are rising exponentially, and the repeated environmental, economic and social crisis are reinforced by the impacts of climate change. Our current consumption and production patterns generate imbalances that cannot be sustained on the long term.

Climate related issues figure amongst the biggest challenges we must face today. As scientific evidences demonstrate, increase in temperatures and its related effects (such as sea level rise, extreme climatic events or ocean acidification) have been accelerating in the last decades, with dramatic consequences not only for the environment but also in all aspects of our life. These consequences could rapidly become irreversible.

The fifth report of the International Panel on Climate Change (IPCC), released in 2014 and 2015, reaffirmed the anthropogenic origin of the phenomena, which is directly related to our greenhouse gases emissions. These emissions are not only the product of big companies, countries or Industries; they are first of all related to our production and consumption patterns and to energy systems that are heavily reliant on fossil fuels.

To deal with this issue, international negotiations have occurred within the framework of the United Nations Framework Convention on Climate Change (UNFCCC) for more than two decades. However and despite increasing evidences, one must admit that things are far from moving towards the right direction. During COP21 (21st Conference of Parties of the UNFCCC) in Paris, the first universal agreement on climate was adopted. The international community agreed on the objective to limit global warming well below 2°C by 2100, and make the best efforts to limit it within 1.5°C. A 2°C target means, concretely, that we should leave at least 2/3 of current fossil fuels reserves underground.

This would require drastic changes which cannot only be based on technological solutions, whether it is for renewable energy or energy efficiency. To fulfil the climate objective, comprehensive and in-depth behaviours changes are necessary at the individual level. While European citizens feel more and more

concerned about climate change, their actions remain too scarce and not many can link this issue to the energy transition.

To act and change, European citizens therefore need first to be conscious of their own energy/carbon footprint and to have a clear picture of the changes they can take. They also need to be aware that these changes are critical to facing climate change effectively and that the transition also brings opportunities for employment, economic and social development, etc., eventually building-up more resilient and fair societies.

What level of knowledge have citizens on this issue and what do we want to transmit?

Following recent events, and notably the COP21 held in Paris in 2015, European citizens tend to be increasingly aware of the impacts of climate change and the need to act quickly to avoid disastrous impacts. This trend was reflected in the state of the art conducted within the framework of C4ET. However, very few make the link to their own habits and especially to their own consumption patterns. The majority can also feel powerless when confronted to such a major issue, and tend to draw the fault and responsibility on decision makers, Industries, international companies, etc. They are not fully aware of the active role they can play in the transition.

The first message here will be to re-position the European citizen, and the consumer in general, at the heart of the climate issue – without pointing fingers but by showing that alternative practices that are economic, socially viable and environmentally friendly, exist. We also aim to promote a clear vision of the different steps one should take with regards to the energy transition, with a focus on climate change issues and carbon footprint. Benefits of this transition for individuals will be enhanced so that changing consumption patterns is not only seen as a burden one should bear to preserve the planet, but also as an opportunity of action and a way to become a leader of one of the most critical revolution in Human history.

Support from key stakeholders

ENERGIES 2050, the leading partner for this focus subject, is actively involved in climate change issues and has an extended network of stakeholders in this field, whether these are international organisations, NGOs, civil society representatives, etc. It has been active in all COP/climate negotiations since its creation in 2011 and has animated a high number of workshops/awareness raising events on this subject, with direct contacts with citizens and Civil Society Organisations (CSOs). ENERGIES 2050 is also involved in several training institutions (Paoli Tech Engineering school, University Nice Sophia Antipolis, etc.) in which it gives lectures on the energy transition and climate change policies.

Through its activities, ENERGIES 2050 will therefore be in a position to get not only support but also direct feedbacks from the stakeholders involved. All other partners of C4ET are also involved in subjects related to climate change, with extensive networks that will be used to disseminate the materials developed.

Level of connection with the other focus subjects

As was mentioned earlier in this report, the objective of C4ET is to develop an integrated and systemic approach to the Energy transition. As such, the tools developed within each of the six key subjects identified will be linked to the rest of materials.

Climate change is a very transversal topic and it is easy to stress out the various connections existing with the other subjects. For example, the link with focus Subject 2 (FS2) could be enhanced through a carbon footprint assessment of daily habits at home and at work. Climate change issues are also directly related to the built environment, the needs to use resources more efficiently (FS3) and to energy policies (FS4). Rural zones are among the most impacted by climate change (FS5) and finally the civil society, especially companies, are getting more and more involved in climate change policies and their implementation (FS6).

Tool proposals

A set of 5 tools will be developed within each of the six focus subjects. Regarding FS1, the following tools have been proposed (it may be subject to changes, depending on existing opportunities and results of continuous research on best practices).

1. ***Simplified ethiCarbon® calculator***: A calculator designed in a pedagogical way and allowing citizens to quickly assess the carbon footprint of their activities, either related to transport, their home, the organisation of an event, or a touristic accommodation they booked.

2. ***Pedagogical sheets:*** Short factsheets with key data focusing on various aspects of the energy transition and climate change, targeting all public and making links with the other tools developed. The carbon/energy footprint associated with consumption patterns will be enhanced.

3. ***Interactive quiz:*** A quiz on climate change issues linked to the energy transition. It will include several levels of "difficulty": first levels adapted to "new comers" with basic questions on the scientific basis of climate change. Last levels will focus more on how to take action, make proposal and assess benefits associated with the transition.

