PROJECT FINAL REPORT

Grant Agreement number: 234094

Project acronym: CATCH

Project title: Carbon-Aware travel choice in the city, region and world of tomorrow

Funding Scheme: Collaborative Project

Period covered: **from** 1 August 2009 **to** 31 January 2012

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Glossary

DG	Directorate General
CATCH	Carbon Aware Travel Choice
EC	European Commission
MRC	MRC McLean Hazel Ltd

POLIS	POLIS (Promotion of Operational Links with Integrated Services, Associate Internationale)
Q-SPHERE	Q-SPHERE Limited
SICE	Sociedad Iberica de Construcciones Electricas SA
UWE	University of the West of England, Bristol
UFRJ	Universidade Federale do Rio de Janeiro
UNIPA	Universita degli Studi di Palermo
SYST	Systematica S.p.A
UITP	Union Internationales des Transports Publics
HAND	HANDAN Municipal Government
TRL	TRL Limited
GHG	Greenhouse Gas
IG	Interest Group
NGO	Non Governmental Organisation
DoW	Description of Work
ICPC	International Corporation Partner Countries
RGS-IBG	Royal Geographic Society – Institute of British Geographers
WP	Work Package
D	Deliverable
M	Month
IEEE	Institute of Electrical and Electronics Engineers
T	Task
EU	European Union
CMS	Content Management System
PMG	Platform Management Group
TPI	Transport Performance Indicators
SPIs	Sustainable Performance Indicators
DB	Database
E-R	Entity Relational
SQL	Structured Query Language
SOTA	State of the Art Analysis
CIG	Core Interest Group
ICT	Information and Communications technology
PPT	PowerPoint
IST	Information Society and Technology
ICM	Indirect Costs Method
REA	Research Executive Agency
REA-URF	Research Executive Agency – Unique Registration Facility
STFR	Standard Transitional Flat Rate
NEF	Negotiation Forms – online tool used during the negotiation process to collect legal and financial data as well as other background information about the participants.
PU	Public
PP	Restricted to other programme participants (including the Commission Services)
RE	Restricted to a group specified by the consortium (including the Commission Services)
CO	Confidential, only for members of the consortium (including the Commission Services)
EU restricted	Classified with the mention of the classification level restricted "EU Restricted"
EU confidential	Classified with the mention of the classification level confidential "EU Confidential"
EU secret	Classified with the mention of the classification level secret "EU Secret"

4.1 Final publishable summary report

4.1.1 Executive summary

This document provides with a final overall and detailed description of the CATCH achievements at the end of the project. This includes:

- a description of the context where CATCH fits in and the objectives of the CATCH project pursued by the Consortium. The context refers not only to the low carbon economy but also to the smart mobility aspects within the smart cities framework in which cities today are competing and collaborating each other to provide citizens with better quality of living and moving (section 4.1.2);

- a description of the main scientific and technology results achieved, in terms of tangible outcomes but also foreground. This ranges form improvement in CO2 emission estimation models to visual tools and communication strategies triggering sustainable mobility choices. All this also includes the way these results have addressed the project objectives and the different type of foreground generated by the project partners, mentioned in partners exploitation strategies and plans (section 4.1.3);

- the socio-economic impact and the wider societal implications generated by the project to a broad audience of potential users ranging from public decision-makers and stakeholders at city level to transport operators and travellers. A description of the main dissemination activities and exploitation of results involving the CATCH Core Interest Group Cities as well as other existing projects is also provided. (Section 4.1.4).

4.1.2 Summary description of project context and objectives

The context

The CATCH project was developed in response to the FP7 call for proposals that would help cities to reduce the amount of CO_2 produced by travel choices. Despite of several initiatives, most of which are supported through projects funded by the European Commission, there is still a need for a trusted and easily accessible resource which enables travellers, policy makers, transport operators and other stakeholders, to determine appropriate actions addressing the growing environmental challenge of reducing the carbon dioxide emissions from urban transport by encouraging carbon-friendly travel choices.

CATCH stands for Carbon-Aware Travel Choice. Its mission is to become the natural place to look for mobility related GHG reduction advice, data and information in a context characterised by the following major challenges and trends:

- Policy-makers at city level are getting more engaged in taking up Sustainable Urban Mobility Plans (SUMP)
- Climate-change policy leaders are increasing their involvement of into climate-change mitigation strategies (this is not only due to legally binding climate change emission reductions but encouraged through NAPA and NAMA initiatives)
- Implementation of carbon taxes as well as cap and trade schemes is being discussed in many countries, including emerging economies
- Increasing emphasis on 'green growth' and sustainable policies are means supporting economic development at a region and city level, Interest is recognized to tools creating awareness on these aspects
- Increasing of the cost of fuel as well as the cost of driving encourage citizens shifting from private cars to public transport
- ICT and Smart Mobility can play a key role for the optimization of urban mobility in cities (especially by supporting the Smart Cities model)
- Increasing role of participatory budgeting also in low carbon economy at city level

In response to the above mentioned challenges, the CATCH project developed a knowledge platform and an integrated set of visual tools to inject carbon reduction into the public's and policy maker's decision making. The online and interactive tools of the knowledge platform were developed and designed to:

- support city stakeholders to develop sustainable transport policies and plan (SUMPs);
- motivate travellers to adopt sustainable transport choices.

The platform and its tool can support local decision-makers in moving their city's population towards less carbon intensive transportation in three main ways:

- by providing information which help decision makers understand the nature of the problem and solutions to transport related carbon emissions in their city;
- by highlighting effective instruments and actions (data and indicators benchmarking the sustainable transport (or more broadly environmental city performance) to reduce carbon emissions in their city grounded in a real understanding of how to achieve behavioural change towards sustainable travel, and
- by highlighting best-practice approaches to exploit available knowledge.

CATCH Objectives

As indicated by the Annex 1, the open knowledge platform and its set of visual tools developed by CATCH aim at pursuing the following objectives:

1. Understanding the perceptions and attitudes of citizens and stakeholders towards greenhouse gas reduction in mobility and develops a knowledge engine based upon the motivational triggers derived from this understanding;
2. Enhancing and increasing awareness of the environmental impacts of mobility and potential solutions to their management
3. Enabling travellers to make informed climate-friendly travel choices
4. Empowering city managers, public transport operators, and other mobility stakeholders to more readily and accurately incorporate environmental opportunities and challenges into their planning and innovation processes
5. Understanding the potential for change in climate-friendly behaviour resulting from the introduction of mobility packages and measures (e.g. taxes, user charges, carbon trading schemes, incentive/reward schemes etc) targeted on GHG reduction.

6. Linking the knowledge platform to a package of mobility policies and measures which ensure that the combination of such measures and the knowledge platform encourages behavioural change

7. Ensuring that new behavioural change mechanisms will be exploited, integrating the global dimension of GHG reduction with individual behavioural change

8. Enhancing the transparency and public understanding of climate change policies and thereby increases trust.

The CATCH knowledge platform and its visual tool have largely achieved the above-mentioned scientific & technological objectives.

Interest Group (IG)

An Interest Group was set up to help define the development and direction of the CATCH knowledge platform. The IG consists of representatives of local governments across Europe, the NGO sector, business sector, and research arena in the fields of carbon and environmental management and transport. The IG became part of the Platform Management Group (also including CATCH partners) actively involved in evaluating the sustainability of the platform during the final conference and in taking up initiatives to further improve the platform/tools in the future.

Grounding work

The first deliverable of the project was the Behavioural Inception Report (D.1.1) which examined how people react to information on climate change, why they seek out information, and potential ways to create desirable behavioural change. Among the theories discussed were the theory of planned behaviour, stages-of-change, and choice architecture or "nudges".
Research based on findings from that initial report was conducted, and results were compiled in the Research and Design Report. (D.1.2) Quantitative and qualitative research was conducted to investigate gaps highlighted in the research and the needs of the project. Surveys and focus groups were used to investigate how people respond to different presentation formats of CO_2 information with consideration to both understanding and motivation to reduce car use. Within the survey, several different influences were investigated such as stage-of-change (with respect to personal CO_2 production), information anchors, and gain/loss framing.
Along with presenting information in clearer ways, the research looked at several points directly relevant to the outputs of the project such as climate change as well as non-environmental motivations to change and practitioner needs.