4. ***A set of videos on climate related issues:*** Will explain in a pedagogical and attractive way the climate issue and the possibilities to act. Links with the ethiCarbon® calculator will be made so that it becomes part of a global and holistic approach, which will constitute a key innovation of this project.

5. ***e-book***: Possibly named "looking for lost carbon", it will take the reader on a path to fight climate change. This book will build-on and refer to existing tools and initiatives, inviting citizens to use them as a way to assess the impacts of their behaviours and evaluate what choices they have to drive the transition.

II.2 Linking home life and working life on the energy transition

Private companies as ambassadors of best practices

Source : http://www.cuales.fm/desarrollo-sustentable/

We are all aware that companies in the private sector, in which most European citizens work, have a profit-making objective. However, due to regulations, marketing purposes, etc., these companies have now to follow a more holistic approach, also taking environmental and social issues into account. They have to balance economic objectives with other aspects, in particular the needs to mitigate climate change and promote the energy transition.

In this context, European companies often innovate and set good examples for energy efficiency measures and "green" management. In the last decades, many energy saving measures have been introduced in the business sector, for considerations that are mostly legal and financial. Those positive approaches are in line with management schemes such as ISO 14001, ISO 26000 and EMAS (Eco-Management and Audit Scheme).

How can that make a change in citizens' behaviour? Many citizens in Europe work in companies that have already implemented efficient and inspiring environmental measures. When economic decisions are in line with environmental aspects, there is a potential for win-win benefits that should be enhanced. For example, if a company promotes among their staff the use of bikes and public transport when commuting to work, they will reduce the need for parking lots and save on space and money. If such an approach comes along other incentives such as, for example, a free or subsidised public transport pass, employees will use car less often on their way to work, also making substantial energy and financial savings.

A growing number of companies have in this context promoted the active participation of employees in environmental projects, e.g. with initiatives like an "*environmental project of the month*". Employees can thus be informed through their employer about the benefits of energy efficient measures and behaviours that they can apply at home.

What level of knowledge have citizens on this issue and what do we want to transmit?

Plenty of information on climate change and energy topics is available in a great variety of formats. However, what many people are still not aware of is the major role they can and should play. Among citizens, a misperception persist that as individuals the impact we have on the energy transition and its related issues (climate change, economic and social development, poverty eradication, adequate food production, health for all, and the conservation of ecosystems, peace and security, etc.) is insignificant, especially as we tend to compare ourselves to big companies and countries.

Knowledge gaps in fact exist on "what to do" and "how to do it". Surveys show that citizens find it difficult to implement easy, applicable and comfortable measures at home. Many people do not have a clear vision on the potential savings associated with different measures that they could take.

The main message we want to transmit through C4ET and FS2 is that the energy transition can/must start off from our daily lives. It is not only a matter of politics and policies, but also of changes in our daily routines. It is important to demonstrate that apart from multiple environmental benefits, the energy transition offers various long-term economic benefits connected to better ways of living.

Besides, employees often consider their employer as an authority and model in several aspects. So, the target of this focus subject is to identify good examples from companies with principles that, when well communicated, could be easily transferred and applied to the employees' and more generally any citizens' households. We aim to reach as many Europeans as we can through a communicative channel which is closer and more familiar to them (i.e. their company), and not only through NGOs or other organizations towards which they might be more sceptical.

Support from key stakeholders

This FS2 is led by GNF, which, as all other C4ET's partners, already work with a number of companies. Some of them offer incentives and trainings on energy and biodiversity issues and implement initiatives based on certification schemes and Corporate Social Responsibility (CSR) strategies. Those companies are often interested in innovative approaches to enhance the involvement and participation of their employees. Real needs therefore exist (especially for small and medium companies which have little time to invest in anything else than their core business) which will ensure the sustainability and use of the materials developed within the project.

Level of connection with the other focus subjects

As for FS1, the materials developed within this second FS will be connected to the others in many ways. The link with FS1 is rather straightforward, most companies having implemented policies and best practices related to climate change mitigation, with principles that could also be applied at home by their employees. Companies also play a key role in promoting the circular economy (FS3), and as they tend to get more and more involved in the design of policies, can together with their employees push forward the transition towards decision makers (FS4). A large number of SMEs are located in rural areas, in which they can promote best practices adapted to local contexts (FS5). Eventually, communication could go both ways, with employees also influencing companies to scale up their actions for the energy transition within a concerted approach (FS6).

Tool proposals

The following tools may be developed within FS2:

1. ***Prezi template to showcase companies' energy efficiency measures:*** Together with the environmental facts and figures from EMAS progress reports (reduction on CO_2 emissions, water and energy savings) the template (once filled by the company) will include figures about economic and energy savings achieved as well as a list of practical and feasible tips to implement at home. This presentation could be circulated through internal communication (intranet or email) and could also be presented during team meetings.

2. ***Project of the month:*** Brochure in which a company will be able to highlight the latest projects/achievements or even data from a sustainability report. This can be distributed in various ways to either reach workers on a production line or those doing computer work in the office.

3. ***Sustainable employee of the month:*** interactive quiz based on the information provided by companies but also on other energy and environmental issues. The quiz will be mainly circulated via email, but it will also be printable to be distributed during different events e.g. at the cafeteria of the company as a small tablecloth. The winner could be awarded with incentives such as a discount for using public transports.

4. ***Sustainable Management Box.*** Template provided to employees which may enable them to present innovative ideas, projects, approaches for sustainable use of energy, etc. to companies' managing team. A jury could select a project every week/month and present it via Email / notice board. The winner could be awarded with incentives for public transports or vouchers for eco tourism in the region.

5. ***Sustainability day***. Protocol/methodology to support the organisation of Energy Transition events at companies' level. It will include ideas of materials that can be used (tools from other partners e.g. brochures), different activities (e.g. games), etc. that will contribute to raise employees' and more globally citizens' (with events open to relatives and friends) awareness. It will also enhance the image of companies towards the public.

6. ***Interactive map***. The map will be used as a database for sustainable practices within companies.

II.3 Citizens-driven circular economy in the built environment

Opportunities for citizens' action in buildings

ill. Ellen Mc Arthur foundation

In opposition to a linear approach (where we extract, produce, use and throw away) we should rethink our economy in a circular way, where we take into account the biological cycle of materials and also the technical cycle. The biological cycle is the one of materials that can be composted. The technical loop is the cycle where the materials are reused into the producing process.

We have to evolve from a « throw away and replace » to a « repair, return and renew, disassemble and regenerate » culture. How do we translate this to the building sector? The building sector is producing a large amount of waste and material use, and is one of the main source of energy consumption and greenhouse gas emissions in Europe. Using waste as resources but also limiting the amount of waste generated are the guiding principles, with the following objectives:

- Lengthening the buildings' lifecycle as long as possible. This involves good maintenance, repair, monitoring and renovation of the building;
- Designing for deconstruction: anticipating the demolition phase of building elements for later reuse (new joining techniques, appropriate tools....);
- Designing for "reversibility": ensuring the ability of a building to be adapted without the need of heavy renovations;
- Dismantling properly: ensuring that materials can be reused by a well organised dismantling process;
- Implementing measures to improve general waste management on site;
- In situ re-employment principles: reuse the material or the element somewhere else, within the building site or nearby;
- Making a rational use of resources and energy.

As many works in buildings are done by owners themselves (Do It Yourself – DIY), the purpose of this focus subject will be to show citizens how they can apply these circular economy principles at their own level. This will eventually lead to save on embedded energy in new materials and on energy used to treat waste properly.

What level of knowledge have citizens on this issue and what do we want to transmit?

In Europe, the concept of circular economy is mostly unknown or misunderstood by citizens. According

to the communication model for behaviour change called « the Transtheoretical Model », already mentioned earlier in this report, five stages for behaviour change can be identified:

1. ***Pre-contemplation stage*** (citizens not ready, unaware of the problem)

Needs identified >> Create awareness: change values and beliefs

2. ***Contemplation stage*** (citizens ready, aware and having a desire to change behaviours)

Needs identified >> Persuade and motivate

3. ***Preparation stage*** (citizens ready, intend to take action)

Needs identified >> Educate

4. ***Action phase*** (citizens adopt the desired behaviour)

Needs identified >> Facilitate action

5. ***Maintenance stage*** (citizens are used to desired behaviour)

Needs identified >> Reinforce positive changes.

Our aim is to help citizens moving, step by step, from one stage to another, using circular economy in buildings as an entry point. We will invite citizens to take on the opportunities to reuse building materials, to maintain and repair buildings appropriately, to think of the potential re-use of materials, etc. and ultimately to save on energy and materials use.

The tools developped will also emphasise that the energy used in the housing sector is not limited to direct consumption but also include, in large parts, the building materials' embedded energy (the energy used all along a product or material's supply chain for his transport, production, maintenance, etc).

The aim is eventually to push citizens towards more sustainable ways of using resources, giving them a better understanding of the concept of circular economy, in buildings but also in all the products they consume.

Support from key stakeholders

FS3 is led by the *Centre Urbain* in Belgium which has an extensive network at national level. It was especially charged by « Bruxelles Environnement », the environmental administration of the Region Bruxelles Capital, to guide and advice citizens on how to integrate circular economy principles in their refurbishment process. The Réseau habitat, a network of 10 organisations helping citizens to refurbish their home, will promote the tools developed, as well as MBEE, Brussels' house of energy, an organisation advising citizens on energy matters at domestic level. Strong links with Atelier Voot (an organisation that help citizen to DIY), as well as Bruxelles en transition, will be established.

Other C4ET partners are also actively involved in the building sector. ENERGIES 2050, for example, wrote and published several key publications on this matter and is part of the global alliance for buildings and construction as well as several other key international and national initiatives.

Level of connection with the other focus subjects

The links with the other FS will be enhanced in several ways. Circular economy and energy efficiency in the building sector figure amongst the main responses to climate change (FS1). This topic also largely

concerns companies (FS2 and 6), and the involvement of citizens in energy policies (FS4) could start first of all by actions at domestic levels. Finally, many best practices regarding circular economy in buildings can already be found in rural areas (FS5).

Tool proposals

The five following tools have been thought of to fulfil the ambition of this FS:

1. ***Guide for beginners***: Brochure focusing on the circular economy & retrofitting with easy DIY work.

2. ***Infography/poster:*** comparing the use of building elements « in a business as usual » scenario with an alternative solution integrating the principles of circular economy. The results in terms of energy and resources savings will be enhanced.