Design and Development

Design charrette workshops involving a broad audience of potential users allowed to design the CATCH knowledge platform and visual tools. The platform consists of a powerful CMS (Content Management System) managing multimedia content and data. It is integrated with two interactive visual tools that allow for visualisation of data at the city level (the co-benefit tool, also called "My City", and the Scenario tool, developed in WP4). The input to both tools is the GHG and Performance Database (WP3). The database structure was initially developed in T3.1 and described in D3.1, and populated with data provided with the active involvement of the Core Interest Group Cities and algorithms estimated in task 3.2 (D.3.2)

CATCH Tools

Building upon an initial scoping of the objectives, especially with regards to the most effective communication approaches, a decision was taken to eventually implement - and

integrate in the wider CATCH knowledge platform - two main visual tools. The development of the tools will follow the guiding principles that have been set out in the grounding stage and in the design guidelines.

The "co-benefit visual tool", has the main aim to present information on carbon and other co-benefits in a comparative way through various features: an interactive performance "sliding scale", a "carbon-o-meter" animation, two interactive rankings, a library of animations and widgets to communicate - with powerful semantics - the city's levels of performance on a wide range of co-benefit indicators. A first prototype of this tool has already been developed, and was presented to potential end users during the last Interest Group meeting held in The Hague in November 2010.

The "visual transport scenario tool" will form the very front end and the most interactive layer of the CATCH platform. The main difference between the co-benefit and the scenario tool lies in the temporal dimension of the information presented. While the "co-benefit" tool provides a picture of a range of indicators for a given year (cross-sectional view), the scenario tool will show the evolution of a range of indicators, possibly combined into factors or a composite index, over time. Visually, it will be web-based and will allow users to see interactions between two factors (bi-dimensional graph) and to compare performance of cities in the graph. Factors will be customisable and the user will be able to select them from a list of transport and sustainability indicators (according to the data collected through WP3 work). Users will also be provided with functionalities to interact with points (cities) displayed on graphs and could visualise trajectories of cities over time.

Validation, Evaluation and Exploitation

A range of internal and external evaluation activities were carried out in T.1.3 to evaluate the success of the platform design in terms of objectives (and specifically in increasing awareness on transport CO2. Collaboration by all partners involved in this work package was provided.

The Evaluation Report (D1.3) reports the results of such evaluation. Partners provided feedback to D1.3 documentation as required and it was submitted in due time.

As main results, based on the grounding and evaluation activities carried out by UWE (D.1.3), validation activities carried out by SICE (D.6.2) and exploitation activities carried by MRC (D.7.2) we can state that the tools developed by the project partners and integrated in the CATCH platform are efficient and powerful tools.

4.1.3 Main S&T results/foregrounds

The main scientific and technology results produced by the CATCH project fully address the objectives defined by the project (as indicated in section 4.1.2).

The CATCH S&T results can be grouped into two main categories:
- The CATCH platform and its integrated set visual tools;
- Scientific achievements from research activities driving the design, development and implementation of the CATCH platform and tools.

4.1.3.1 The CATCH Platform and its tools

The main aim of the CATCH project was to develop and promote a trusted 'knowledge platform' designed to encourage carbon friendly travel choices in a city context and in doing so contribute towards a reduction in CO_2 emissions from the transport sector. It was

specifically seeking to encourage carbon friendly travel choices by increasing awareness of the negative impacts of carbon intensive mobility as well as of potential solutions to their management.

The CATCH Knowledge platform includes the following components:

- CATCH CMS (Content Management System). This application is responsible for creating and managing in the CATCH platform a wide range of content (case studies, image galleries, video testimonials, third party links, etc.), which is organised through a navigation toolbar to let an easy content navigation by categories and co-benefits area. It gives different levels of access to different users according to authentication logic. The CMS is connected to two databases:

- CATCH Best Practice database. This Database stores documents of best cases on sustainable urban transport policies. Users can acquire knowledge about policies, plans, initiatives and results of low carbon successful cities and make comparison with less performing cities.

- GHG Performance database. This database stores a wide range of Transport Performance Indicators (TPIs), estimation of CO_2 emissions from road transport, Sustainable Performance (or quality of life) Indicators (SPIs) by co-benefit.

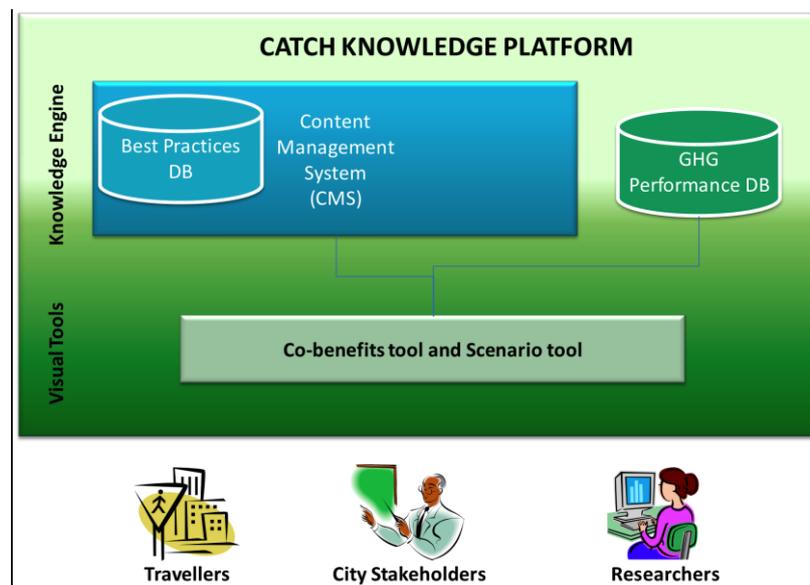**Figure 1 - Components of the CATCH knowledge platform**

Content search in the platform is structured to address the following needs:
- Awareness (e.g. to understand a problem)
- Knowledge (e.g. to identify the source of the problem)
- Behaviour (e.g. to understand how people behave)
- Action (e.g. to discover what could be done to reduce the problem)

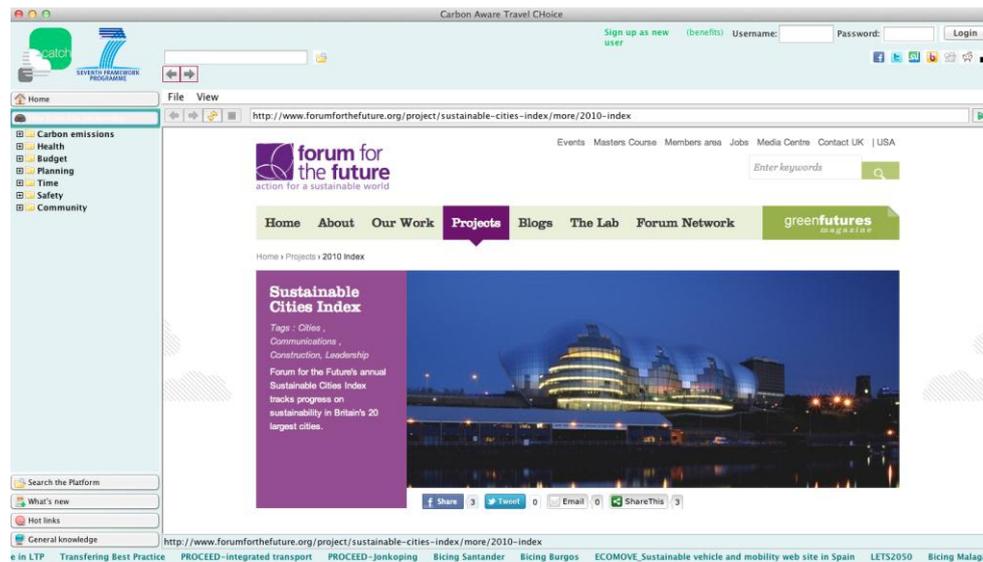Below is reported a screenshot of the CATCH knowledge platform.

Figure 2 - a screenshot of CATCH CMS

The CATCH Visual Tools consist of two main interactive, motivational and interconnected visual tools enabling users to understand and appreciate the carbon consequences of mobility choices. These tools, namely "co-benefit tool" (or "My City tool") and the "scenario tool" are awareness and advocacy instruments of the CATCH platform which provide a visually appealing interface and navigation experience that promotes a culture of sustainable mobility and triggers motivation to adopt low carbon mobility strategies and habits and support decision makers in designing and implementing plans to reduce carbon emissions. In particular:

- Co-benefit tool (or My City tool) – It explains each co-benefit area and offers the users some interactive functionality to express their views through appealing interfaces and dynamic interactions directly linked to the GHG database. The tool recognises that to best communicate about low-carbon mobility, messages should link to other issues of value as well as other policy areas, and that they should be presented on the aggregate (in this case at city) level. Thus, the main aim of the tool is to present information on city-level carbon emissions from transport alongside other "co-benefit" areas (i.e. health, safety, economy, time, planning and society) in a comparative way between cities. Data on each of the "co-benefit" areas has been collected, and features include an interactive performance sliding scale, a carbon-o-meter animation, interactive rankings, a library of animations and widgets to communicate – with a powerful semantics – the city's levels of performance on a wide range of co-benefit indicators. Each city becomes element of a ranking tool which ranks the 'top 5' cities in terms of CO_2 and other indicators belonging to the six co-benefit areas.