3. ***Prezi presentation:*** Eye catching, easily adaptable Prezi presentation explaining the concept of circular economy applied to the built environment. This presentation will be used for annual conferences addressed to citizens, and include tailor-made guidance for various stakeholders.

4. ***Interactive map***: Will enhance existing initiatives and best practices on circular economy and buildings in the EU, as a way to inspire citizens to act.

5. ***An informative communication tool***: Will present the concept of circular economy to raise citizens' awareness and complete the set of tools developed. Will include practical recommendations and impacts assessment.

II.4 Citizens' involvement in energy transition policies

Citizens as ambassadors of the transition[2]

Energy public policies have not been able to fully involved citizens. Discussions on this topic have mostly been limited to a narrow circle of national and European institutions, experts and a small number of interested civil society organizations (CSOs). Still, one of the basic characteristics of modern democracies is a developed and empowered civil society, capable of carrying key messages and influence decision makers.

The active role of citizens on one hand, and openness and transparency of public institutions on the other, lead to open dialogue, cooperation and partnership. Sustainability of this cooperation and of the overall societal development is also linked to the respect for human rights and equal participation of women and men.

Since January 2003, the European Commission has thus been applying the "*General principles and minimum standards for consultation of interested parties by the Commission" act. "Starting the consultation at an early stage in the legislative procedure helps to improve the effectiveness of policies whilst reinforcing the involvement of interested parties and the general public.*"

The specific role of CSOs is also defined – "*Civil society organisations act as relays between citizens and the European institutions, thus encouraging policy dialogue and the active participation of citizens in achieving the aims of the European Union*." Another important document is the code of good practice for civil participation in the decision-making process which was supported by the Committee of Ministers in a Declaration in which it "*recognises the importance of the Code of Good Practice as a reference document for the Council of Europe, and as a basis for the empowerment of citizens to be involved in conducting public affairs in European countries"*.

Since then, the public consultation process has been reinforced with the aim to involve all stakeholders. It allows to gather information about their issues, opinions and recommendations, to better design policies to the needs of the population and to improve acceptance. It raises the level of understanding of the

[2] Source graphic: http://balkangreenenergynews.com/wp-content/uploads/2016/09/Brochure_EN_tablet.pdf

policies' goals, but also help to anticipate the weaknesses and potential negative impacts of a public policy that would ultimately need to be abandoned.

What level of knowledge have citizens on this issue and what do we want to transmit?

Based on the results of C4ET's survey, the interest on Energy transition is not high at the moment among the general public. Citizens are often unaware of public policies related to energy transition and are unable to identify themselves as actors of the transition. They also find policies to be not entirely adapted to support the population's priorities and to enhance local energy production and implementation of different energy efficiency measures. As such, they do not always believe that the transition to a low-carbon society is something they should get involved in. The "NIMBY" (Not In My BackYard) effect reflects this vision.

What we suggest is a radical change in our way of looking onto sustainability. To achieve this, public participation can be conducted on five levels:

1. Inform
2. Consult
3. Involve
4. Collaborate
5. Empower

Each of these levels is connected to:

- certain goals that strive to be accomplished through public participation,
- cooperation of decision makers with the public and the methods through which the participation is promoted.

Collaboration represents a very high and desirable form of public participation, but reaching it does not only depend on the openness and readiness of public authorities, but also on the interest and knowledge of the public, as well as on the culture of dialogue and cooperation in the society in general. Therefore, reaching a strong level of collaboration is a responsibility and a challenge for all sides in this process, and a continuous process of capacity building and readiness for a constructive dialogue is needed.

We would like through this project to invite citizens to get involved in energy policy development and use the participation tools they have available. Long term energy transition is a responsibility of each and every citizen. Every one of us participates in changes, and that participation includes all our daily activities, but major changes will only be achieved through a higher inclusion.

As a first step, citizens will have to learn all the basics of the energy transition and policies development processes. Informative tools, detailed analysis of best practices from other countries and methods for consultations will be developed throughout the project.

Support from key stakeholders

DOOR, leading partner of this focus subject, already identified many stakeholders which could be involved at national level:

- NGOs and CSOs bringing their different expertise :
- Institute for political ecology
- Zelena akcija (FOE Croatia)

- EKO Zadar
- ZEZ- Green energy cooperative
- ODRAZ (Sustainable Community development) ZMAG (Green network of activist groups)
- Forum for freedom of education Croatia - Education
- GONG (Citizens Supervising Voting in an organized manner)

Other C4ET partners have connections with policy makers and will also use their own networks to disseminate the tools developed under this FS (as well as the others).

Level of connection with the other focus subjects

The links with the other FS will be enhanced in many ways. There are for example multiple participatory approaches in the field of climate change policies that could be enhanced (FS1). The involvement of citizens in decision making process will most likely favour further participation and action at individual levels, at home and at work (FS2, 3 and 6). Finally, rural plans and programs play have a major impact on rural ways of living, access to financing and development, and it is important for these local-rural strategies to be developped following a participatory approach.

Tool proposals

The tools developed within this FS will enhance the participation of citizens to energy policies.

1. ***A survey to assess learning needs in the fields of energy policy development***: Survey monkey questionnaire distributed through partners' networks and social Medias. Will allow to raise citizens' awareness on energy policy development, on the ways to get involved and on the necessity to do so. Results will also be used to further tailor-made all the tools to the training and learning gaps identified.

2. ***Informative poster***. Well-designed visual poster which will inform on opportunities for citizens' involvement in energy policies, displayed through different Medias (hard copies and e-copies).

3. ***Educational board game***. Interactive tool through which each user will be able to "play", reflect on its current behaviour and determine good practices. The steps for advancing through the game will be directly related to the inclusion of citizens in energy policy.

4. ***Social media quiz***: Will be used for benchmarking citizens' behaviour and their implication into policies, and to motivate them to take action.

5. ***eBook***. Will build on the other tools and will consist of a comprehensive guide on the topic, downloadable from C4ET website.

6. ***Platform for debates:*** Depending on potential partnerships with policy makers, this tool will serve as an interface between citizens and those who are actively involved in energy policy development.

II.5 Inhabitants of rural areas towards energy transition

The energy transition as an opportunity for a more balanced development[3]


According to europarl.europa.eu website[4]*, predominantly rural areas are home to around 112 million people in the EU (European Union) and represents over half of the 28 Member States' territories. Agriculture and food industry account for 6% of the EU's GDP (Gross Domestic Product), with 15 million companies and 46 million jobs.*

Whereas considerable opportunities exist in rural areas for renewable energy development, most companies and citizens still use traditional processes based on fossil fuels, especially coal and oil. The housing stock is often older than average and more widely spred than in cities, and as such tend to be less energy efficient and more expensive to maintain. On the good side, the potential for energy refurbishment is important and could be a tremendous local source of job opportunities.

During C4ET's first phase of activities, a state of the art and SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis were conducted to better define the profile of rural areas. Among the strengths were found the strong availability of renewable energy resources (wind, sun, hydro, and biomass), and the existence of numerous best practices that could easily be scaled up. On the other hand, the lack of information and informal training opportunities as well as the massive use of fossil fuels were identified as weaknesses. The facts that rural areas are more vulnerable to climate change and that housing are less energy efficient were also enhanced. Finally a high level of unemployment exist but it also means that the energy transition could serve as a lever to generate new economic opportunities.

What level of knowledge have citizens on this issue and what do we want to transmit?

The general picture reveals that there is a clear need for training on the Energy Transition in rural areas. In the European Union, social and technological innovations are not only needed in cities but also in these areas which face specific challenges, further enhanced by the economic and climate crisis. These challenges include an ageing population, high unemployment rates, social disparities and the lack of adaptation capacities to the global market.

Moreover, there is a clear disparity among citizens between urban and rural areas regarding access to information. According to a report from the European Union published in 2013[5], 24.6 million people aged 25 to 64 years in the EU-27 (9% of the total – EU-27 at that time was the actual EU-28 excluding Croatia) participated in education and training in 2012. In rural areas, this share reached only 6.6%, which was lower than in intermediate urbanised (8.4%) and densely populated areas (11.1%).

[3] Credit photo on left side: http://wupperinst.org/. Right side: http://www.wikiwand.com/en/Energy_development
[4] See for examples http://www.europarl.europa.eu/RegData/etudes/ATAG/2016/589840/EPRS_ATA(2016)589840_FR.pdf and http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A8- 2016-0285+0+DOC+XML+V0//FR
[5] See http://ec.europa.eu/agriculture/sites/agriculture/files/markets-and-prices/more-reports/pdf/organic-2013_en.pdf

Faced with the challenges of energy transition, rural territories offer ideal conditions to become leaders in the production of renewable energy. The emergence of these new channels offers high potential for economic diversification and job creation and is a response to the growing energy needs of urban populations. Unlike them, rural inhabitants could become self-sufficient in production of heat and electricity. There are example of policies and best practices in rural areas but these are not really visible to the general public. With C4ET tools, they will be showcased with the aim to eventually contribute to their scaling-up.

To raise awareness about the opportunities of the energy transition, we will provide learning contents on the following topics:

- Renewable energy in rural area: hydro-electricity, wind-powered energy, solar energy and biomass, energy optimisation, decentralised territorial energy production systems, district heating;
- Energy Transition for local authorities from rural areas: methodologies and tools for a transition to a low carbon economy at local level, the role of energy cooperatives for the promotion of renewable energy use in rural area, the use of smart rural grids;
- Circular economy in rural area: how to reuse water for irrigation, how to make self-made home composting, smart gardening;
- Short supply chain: how to promote agro-tourism, farmer markets;
- Innovation in agriculture: precision agriculture, new farming practices, diversification of the rural economy.

The achievement of sustainability objectives cannot be solved by governments' interventions alone, but require gradual and radical changes in subsystems of the overall socio-economic system. These can be driven by social and technological innovations and by societal bottom-up transition involving citizens.

Support from key stakeholders

Leader on this topic, Molise verso il 2000 identified the following stakeholders at regional and national level:

- University of Molise, Department of Agriculture, Environment and Food: they will provide the team with scientific knowledge about energy in rural areas;
- Legambiente: will provide updated contents, examples of best practices and tools already developed;
- Molise Region: will connect the project with regional operative programme (ROP) and ease contacts with policy makers;
- Rural municipalities will support the dissemination of tools during local events;
- Professional associations will disseminate tools to their members.

Similar dissemination strategies through key stakeholders will be adopted in all six participating countries.