  If further developed, the tool would also be scalable in terms of the issues and co-benefits presented (while it is already completely scalable in so far as the associated co-benefit measures are concerned). This is particularly important, as other urban life aspects, which emerged during focus groups with the public as important, could also be included in the tool as featured benefits.

- Scenario tool – It consists of a simulator for potential/future scenarios at a city level. It allows a selection across a wide range of cities (which can be selected by the user from a map or through a list) and offers a two-dimensional graphical representation of data to observe the relative position of cities across years. The two axes on the graphical representation are customizable according to the type of comparison that is chosen by the user.

Figure 3 - A screenshot of the Scenario tool

These innovative outcomes allow the CATCH platform to perform some functionalities of a city benchmarking tool where cities can be compared in terms of different transport and other sustainable performance indicators.

Among the main categories of users we mention the following:
1. Public decision-makers including politicians, local authorities officers, city managers and urban planners, other public professionals and not for profit organizations involved in mobility and environmental sustainability aspects;
2. General public (including citizens; visitors, etc.);
3. Transport operators and other mobility providers;
4. Other business organizations not necessarily involved in mobility but interested into carbon management;
5. Researchers

Information that is relevant to those different categories of users varies according to their needs. For example, for a decision on transport, transport planners may be interested in information that will allow for cost-benefit analysis; a general public member may be more interested in personal impacts; a policy decision maker might want to know what areas of policy are affected; a transport operator would want to know how it affects their business. Design recommendations came out from WP2 to understand what information had to be presented and under which form.

Within each of those categories there will be individuals/groups who are more informed. More informed individuals will desire more descriptive information that will allow for personal analysis and comparison. In situations where an individual is less informed, prescriptive information that guides choice may be more desirable for the individual and the

system (see sections 2.2 and 2.3 of D1.1 Behavioural Inception Report). More informed users may be able to guide less informed users by highlighting useful information and best practices. Further, a less informed individual desires more "introductory" level information that allows them to understand basic concepts without being confused or overwhelmed with details that may be important to more informed users.

The CATCH platform is an on-line tool open to all the above-mentioned users, enabling them to add to, comment on, share and discuss its data and content. The platform and its tools:

- provide both empirical and theoretical evidence about carbon, and its effects on human populations and the environment, using a mixture of academic, professional and mass media sources and connects this evidence to methods for individual and collective action.
- consider the wider benefits of carbon reduction, i.e. the co-benefits
- stimulate and engages users by linking understanding to action;
- include interactive tools to help understand the climate change and wider environmental and societal impacts of transport choices;
- contain a broad range of original knowledge, and links to other sources;
- allow users to link to other people to best exploit information and data (under a social network philosophy).

Behavioural research (WP1) highlights that people have different triggers, or motivations, that lead to behaviour change. For example, while one individual may be motivated by environmental concerns to travel by less harmful modes, another individual may be motivated by health concerns to cycle to work rather than use a bus or drive a car. In both situations, the individual's impact is reduced, but the motivation to do so differ. For city leaders, it is not motivations on impacts to their self, but to the city.

City leaders must consider their citizen's wellbeing and there are various policy concerns that they must consider. Understanding synergies between transport and other policy areas can help them make smarter choices. Based on both the individual and city leader concerns, the CATCH project aimed to highlight "co-benefits" through data visualisation

The Grounding research work carried out in WP1 showed that:

- few people are likely sufficiently motivated by environmental concerns to change their travel behaviour (Avineri and Waygood, 2010) . Carbon reduction messages in mobility must focus on other (linked) issues of value and not just mobility because people without interest in the topic (i.e. "deniers" of global warming) will not seek out information related to carbon reduction;
- Carbon reduction messages on mobility must tie policy benefits in mobility to other benefits (e.g. health, safety, economic development, social inclusion) that were not traditionally associated with transport because this fosters wider support.

Therefore, data and information on co-benefits in the platform can play a strong role for communicating the message of reducing carbon from travel.
In accordance with the Grounding stage, as results of the WP2 design specification and requirements, CATCH has initially identified six main areas of co-benefits, defined in D.4.2 Building, Visualization and Integration of the Co-benefit tool, as follows:

- cost/budget, i.e. how a low carbon mobility can help people and administrations save money;

- time and accessibility, i.e. how a low carbon mobility can entail a higher value of people's time.
- health, i.e. how a low carbon mobility can entails positive repercussions for people's health;
- safety, i.e. how a low carbon mobility generally means safer roads, a reduction in accidents and in related social costs;
- community, i.e. how a low carbon mobility generally brings about benefits in terms of sociality and a stronger community fabric;
- planning/land use, i.e. how a low carbon mobility culture can help shaping cities in a more sustainable way.

Along with CO2 estimates at a city level, indicators were sought and gathered that relate to the six co-benefit areas. Roughly 200 indicators were initially gathered, with roughly 40 indicators being sufficiently represented over various European cities to be included in the first co-benefit tool. Various resources were used to collect data, however, inconsistencies in indicators led to nearly all data coming from EuroStat's Urban Audit, though in some instances missing data was found through other reliable sources.

CATCH innovates in the way to present that information to increase impact. Concepts such as the contextual design of information have been examined with respect to interpretation of sustainability and motivation to reduce transport CO2 emissions. Outcomes of this process are visible in the info-graphics used in the CATCH platform and visual tools.

A range of internal and external evaluation activities were carried in the CATCH project to evaluate the success of the platform design in terms of objectives (and specifically in increasing awareness on transport CO_2).
S&T recommendations from UWE's earlier work (D1.1, D1.2, D2.1's Interim Report) have emerged in the My City tool and the Scenario tool as well as the Knowledge Platform produced for the project. Over ten distinct concepts have been clearly implemented, while another eight are feasible, though not explicitly incorporated.

Another objective of the evaluation activities was to examine the effect of the platform design on awareness of transport CO_2 and motivation or intention to lower transport CO_2 emissions. This was addressed by the grounding research (D1.2) and the last stage of external evaluation addressed in sections 5.3 and 5.4. The presentation of CO_2 information was based on research into the presentation of such information reported in D1.2. The new forms of presentation applied in the design of CATCH tools were found to have positive effects on interpretability and motivation over the most common presentation format of only mass.

As main results, based on the grounding and evaluation activities carried out by UWE, validation activities carried out by SICE and exploitation activities carried by MRC we can state that the tools developed by the project partners and integrated in the CATCH platform are efficient and powerful tools. Results of the evaluation task (1.4) showed how the My City tool was the most well received aspect of the platform. Users found it interesting, stimulating motivation to learn more, and well designed. Potential points of success for this product of the CATCH project are: followed guidance from earlier work; engaged with the grounding and design teams; developed initial concepts; went through an iterative process of seeking feedback from internal and external reviewers and then addressing problems. For further

discussion on the My City tool development please see the Work Package 4 reports D4.1, D4.2, and D4.3.

4.1.3.2 Scientific Achievements

Two work packages of the project involved scientific research: Work package 1 (Grounding and Evaluation) and work package 3 (GHG and Performance Database). This section reports on the main scientific achievements of the research activities carried out in these two work packages.

Grounding and Evaluation

This section describes the scientific achievements associated with activities carried out by tasks 1.1 (Behavioural Inception Report), 1.2 (Grounding), 1.3 (Design Recommendations) and 1.4 (Monitoring and Evaluation) within Work Package 1 in CATCH.

CO_2 emissions are a relatively new concept for many travellers. Even among those who have a high level of climate change awareness and are concerned about travel-related emissions, perceiving or valuing the differences between alternatives is likely to be a challenging task. The research activities of the CATCH project explored the design features of effective formats of presentation. In particular, it examined the effect of alternative designs on awareness of transport CO_2 and motivation or intention to lower transport CO_2 emissions.

Following the literature review and the empirical research carried out by the UWE research team, the Research and Design Report (D2.1) provides a summary of recommendations that might be relevant not only to the CATCH partners who developed the platform and its tools, but also to the wider community of tool developers who are interested in incorporating design features that will make information on sustainable transport alternatives to be more effective.

The main recommendations are presented in the table below (these are further explained and illustrated in D1.2[1]).

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[1]Wayggod and Avineri, 2010, D1.2 - Research and design report http://www.carbonaware.eu/resources.html

Table 8-1 Recommendation objectives and source from this report.

Section	Objective	Recommendation	Source
2.6	Improve CO_2 understanding	Carbon budget concept or tree equivalents	Survey; Focus group discussion
2.4.3	Improve CO_2 understanding	Provide per passenger information.	Survey
2.6	Improve motivation to change personal behaviour	Tree equivalents or carbon budget concept	Survey; Focus group discussion
3.3	Increase the perceived difference between travel scenarios.	Present CO_2 information as a loss (second mode is X more or "worse" than first)	Survey
5.3	Motivate citizens to change neighbourhood/city	Tie transport changes to strong communities, human interaction, and supporting/expanding local amenities (e.g. quality of life factors)	Focus group discussion
6.10	Help practitioners implement	Support networking by city/institution size and challenges	Interviews
6.10	Help practitioners implement	Support sharing of experiences and ideas: e.g. webinars, question and answer with experts, live discussions	Interviews
6.10	Help practitioners implement	Link CO_2 impacts to other challenges: e.g. congestion, crashes, health, finances	Interviews
6.10	Help practitioners implement	Provide information for	Interviews
		alternative modes that work in current transport analysis system: e.g. UK system favours "value of time"	

One of the empirical findings emerging from the research and to be reported in the academic literature[2] suggest that negative valence framing of CO_2 emission amounts is an effective

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[2] E. Avineri and E.O.D. Waygood, Applying valence framing to enhance the effect of information on transport-related carbon dioxide emissions. Accepted (minor revision) to a Special Issue on "The Psychology of Sustainable Mobility", edited by T. Gehlert, K. Dziekan and T. Gärling. Transportation Research Part A: Policy and Practice.

means of increasing the perceived difference and superior to positive framing of the same information. Although the CO_2 amounts do not have a direct private cost, framing was still found to work. Considering the effectiveness of negative framing in other fields, and the specific findings from CATCH, it can be suggested that valence framing information on transport-related CO_2 emissions can be applied to situations where CO_2 information is being presented to better highlight desirable choices. This includes transport-related tools and measures, such as on-line journey planners, Personal Travel Plans (PTPs), or CO_2 tax bands on cars. Future research should test our findings in experiments investigating mode choice or car purchases to test whether applying a negative framing of travel information to highlight the less (socially or environmentally) desirable choices has a positive effect on the likelihood of an individual perceiving an augmented difference between alternatives, and thus making more sustainable choices.

Generally, the CATCH research establishes a view that more consideration should be given to how travel information is presented. Beyond valence framing there is a potential for a range of contextual effects to enhance the effect of information. The potential application of such findings would be for governments (and other providers of travel information) to enable, highlight more sustainable travel choices. Recently there has been an increasing interest in the influence that psychological and social factors have on travellers' behaviour. So-called soft transport policies were implemented in the UK under the name Smarter Choices (see, e.g., Cairns et al., 2004). Somewhat inspired by social psychology (although not applying systematic frameworks in the design and evaluation of measures), Smarter Choices is a wide range of rather diverse measures including persuasive and information elements. In a similar vein, Thaler and Sunstein (2008) and other behavioural economists suggest that through a "choice architecture", and the incorporation of so-called "nudges" into the choice environment, policy makers can devise interventions that help people make better decisions. Incorporating valence framing and other factors having contextual effects in the design of information to influence travel choices could be seen as relevant techniques that are much in line with the rationale of both the Smarter Choices and the nudge agendas. This calls for further investigation of contextual effects on individual perceptions and choices of travel alternatives, and for the development of tools to design and evaluate effective information formats.

GHG and Performance Database

This section describes the scientific achievements associated with activities carried out by task 3.2 ("Data Collection/Collation/Specification") within Work Package 3 in CATCH.

The CATCH project has developed a knowledge platform that includes two main tools that allow for visualisation of data at the city level (the co-benefit tool, also called "My City", and the Scenario tool, developed in WP4). The input to both tools is the GHG and Performance Database. The database structure was initially developed in T3.1 and described in D3.1.

This following describes the scientific foreground related to the development of the database, its population with relevant data, and the estimation of city-specific per-capita road transport CO_2 emissions. This scientific work not only contributed to the development of the main data engine of the CATCH platform and its tools, but can be further exploited (both as a methodology and as a database) and further applied to other European work.

CATCH scientific achievements in developing methodologies and techniques to estimate city-specific per-capita road transport CO_2

The transport sector represents roughly 18% of the CO_2 emissions in the EU and is the only sector that has continued to increase emissions. As most people live and work in cities in the EU, it is important to identify the leaders and laggards with regard to efforts to decrease CO_2 emissions from transport. Further, to help support change, identification of correlations between transport emissions and other policy levels would be beneficial. Yet, before the CATCH project, there was no city-level results available related to emissions across the EU. The European Pollutant Release and Transfer Register (E-PRTR) inventory of diffuse sources has recently allowed for analysis of a range of atmospheric emissions at a 5 km resolution. However, before applying this data to inform practitioners and policymakers, validation of the data would be required by having it compared to the CO_2 emissions estimated by an alternative methodology. The UK government maintains a higher (1 km) resolution emissions inventory based on a 'bottom-up' methodology. The UK National Atmospheric Emissions Inventory (NAEI) has been used by the UWE research team to assess the reliability of the new E-PRTR data.

A comparison between the bottom-up NAEI method and the top-down method developed in CATCH to estimate transport-related carbon emissions using the E-PRTR data was carried out by the UWE research team. The work suggests that, at least for the UK, the E-PRTR is a close approximation of the transport-related CO_2 emissions estimated by bottom-up methods, and accurate enough at the LUZ level. Although it cannot be definitively said that this holds for the remaining estimates of Europe, it does suggest that a relatively accurate estimate of city-level road transport CO_2 can be made.

The correlations between estimations provided by the two methodologies indicate that there is a strong relationship between the E-PRTR and the UK-NAEI datasets. As was expected by the research team, correlations were strongest at the level of LUZ (R2=0.99 and slope of 1.03) was. This gives weight to the use of the LUZ based on a 'functional urban region' (EC, 2004)[3] as the most appropriate area on which to benchmark road transport emissions (further details are provided in the deliverable D3.2 and in the academic dissemination related to task 3.2).

In summary, the top-down methodology developed by the UWE research team in the CATCH project to estimate transport-related levels of carbon emissions at city scale was confirmed to be appropriate and reliable (and can be further applied to other research contexts); the data was incorporated in the CATCH platform and was used by the CATCH tools to provide comparisons and ranking of European cities; as emerged from the final evaluation its application that was considered to be successful by both targeted groups of platform users ('general public' and professionals and policy makers).
The scientific work was further disseminated in two scientific conferences. An academic paper based on the paper presented at the UTSG conference[4] will be submitted to a scientific journal.

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[3] European Commission, 2004, Urban Audit – Methodological handbook, Eurostat Report
http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-BD-04-002/EN/KS-BD-04-002-EN.PDF
[4] E.O.D. Waygood, T. Chatterton and E. Avineri, 2012, Leaders and laggards in transport CO_2 emissions: The challenges and outcomes of benchmarking sustainable urban transport systems across Europe, Universities' Transport Study Group Conference Proceedings, January 2012, Aberdeen, UK

4.1.4 Potential impact and main dissemination activities and exploitation of results

4.1.4.1 Socio-economic impact and wider societal implications

Potential impact of research activities: Grounding Research and Evaluation (WP1).

Research Impact

The literature review (D1.1) and findings emerging from the CATCH research activities (surveys, interviews, focus groups), and reported in academic literature, were cited by academics and applied in other projects. An example is a research at UC Berkeley, USA on the effect of presenting environmental attributes of transport alternatives on individual transport decisions.[5]

There might be immediate benefits from the CATCH tools' exploitation at the nearer future. The CATCH final event that was held in December 2011, attracted interest from academics, practitioners and policy makers who are interested in further exploring the application of the CATCH tools and methodologies. One of them is the e-mobility NSR (North Sea Region Electric Mobility Network).[6] At the last 12 months UWE had academic visitors from the UK, Netherlands and Japan who showed specific interests in the CATCH work and explore possibilities to incorporate some of its findings and methodologies.