Level of connection with the other focus subjects

The materials developed within this FS will be connected to the ones developed in other FS. The impacts of climate change (FS1) and its links with the energy transition will be enhanced, and opportunities for action will be enhanced (FS2 and 6) for both domestic life (e.g. how to make a self-made home composting, smart gardening ...) and working life (e.g. precision agriculture, new farming practices, etc.).

How to reuse water for irrigation, to self-compost, etc. will create links with the circular economy (FS3). Finally, there will be a focus on the role of energy cooperatives for the promotion of renewable energy use in rural area, as a way to affect local policies (FS4).

Tool proposals

The following tools may be developed within the framework of FS5:

1. ***Quiz for assessment and Autodiagnostic about Energy Transition in rural areas*:** will be used as a preliminary instrument. The "autodiagnostic" will enable users to identify their learning needs more easily and help them in choosing the right pedagogical tool, within this FS and the others.

2. ***Interactive virtual tour*:** Will showcase best practices and innovative methods to be adapted at local level.

3. ***Educational game*:** interactive tool through which each "rural" users will be able to "play", reflect on their current behaviours and on the possibilities to adopt good practices.

4. ***Interactive map:*** Enable the user to "see" best practices and their location. The preliminary stage is to collect experiences and practices in rural areas and develop a map which will display all of them. This map will be done at European level and constantly updated with innovative projects.

5. ***E-learning course:*** Developped through the moodle platform of e-learning. It will cover different aspects of the energy transition, and will be organised through themes. This instrument is thought for the most experienced users.

6. **EBook:** Will be based on the material collected for the other tools, and will consist of a comprehensive guide on the topic, which every user may download from the website.

II.6 How can citizens influence companies to behave in a more eco-friendly way?

Pushing companies towards sustainability[6]

"*Most Europeans think that citizens themselves should take the lead role in influencing the actions of companies, through the purchasing decisions they make, followed by company management (40%) and public authorities (36%)*", *according to Eurobarometer.*

Citizens play a key role in the energy transition, first of all as direct consumers of energy but also of products with more or less embedded energy. Most citizens are also part of groups and companies in which they can enhance the transition not only by adopting sustainable behaviours but also by influencing the decisions and habits of the group as a whole.

CSR (Corporate Social Responsibility) is now widely promoted in companies. According to a study led by Trebag, leader of this focus subject, in Hungary with 44 companies, 41% of the interviewees told that they do use CSR in a conscious way. However, there is no evidence that their knowledge on energy and environmental issues is sufficient for them to move towards sustainable production patterns

Within this focus subject, we will therefore emphasise the role of citizens as ambassadors of the energy transition towards companies. The purpose is specifically to show how citizens' and employees' behaviours (at work but also through consumers patterns and even through lobbying) can influence the decisions and orientations taken by management team.

The materials developped will empower citizens, giving them the necessary methods and supportive materials to take up this role of ambassador. Thanks to the tools at their disposal, citizens will become more aware of the opportunities they have to act but also to influence the actions of their companies regarding environmental and energy issues.

What level of knowledge have citizens on this issue and what do we want to transmit?

Citizens are usually aware of the need for an energy transition but they do not have the necessary knowledge to take informed actions. Also, they are not aware that their actions and behaviours can have an impact on decisions taken by companies. At companies' level, awareness is not that high currently. Small and medium enterprises have in particular little possibilities "invest" time and resources in environmental issues and CSR activities. Also, companies do not often take the habits of their employees and their influence onto the whole company's culture into account. Some also do energy related actions but they do not communicate these actions towards their employees.

[6] Credit picture Dynêsens – Le plaisir au travail, taken from http://fr.slideshare.net/QuodLicetJovi/pat-7976412

In this context, our tools will aim first of all to raise citizens' environmental awareness on this issue. Thanks to the pedagogical materials developped, they will be more conscious of the impacts of their behaviours, especially at their workplace. Eventually, the tools developed will support citizens in making informed choices that will lead companies to act more consciously. Our tools will show citizens that sustainable alternatives exist to their daily habits, and that taking up these alternatives will have a trickle down effect on the companies' policies.

Support from key stakeholders

Trebag, leading partner of this FS, will consult the Chambers of Commerce to gain more insights on companies' use of CSR as well as the different processes and actions adopted with regards to the energy transition. The Hungarian Consumer Protection Agency will use the tools and provide insightful feedbacks. The University of Pannonia, in Veszprém will support dissemination and also help to investigate scientific knowledge of CSR. CSOs will also be involved, as well as partners and common citizens. All partners will have similar approach, using their own networks.

Level of connection with the other focus subjects

The links with the other FS will be enhanced in many ways. The links with FS2 and FS1 are rather straightforward as both companies and individuals tend to be more informed and implicated on the climate issue. The links with FS3 could build on the use of domestic best practices to be replicated at companies level or to be integrated in production processes. The companies are both obligated by energy policies and can contribute to their design with support from their employees (FS4). Finally, the promotion of best practices can support rural areas to become more competitive (FS5) – this could be used by citizens to advocate change in relevant companies.

Tool proposals

1. ***Prezi presentation:*** Interactive video presentation introducing the needs for citizens to get involved in the energy transition, at a personal level but also as part of a company.

2. ***Decision tree*** :Will enhance what decisions should citizens / employees take while organizing different events. This tree will also be applicable for a company as a whole… as such employees will be in a position to advocate its use towards their management.