Policy Impact

The CATCH research has established a view that more consideration should be given to how travel information is presented. Beyond valence framing there is a potential for a range of contextual effects to enhance the effect of information. The potential application of such findings would be for governments (and other providers of travel information) to enable, highlight more sustainable travel choices. Recently there has been an increasing interest in the influence that psychological and social factors have on travellers' behaviour. So-called soft transport policies were implemented in the UK under the name Smarter Choices (see, e.g., Cairns et al., 2004). Somewhat inspired by social psychology (although not applying systematic frameworks in the design and evaluation of measures), Smarter Choices is a wide range of rather diverse measures including persuasive and information elements. In a similar vein, Thaler and Sunstein (2008) and other behavioural economists suggest that through a "choice architecture", and the incorporation of so-called "nudges" into the choice environment, policy makers can devise interventions that help people make better decisions. Incorporating factors having contextual effects in the design of information to influence travel choices could be seen as relevant techniques that are much in line with the rationale of both the Smarter Choices and the nudge agendas. This calls for further investigation of contextual

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[5] Gaker, D., Vautin, D., Vij, A., and Walker, J.L., 2011. The power and value of green in promoting sustainable transport behavior. *Environmental Research Letters* 6, 034010.
[6] www.e-mobility-nsr.eu

effects on individual perceptions and choices of travel alternatives, and for the development of tools to design and evaluate effective information formats.

There is a growing interest among academics and policy makers in the application of behavioural sciences to the design of planning and policy measures to promote and sustain sustainable travel behaviours, and to enable behaviour change (such is the 'Behaviour Insights Toolkit' recently developed by DfT, the UK Department for Transport). However, there is a lack of empirical evidence and scientific knowledge in this area. The findings emerged from the CATCH project, and in particular from its research activities and academic dissemination, address some of this gap.

As an example of impact already made, insights emerging from the FP7 CATCH project led by Dr Avineri (and reported in academic literature[7]) have been incorporated in the design of Car Fuel Economy Label which will be displayed on every new car purchased in the UK. References to academic dissemination of CATCH were made by the designers, the Low Carbon Vehicle Partnership. The new design is likely to be introduced and implemented in 2013.

Potential impact of research activities: GHG and Performance Database and Data set (WP3).

Better data supports better tools. The database and the methodological framework developed in CATCH can be applied to a range of research, planning and policy tools that aim to evaluate and monitor sustainable transport at European cities, or to be incorporated in behaviour change measures to promote sustainable transport behaviours and policies.

The CATCH database establishes a baseline for transport-related carbon emissions (and other indicators) for European cities. Further years of data allow for trend analysis and to gauge whether cities are moving in the desired direction. This too would allow researchers and policymakers to identify trends and who the leaders and laggards were in the move to a low CO_2 impact transportation system. It could also be used by citizens to judge whether political choices are providing the results that are necessary.

Although Eurostat's Urban Audit is a valuable resource, incorrect entries have been found during the course of the CATCH project. Therefore a systematic analysis of the data for outliers, and then a confirmation/correction of that data would help improve the validity of the database and its tools.

If, in a future development of the tools, it is possible to change data sets, more limited ones could be included. For example, a ranking of cities based on an indicator may be published, but may only refer to a limited number of cities in the CATCH database. It would be desirable to compare the CO_2 levels of those cities without having to manually search them out.

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[7] E. Avineri and E.O.D. Waygood, Applying valence framing to enhance the effect of information on transport-related carbon dioxide emissions. Accepted (minor revision) to a Special Issue on "The Psychology of Sustainable Mobility", edited by T. Gehlert, K. Dziekan and T. Gärling. Transportation Research Part A: Policy and Practice.

Data on the Urban Audit website is updated from time-to-time. Efforts should be made to maintain the CATCH database so that the information contained there is as up-to-date as possible.

The estimation of city-level road transport CO_2 emissions that was conducted for 149 cities could be further expanded with more investment.

As well, the research suggests that the method used by E-PRTR is reasonably accurate at the LUZ level and if this process was carried out for earlier years, or future years, projections and trending would be possible.

Ideally, the CATCH database would function as a repository for reliable data fed by the cities themselves as they progressed towards a low carbon transport future. Discussion of how this might work will be left for WP7 Exploitation.

Potential impact of research activities: CATCH knowledge platform and visual tools (WP2-4-5).

In line with the trends and challenges identified in the context where the CATCH project fits in (section 4.1.2), the impact of research activities leading to develop the CATCH knowledge platform and its visual tools affect different audiences, as follows:

- **Policy-makers at city level:** they have expressed interest in adopting benchmarking tools such as the CATCH visual tools helping to define Sustainable Urban Mobility Plan (**SUMP**), by comparing the transport/environmental performance of their city with other similar or non similar cities. SUMP are complex plans produced through a very articulated process where information and citizen engagement is important. For decision makers is crucial having - from one side - a transparent goal setting, with problems affecting sustainable urban mobility and scenarios effectively communicated to citizens and public stakeholders - and from the other side - a clear understanding of opportunities and effective measures and policy packages that can be implemented. CATCH can answer to such a need by giving decision makers access to data and indicators at a city level and guidance material on policy packages and best practice implemented in various cities as well as benchmarks tool to assess the performance of cities according to specific transport and non-transport indicators. A future evolution of CATCH might include information and data supporting all phases of the SUMP cycle process and display information on results achieved in each phase of that cycle.

- **Policy-makers and travellers**: the need for satisfying a rising demand for accessibility in a context of growing sustainability concerns requires, among the most immediate priorities, a better integration of the different modes of transport as a way to improve the overall efficiency of the system and the acceleration of the development and deployment of innovative technologies. The CATCH knowledge platform and its visual tools among the main messages pass this to different users with messages and data tailored to their needs.

- **Climate-change policy leaders**: these are increasing their involvement of into climate-change mitigation strategies (this is not only due to legally binding climate change emission reductions but encouraged through NAPA and NAMA initiatives). Relevant data and content on impact of GHG emissions on climate change can support

policy-makers in taking up Climate change adaptation and mitigation plans at city level.

- **Policy-makers and citizens:** citizens should be given better information on the reasoning behind transport policy decisions and on the available alternatives. Greater public involvement in transport planning, transport policy and related measures can be ensured by recourse to participatory instruments, from open consultations, surveys and stakeholders' representation in decision processes to **participatory budgeting tools**. These latter consider how and where money is apportioned to fund and maintain services in communities and a process which directly involves local people in making decisions on the spending and priorities for a defined public budget. In a financial climate of public spending cuts and savings, many local authorities and bodies across Europe will find it increasingly necessary that they target their limited funds to projects and services which are most in need, and which the public value. CATCH, through aims to provide information and knowledge to the public about the impacts and benefits of different transport systems, and by establishing channels of communication between citizens and city planners, could become a useful component of a participatory budgeting tool to allow users to make informed choices about their local planning decisions.

- **Transport operators**: Public transport investment fuels jobs and business opportunities and in the context of the economic crisis, the volume and stability of employment in public transport is worth highlighting. The CATCH platform can be used to encourage investment in public transport infrastructure, generating a positive effect for jobs and provide the foundation for new business opportunities.

- **Citizens:** there is interest to inform and educate people at the early stage of their entrance in the society, such as when still at school. CATCH can include educational services and tools providing clear and simple examples about the importance of an environmental responsible behaviour and be promoted in schools and other educational establishments.

4.1.4.2   Dissemination activities

The dissemination plan (T8.1) was written by Polis, with contributions from partners, and sent to poroject coordinator to deliver to the EC in month 4. The plan defined the audience for dissemination, and some key dissemination tools:

- Website (see T8.3)

- Interest group (see T8.2)

- Logo & PPT and deliverable templates

- Leaflet

- Project update

- Contact database

- Meetings with other projects

- Dissemination at events

Figure 4 - CATCH Project leaflet and website

Interest group

The interest group (T8.2) was set up by Polis, and five cities were recruited through an open call sent out to the Polis database from local authorities, consisting of over 2500 contacts working in local authorities across Europe. Seven applications were received, and five cities were chosen based on criteria outlined in the call. The decision was made by the whole CATCH consortium. These cities are Baia Mare (Romania), Odense (Denmark), Lisbon (Portugal), London Borough of Hounslow (UK) and Rotterdam (Netherlands). Following a change in political shift in the City of Rotterdam, and budgetary pressures, they were forced to withdraw from involvement.

Additional to this, a group of experts were recruited by TRL to take part in interest group meetings:

Surname	Name	Company
Ricci	Andrea	ISIS
Battaglini	Antonella	Potsdam Institute
Lonnroth	Mans	Volvo Foundation
Anderson	Richard	Imperial College London
Edant	Caroline	Veolia Transport
Klatka	Sylwia	ConVoco
Mark	Major	European Commission

The interest group participants, including the city representatives have attended all four interest group meetings, and provided input to the platform development and testing.