3. ***Poster on energy savings***: This poster will specifically focus on heating systems, as the main source of energy consumption, at work and at domestic levels. Good behaviours (such as closing windows when heaters are on) will be enhanced.

4. ***Online memory game***: Designed to reinforce citizens' capacities to get involved and push their companies to act and take informed decisions.

5. ***E-book /innovation box***: Will enhance employees' ideas and their interest for the company.

6. ***Quiz***: Will focus on consumer protection, companies' behaviours and links with the energy transition.

III. Tools and best practices

III.1 Summary of tools proposals

The following table summarise the tools that will be developed within the scope of the project.

Books	e-books
Calculator	Simplified ethiCarbon® calculator
Prezi	General tutorial video Template presentation for companies Conference on circular economy in the built environment
Posters, Brochures and factsheets	Pedagogical sheets Guide on circular economy & refurbishment Posters and Infography Project of the month template Sustainable Management Box Sustainability day Presentation of the concept of circular economy
Maps	Interactive maps
Quiz and games	Interactive quiz on various subjects, Serious games Online memory game Decision tree
Others	Interactive virtual tour elearning course Video of Panel/debate Video or a set of videos explaining the climate issue

III.2 Beyond the project: best practices and inspiring materials

Within the scope of the project, a wide range of existing best practices have been identified and tested. A selection is provided below and will enable citizens to go further and explore different aspects of the energy transition.

- ***EthiCarbon® Afrique calculator***: this calculator goes beyond a simple carbon assessment. It is meant for all types of actors – individuals, businesses, local authorities, associations – willing to limit the environmental impact of their activities, trips, events, etc. and to contribute to mitigation and adaptation projects - http://ethicarbon-afrique.org/en/

- ***UBA-CO2 Calculator:*** Tool from the German Governement which can produce a personal statement on CO_2 emissions - http://uba.klimaktiv-co2-rechner.de/de_DE/page/

- ***A story of Plastic spoon*****:** Ever wonder how the plastic spoon you're holding ended up in your hand? Check this video … https://www.youtube.com/watch?v=eg-E1FtjaxY

- ***The toaster challenge*****:** If you have difficulty representing what powering your appliances means, check how much energy is necessary to toast one slice of bread https://www.youtube.com/watch?v=Vof4BrKV4C8

- ***What YOU can do about climate change***: Very well designed and attractive video enhancing citizens' active role in mitigating climate change - https://www.youtube.com/watch?v=VTfgNFz1DBM

- ***2020 Online game***: Interactive tool that gives tips on good behaviours at all levels and for different types of actions. Developed within the scope of a European project, it is also linked to documentaries and competitions - http://www.2020energy.eu/en/serious-game

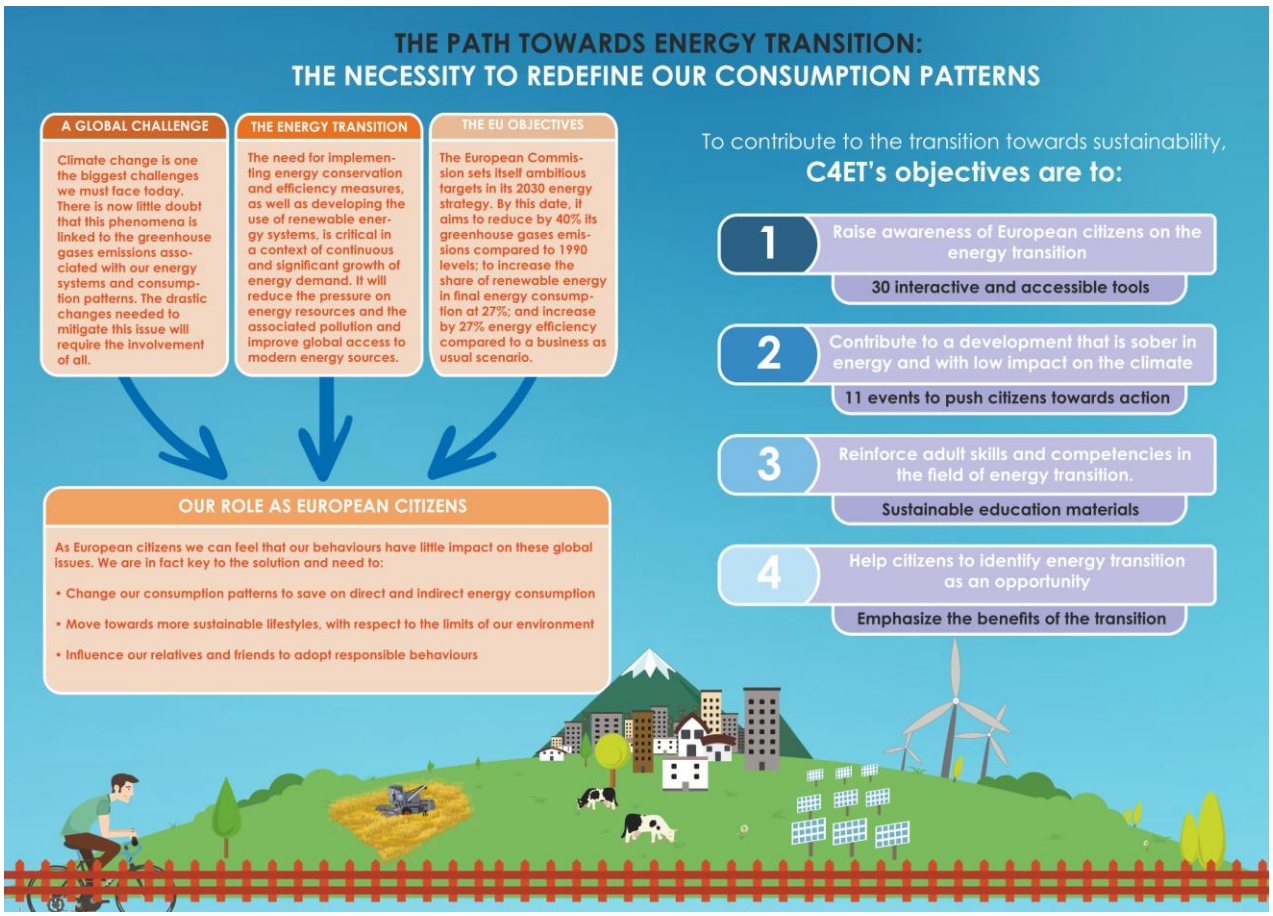
- ***Keep cool! Gambling with the climate***: A role play game to better understand climate issues. From the German Ministry for the Environment, Nature Conservation and Nuclear Safety - http://www.bmub.bund.de/fileadmin/bmu-import/files/english/pdf/application/pdf/klimaspiel_en.pdf

- ***Scenario Simulator from project EcoLifeStyle***: Easy and accessible, gives precise information with a simplified approach enabling people to learn on good habits, based on suggestions to improve or modify their behaviour - http://www.ecolifestyles.eu/

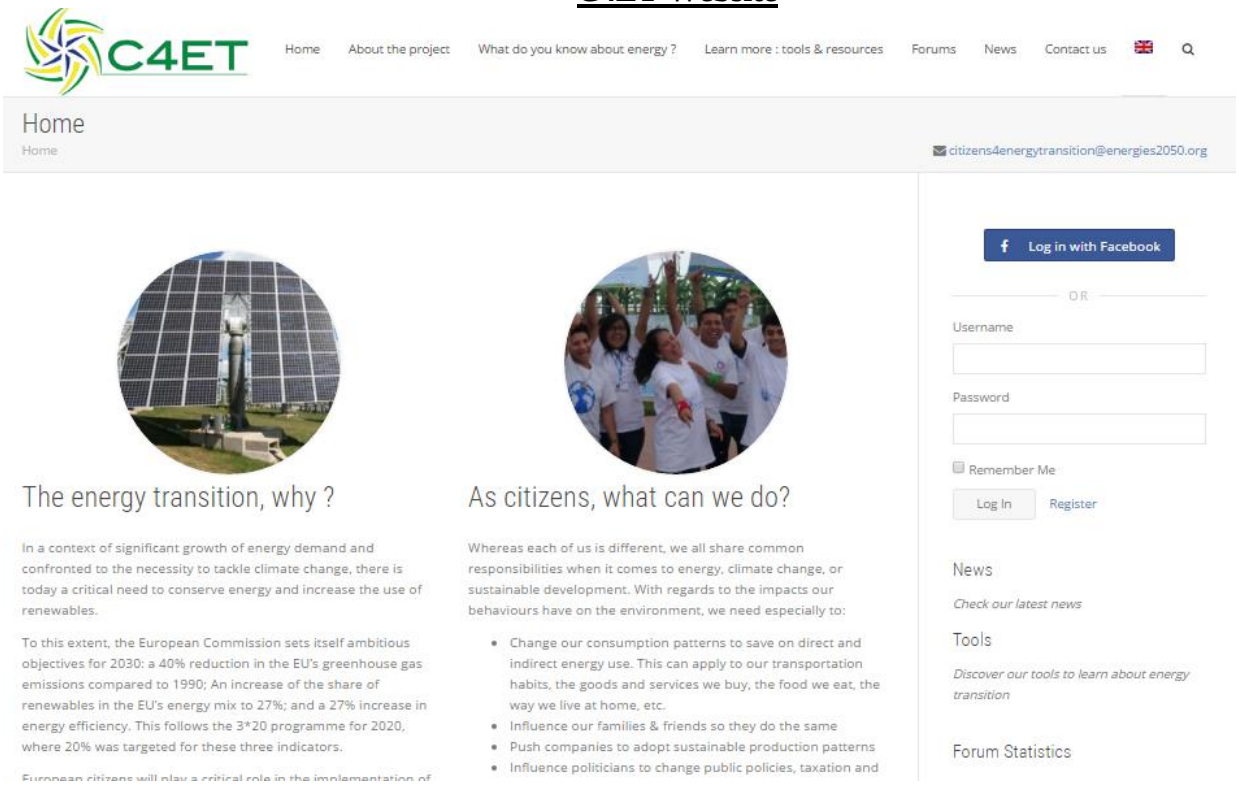
- ***Danubenergy/combine hub***: online course on the topic of energy elaborated through a moodle platform - http://hub.prograss.eu/

- ***Green Homes Network/ interactive map***: helps in the "Personalisation" of the learning experience. Each user may find the best practices he is looking for through the identification of a certain area and/or a specific practice on a map (here applied to SanJuan in the US) - http://www.greenhomesanjuans.org/interactive-map/

C4ET Brochure



C4ET Website



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