Figure 5 - CATCH Interest Group Meeting

More specifically, four Interest Group meetings were held and organised by Polis: the first on 17-18 February 2010 in Brussels; the second on 15-16 November in The Hague (the offer to host from The Hague came from their attendance at the first meeting, and their interest in the project and topic); the third on 14 June 2011 in Brussels, and the fourth a larger event to mark the end of the project and present results to a wider audience on 13 December 2011 in Bristol, UK.

Each of the meetings consisted of a mix of presentations (both by CATCH partners, and external experts) and workshop sessions in which feedback was gained from the particpants to drive the research and development at the foundation of the CATCH knowledge platform. The final meeting looked largely at presentation of results, and included presentations from 3 out of 4 of the interest group cities incorporating how they could use results from the CATCH project in their final work. The final event, organised by Polis, was hosted by the University of the West of England in Bristol. More information in section below.

The Platform Management Group (PMG) was launched at the third Interest Group in June 2010 and involved represenatatives of all the four Core Interest Group Cities as well as representatives of the CATCH consortium, notably: POLIS, SICE, UWE, TRL, UITP. The PMG played a key role in updating the CATCH platform with data and content. The exploitation model of the CATCH project is based on the growing of the PMG by involving other city stakeholders. An open-community based model supporting the exploitation of the was analysed in the Exploitation Action Plan (D.7.1).

Dissemination outreach activities

The dissemination outreach activities (T8.3) include those introduced in D8.1:

1. The CATCH Website –www.carbonaware.eu/ - was created and launched prior to the first interest group meeting. This website was constantly updated: this included monthly news items of what is going on in the project, and other relevant activities that the partners are involved in as well as updates from work package leaders, uploading of documents when they are ready for dissemination (deliverables, presentations, dissemination documents),

and general review of text when required. The website was created and updated by Polis (with support primarily from TRL and MRC), and will be maintained and hosted by POLIS after January 2012.

2. A logo was created to maintain the corporate identity of the CATCH project. This work was lead by Polis. Various formats of the logo were created, and colour codes defined for the corporate identity. Further to this colour codes were further defined for the CATCH 'co-benefit' areas which will feature on the CATCH platform

3. PPT and deliverable templates were designed by Polis to ensure a united presentation to those external to the project

4. A leaflet was created and printed, and copies sent to all EU partners. This was coordinated by Polis, and design files were sent to international partners, and the leaflet has also been translated into Chinese by Handan. The design of the leaflet was refreshed in 2011, also to include some of the project results. This again was sent to international partners and translated into Chinese.

Figure 6 – updated CATCH leaflet 2011

5. A conference flyer was produced by Polis and distributed to stakeholders to advertise the final event of CATCH on 13 December 2011.

6. Three roll-up posters were also produced, lead by Polis, and distributed among the partners

7. English / Spanish poster was produced by SICE and displayed at events in Spain

8. Four project updates have been produced and circulated to the CATCH contact database by Polis, as well as wider audience of possible interested parties

9. A dedicated contact database was created by Polis, through sign-up online and input from partners. The database contains 340 contacts

10. Project partners have also included articles about CATCH in their newsletters, and links on their company / institution web pages: both to announce the project and relevant milestones, and particularly to disseminate CATCH events.

11. Project video was created by Systematica and uploaded on CATCH website as well as on YouTube channel: www.youtube.com/carbonaware. Other videos were created by MRC.

12. Dissemination activities (outreach at events, publications, websites which have carried CATCH items) are listed below. Polis monitored possible dissemination activities through an excel spreadsheet. Possible conferences were presented at consortium meetings & distributed by email to see which opportunities were worth following up.

13. To communicate the work of CATCH, Polis coordinated the publication of 7 co-benefit fact sheets as a way to communicate the research done in the project, and the need to express messages regarding low carbon mobility in terms of co-benefits.

14. The final CATCH dissemination event took place in Bristol on 13 December 2011. It was help jointly as an interest group meeting, so that representatives from the interest group could also contribute to the event to best portray the links between their work and CATCH. The event was attended by approximately 60 people, and presentations following the event disseminated to other mailing lists.

15. E-Forum concentrated on building the links with the eGovernance initiatives listed above, whilst capitalising on the existence of the partner HANDAN in the CATCH project. A series of events were planned, with the first taking place in Yantai, followed by one in Sheffield to align exploitation strategies of the eGovernance projects alongside the plans for CATCH. Three further events have been planned to further capitalise on these relationships to assist with exploitation. One will be in Vienna, followed by one in Brussels and a set of events to take place in China in July 2012. Funding bids to the UK government have been made to assist in this phase of exploitation.

Dissemination in Numbers

- 9000 visits to the website since launch;
- 340 contacts completed sign-up form online to receive input on the project;
- 10 papers published
- 7 events organised by CATCH
- 1000 conference flyers distributed
- 3000 English-language leaflets distributed
- 3 roll-up posters produced
- 20 conference abstracts written
- 85 conferences, exhibitions and workshops attended
- 4 project updates written
- 7 co-benefit fact sheets published
- 20 mailings sent to CATCH database (through mailing software)

Publications & list of dissemination activities

Publications from the CATCH project are given in table below. These are 10 papers written by the consortium on results from CATCH. Of note are:

- The paper "Carbon aware travel choice for sustainable mobility" first published in TPM Conference Proceedings was chosen as one of five papers to appear in the TRL Annual Research Review 2011.

- The paper presented by UWE at the Biennial Conference on Environmental Psychology Proceedings, Eindhoven, at September 2011, is among the papers selected by the editorial board of special issue of a leading transport journal and is currently under academic review.

- Following a presentation made by UWE at the RGS-IBG Annual International Conference at London, September 2010, a book chapter was invited to a book Climate Change & Transport session to be published by Emerald at 2012.

- Following a review process, a paper UWE have submitted entitled "Applying goal framing to enhance the effect of information on transport-related carbon dioxide emissions" has been accepted (pending some additional minor revision) to a special issue of Transportation Research A on transportation psychology. Transportation Research A is a top-ranked academic journal in transport.

NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication
1	Visual Formats, Reference Points, and Anchoring Effects on Perceptions of the Sustainability of Travel Choices	Waygood E. O. D. and Avineri, E	Traffic Behavior, Modeling and Optimization Workshop Proceedings	19 Sept. 2010	TBMO	Maderia, Portugal	2010
2	The effect of loss framing on the perceived difference of CO2 amounts: implications for advanced travel information systems	Waygood E. O. D. and Avineri, E	Universities' Transport Study Group Conference Proceedings	Jan. 5-7, 2011	UTSG	Milton Keynes, UK	2011
3	Does "500g of CO2 for a 5 mile trip" mean anything? Towards more effective presentation of CO2 information.	Waygood E. O. D. and Avineri, E	Transportation Research Board Conference Proceedings	January 24-27, 2011	TRB	Washington, USA	2011
4	Developing an online tool for behavioural change in urban transport	Waygood, E.O.D., Binsted, A., Clark, A, and E. Avineri	ECEEE summer study, conference proceedings	6-11 June 2011	ECEEE	Toulon, France	2011
5	Communicating the impacts of transport choices to encourage low carbon travel behaviours	Binsted, A., Clark, A., Waygood, E.O.D. and Avineri, E.	Proceedings SoNoRa University Think-Tank Conference	June 2011	SoNoRa	Szczecin, Poland	2011
6	Carbon Aware Travel Choice for Sustainable Mobility	Binsted, A., Clark, A,	Transport Practitioners Conference	June 2011	TPM	Liverpool, UK	2011

		Waygood, O, Avineri, E	Proceedings				
7	Applying goal framing to enhance the effect of information on transport-related CO2 emissions.	Avineri, E and Waygood, O	Biennial Conference on Environmental Psychology Proceedings	September 2011	Conference on Environmental Psychology	Eindhoven, Netherlands	2011
8	Leaders and laggards in transport CO2 emissions: The challenges and outcomes of benchmarking sustainable urban transport systems across Europe	E.O.D. Waygood, T. Chatterton and E. Avineri	Universities' Transport Study Group Conference Proceedings	January 2012	UTSG	Aberdeen, UK	2012
9	Carbon Aware Travel Choice for Sustainable Mobility	Binsted, A., Clark, A, Waygood, O, Avineri, E	TRL Annual Research Report (re-published from TPM conference proceedings)	January 2012	TRL	UK	2012
10	Applying goal framing to enhance the effect of information on transport-related carbon dioxide emissions	E. Avineri, O. Waygood	Transportation Research A	Accepted but publication date to be confirmed			

Also, inclusion in various websites:

- http://www.polis-online.org/index.php?id=520
- http://www.trl.co.uk/transport_consultancy/climate_change_in_the_transport_sector/encouraging_behavioural_change/carbon_aware_travel_choice_catch.htm
- http://www.transport.uwe.ac.uk/research/projects/catch.asp
- http://www.systematica.net/news.php?page=2&newsid=7
- http://www.systematica.net/news.php?newsid=9
- http://www.sice.com/contenidos/referencias/idi/idi_001a08.html
- www.catch2012.com
- http://www.mrcmh.com/our-services/new-servicesection/catch-carbon-aware-transport-choices/
- http://www.uitp.org/Public-Transport/sustainabledevelopment/
- http://www.uitp.org/eupolicy/projects-details.cfm?id=447
- http://ec.europa.eu/research/transport/news/article_10013_en.html
- http://www.uwe.ac.uk/aqm/latestnews.html
- http://www.ubc-environment.net/index.php/main:activities
- www.eltis.org
- www.lept-eu.org
- http://www.interactiondesign-lab.com/project.php?progetto_id=128&categoria_id=4
- http://www.eu-forum.org/article.php3?id_article=1131

4.1.4.3   Exploitation activities

Direct contact has been made with several other ongoing projects to explore synergies between projects, and possibilities to co-develop furthe RTD initiatives and host joint events. This contact was made by Polis, with support from MRC and TRL. The projects include: REACT, GHGTransPoRD, WEATHER, TOSCA, DEMOCRITOS, TICKETtoKYOTO, CLIMactRegions, CARE North, CO2Neutralp, ECOMOBILITY SHIFT, SUNSET, ENHANCED WISETRIP, and EPOMM. Some of the above-mentioned projects were invited to attend the CATCH final conference in Bristol, in December 2012, in which a dedicated session on exploitation has been held

Moreover, CATCH partners have had the possibility to attend meetings with REACT, TOSCA, GHG TransPoRD, and DEMOCRITOS in which to look at and understand the synergies between the projects, and communicate the work that is going on in CATCH.

In particular, the main potential synergies have been identified with reference to the following RTD projects:

- DEMOCRITOS - The project developed a "Mobility Credits Model" (MCM) allowing users and key players of the transportation system to understand quickly and directly the effects of their mobility options on greenhouses gas reduction. The MCM is associated to the pollution and traffic congestions in cities as an alternative method to the current pollution taxation where the compulsoriness is replaced by incentives and willingly acceptance. The MCM is the core of the Mobility Credit Platform (MC) developed by DEMOCRITOS which act as a simulation tool to assess individual mobility in a defined area and period of time and in relation with GHG level, especially carbon dioxide. MCM aims to involve in this demonstrative game as many travellers as possible in order to enter into the system, to play and test how CO2 emissions are influenced by their usual mobility solutions. CATCH provide suitable indicators and information about possible cases in which the MCM can be further customized and applied.

- TOSCA – The project has identified promising technologies and fuel combinations to reduce the climate impact of EU transport to 2050 via scenarios. Estimation of their characteristics through expert questionnaires has showed that further study on behavioural change is needed to encourage their implementation. Scientific advancement on CATCH findings on how to motivate sustainable mobility behavioural can create relevant synergies.

- REACT – The project aimed at strengthening the RTD area on low-carbon transport by developing a Strategic Research Agenda (SRA). Interest to understand how key aspects of CATCH may foresee further development with new funding according to the REACT SRA was explored.

- ELTISplus – Good practice examples and tools illustrating the development and implementation of a Sustainable Urban Mobility Plan are included in the examples database of ELTISplus. Links with the CATCH tools could facilitate design and implementation of SUMP by accessing CATCH data and information.

- SUNSET – The project adopts innovative ICT to encourage and help travellers to adopt a more sustainable mobility behaviour. In particular it develops and evaluates a set of services that use social networks and incentives to encourage people to travel more sustainably in urban environments. CATCH findings can be exploited in the research on the effects of various incentives on mobility-pattern recognition techniques.

- TRANSFER - CATCH can promote the adoption of the platform in Developing Countries to support the development of climate change strategies in Transport.

- MAPPER – The project provides a comprehensive understanding of policies being enacted outside the EEA to reduce the climate impact of the transport sector and provide information on possible mechanisms to support GHG emissions reduction from transport. TRL as partner can facilitate CATCH embracing a role into supporting climate-change mitigation strategies.

- WISETRIP - CATCH can promote the take up of research results into the Enhanced WISETRIP project.

- MOVE-TOGETHER - CATCH can publish the review of the EU research projects on urban sustainable transport investigated by the MOVE-TOGETHER contributing to raise citizens awareness and appreciation of EU research on sustainable transport in the urban environment.

Possible synergies have also been discussed with the Covenant of Mayors. Interest from the CofM was in particular on the following aspects: connecting motivated users with valuable examples from CofM; estimates of transport CO2 per capita from the UNFCCC versus the bottom up approach adopted by the CofM. The CofM encouraged the CATCH project to send a bid, as they would be keen to fully explore how CATCH and CofM could mutually support each other.

Some partners of the CATCH consortium have already been developing new RTD proposals and demonstration projects with partners of some of the above-listed projects under the most recent call for proposals in FP7 and CIP.

4.1.5 Address of the project public website and relevant contact details

The project public website is: www.carbonaware.eu managed by POLIS and updated on a regular basis.

The CATCH platform and its visual tools are accessible via the CATCH website but also through the following weblink:

http://www.q-sphere.com/catch/ managed by QS

The visual tools are also accessible through the following links:

www.systematica.net/catch/cobentool/v1.1 and
http://www.systematica.net/catch/scenario_tool/ both managed by SYSTMA

Relevant contact details:

1 - MRC McLean Hazel - MRC - United Kingdom
Steve Cassidy – steve.cassidy@mrcmh.com
Umberto Pernice – umberto.pernice@mrcmh.com

2 - POLIS Network - POLIS – Belgium
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6 - Federal University of Rio de Janeiro, Transport and Environmental Engineering - UFRJ -
Brazil
Andrea Santos - andrea.santos@pet.coppe.ufrj.br

7 - University of Palermo, Dept. Of Manufacturing and Management Engineering - UNIPA –
Italy (terminated participation at month 17)
Mario Enea – enea@unipa.it

8 - Systematica - SYSTEMA - Italy
Mario Castangia - castangia@systematica.net

9 - Municipality of Handan - HAND   - China
Wang Boyong - wangboyong@gmail.com

10 - International Association of Public Transport - UITP - Belgium
Philip Turner - philip.turner@uitp.org

11 - TRL Ltd - TRL - United Kingdom
Anne Binsted - abinsted@trl.co.uk

12 - European Forum for e-Public Services - EFORUM- Belgium –
Shaun Topham - shaun.topham@eu-forum.org

4.2 Use and dissemination of foreground

Section A (public)

	TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES									
NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers[8] (if available)	Is/Will open access[9] provided to this publication?
1	Visual Formats, Reference Points, and Anchoring Effects on Perceptions of the Sustainability of Travel Choices	Waygood E. O. D. and Avineri, E	Traffic Behavior, Modeling and Optimization Workshop Proceedings	19 Sept. 2010	TBMO	Maderia, Portugal	2010			
2	The effect of loss framing on the perceived difference of CO2 amounts: implications for advanced travel information systems	Waygood E. O. D. and Avineri, E	Universities' Transport Study Group Conference Proceedings	Jan. 5-7, 2011	UTSG	Milton Keynes, UK	2011			yes
3	Does "500g of CO2 for a 5 mile trip" mean anything? Towards more effective presentation of CO2 information.	Waygood E. O. D. and Avineri, E	Transportation Research Board Conference	January 24-27, 2011	TRB	Washington, USA	2011			No

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[8] A permanent identifier should be a persistent link to the published version full text if open access or abstract if article is pay per view) or to the final manuscript accepted for publication (link to article in repository).

[9] Open Access is defined as free of charge access for anyone via Internet. Please answer "yes" if the open access to the publication is already established and also if the embargo period for open access is not yet over but you intend to establish open access afterwards.

			Proceedings								
4	Developing an online tool for behavioural change in urban transport	Waygood, E.O.D., Binsted, A., Clark, A, and E. Avineri	ECEEE summer study, conference proceedings	6-11 June 2011	ECEEE	Toulon, France	2011				yes
5	Communicating the impacts of transport choices to encourage low carbon travel behaviours	Binsted, A., Clark, A., Waygood, E.O.D. and Avineri, E.	Proceedings SoNoRa University Think-Tank Conference	June 2011	SoNoRa	Szczecin, Poland	2011	5-17	ISSN 1868-8411	yes
6	Carbon Aware Travel Choice for Sustainable Mobility	Binsted, A., Clark, A, Waygood, O, Avineri, E	Transport Practitioners Conference Proceedings	June 2011	TPM	Liverpool, UK	2011				yes
7	Applying goal framing to enhance the effect of information on transport-related CO2 emissions.	Avineri, E and Waygood, O	Biennial Conference on Environmenal Psychology Proceedings	September 2011	Conference on Environmenal Psychology	Eindhoven, Netherlands	2011				yes
8	Leaders and laggards in transport CO2 emissions: The challenges and outcomes of benchmarking sustainable urban transport systems across Europe	E.O.D. Waygood, T. Chatterton and E. Avineri	Universities' Transport Study Group Conference Proceedings	January 2012	UTSG	Aberdeen, UK	2012				yes
9	Carbon Aware Travel Choice for Sustainable Mobility	Binsted, A., Clark, A, Waygood, O, Avineri, E	TRL Annual Research Report (re-published from TPM conference	January 2012	TRL	UK	2012				Yes

No								
			proceedings)					
10	Applying goal framing to enhance the effect of information on transport-related carbon dioxide emissions	E. Avineri, O. Waygood	Transportation Research A	Accepted but publication date to be confirmed				

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES								
No	Type of activities[10]	Main leader	Title	Date	Place	Type of audience[11]	Size of audience	Countries addressed
1	conference	MRC	ITS World Congress	21-25 Sep 2009	Stockholm	Government authorities, ITS professionals	2000	worldwide
2	conference	UWE	NECTAR Meeting on Railways in the 21st Century	26-27 November 2009	Israel	Academics	25	Europe
3	conference	Polis	Polis Conference - Unlocking the economic and environmental potential of innovation in urban and regional mobility	10-11 Dec 2009	Brussels	Local and regional authorities, private sector, research	200	Europe
4	conference	TRL	UNFCCC COP 15 Meeting	7-18 Dec 2009	Copenhagen	NGOs, representatives from government, businesses	20000	worldwide
5	conference	SICE	Tunnels and road infrastructures project Bilbao	24-26 Feb 2010	Bilbao	Industry, Civil Society, Policy makers (transport)	200	spain
6	workshop	Polis	Sustainable solutions for combating Climate Change in the Baltic Sea region – implementing the UBC Sustainability Action Programme 2010 - 2015 and the EU Strategy for the Baltic Sea Region	18-19 March 2010	Gdynia, Poland	City Representatives (Baltic Sea Region), university representatives, transport sector, environmental protection sector	40	baltic
7	conference	SICE	Intertraffic	23rd26th March 2010	Amsterdam	Other EU R&D projects, local and regional authorities, professionals (transport)	24,000+	worldwide
8	conference	SICE	ITS Spain	11th-13th May 2010	Madrid	Other R&D projects, local and regional authorities, professionals (transport)	300+	worldwide
9	workshop	Polis	DEMOCRITOS HLAG	apr/10	Brussels	transport policy	20	Europe
10	conference	Polis	6th European Conference on Sustainable Cities and Towns	19-21 May 2010	Dunkerque, France	Local and regional authorites, private sector, research	1500	Europe
11	workshop	TRL	Asian Development Bank Transport Forum: Changing Course - Pathways for Sustainable Transport	25 to 27 May 2010	Manila, Philippines	Policy and decision makers from national and local government offices and other stakeholders from the Asia and Pacific region	over 300	Asia

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[10] A drop down list allows choosing the dissemination activity: publications, conferences, workshops, web, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters, Other.

[11] A drop down list allows choosing the type of public: Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Medias ('multiple choices' is possible.

12	conference	SICE	IRF World Congress	25th-28th May 2010	Lisbon-Portugal	Other R&D projects, local and regional authorities, professionals (transport)	5000+	worldwide
13	conference	TRL	UNFCCC climate change talks	1 to 11 June 2010	Bonn, Germany	National delegations, UN agencies, IGOs and NGOs	Thousands	worldwide
14	conference	UITP	UNFCCC climate change talks	June 2010	Bonn, Germany	Journalists	25	worldwide
15	workshop	UITP	UITP Sustainable development commission meeting	June 2010		International	20	worldwide
16	workshop	UITP	WHO Transport, Health and Environment Bureau meeting	15-16 July 2010	Rome	International agencies & gov officials	30	Europe
17	conference	TRL	UNFCCC climate change talks	2 August to 6 August 2010	Bonn, Germany	National delegations, UN agencies, IGOs and NGOs	Several thousand	worldwide
18	workshop	TRL	Sustainable Urban Transport[1]	30/aug/10	Płock, Poland	Eastern European cities	Approx 70	Central and Eastern Europe
19	workshop	TRL	Towards sustainable transport and mobility in the city of Łōdź[2]	31/aug/10	Łōdź, Poland	Eastern European cities	Approx 30	Central and Eastern Europe
20	conference	UITP	Conference	30/aug/10	Plock Poland	Local and regional	100	Central and Eastern Europe
21	conference	UWE	RGS-IBG Annual International Conference: Climate Change & Transport session	1-3 Sept., 2010	London	World-wide researchers on climate change & transport.	1000s, session roughly 30-40.	UK
22	conference	TRL	Towards sustainable transport and mobility in the city of Poznań2	1/09/2010	Poznań, Poland	Eastern European cities	Approx 30	Central and Eastern Europe
23	conference	TRL	79th Izmir International Fair 2010: International Turkish Energy Summit	3/09/2010	Izmir, Turkey	Local and national governments, NGOs and corporations.	Approx 50	Central and Eastern Europe
24	workshop	Polis	CEMR Transport Working Group Meeting	10/09/2010	Brussels, Belgium	city / regional authority representatives and CEMR	20	Europe
25	conference	Polis	European Mobility Week event "Biking is Green"	16/09/2010	Brussels, Belgium	EU parliament, EC, cycling experts	unknown	Europe
26	conference	UWE	The 1st Workshop on Traffic Behavior, Modeling and Optimization	17-18 Sept., 2010	Madeira	World-wide researchers on sustainable mobility	350	worldwide
27	workshop	UITP	UITP EU seminar	21/09/2010	Brussels	Local and regional, Eu representatives, UITP members	200	Europe
28	workshop	UITP	SD Training	23_24 Sept	Nice France	UITP member signatories to the UITP charter	40	worldwide
29	workshop	UITP	IMAGINE	28/09/2010	Brussels	Local and regional	100	Europe
30	conference	TRL	European Transport Conference	11 to 13 October 2010	Glasgow, Scotland	Transport professionals and academics	unknown	Europe
31	conference	UWE	13th International IEEE Conference on Intelligent Transportation Systems	19 - 22 September 2010	Madeira, Portugal	Researchers and ATIS practitioners		worldwide
32	conference	Systematica	MobilityTech	18-19 Oct 2010	Milan	Local and regional authorities, Operators, Academic researchers	200	Italy
33	workshop	TRL and Handan	International seminar and Shanghai Expo	25-27 October 2010	Handan and Shaghai, China	government representatives and policy makers on local, national international levels	unknown	China
34	conference	Polis &	Polis Conference 2010	25-26 November	Dresden, DE	Transport professionals and academics	200	Europe

		Systematica		2010				
35	conference	Polis	URBACT annual conference	30 Nov - 1 Dec 2010	Liege, Belgium	cities, consultants, research	250	Europe
36	workshop	Polis	GHG-TransPoRD workshop	14-15 Dec 2010	Brussels, Belgium	researchers, consultants, automotive industry	50	Europe
37	workshop	UWE	CTS Winter Seminar	Dec 9 2010	Bristol, UK	academics, professionals	40	UK
38	workshop	UITP	Bridging the Gap Meeting at UNFCCC climate talks	dec/10	Cancun, Mexico	national, local government		worldwide
39	conference	UWE	Universities' Transport Study Group (UTSG) 43rd Annual Conference	5-7 jan 2011	Milton Keynes	academics	100	UK
40	conference	UWE	Transportation Research Board (TRB) 90th Annual Meeting	24-27 Jan 2011	Washington DC, USA	Policy makers, professionals, industry, academics, media	10000	worldwide
41	workshop	Handan	workshop on low carbon technology and low carbon industry at the Hebei Engineering School	18/feb/11	Hebei, China	Academics and technicians from Hebei Province		China
42	workshop	Handan	Low Carbon City Initiative	15 March 2011	Handan, Hebei, China	Chinese Government rep		China
43	conference	Handan	Qingdao NDRC ADB joint workshop on Qingdao Low Carbon Strategy Development	24-25 March 2011	Qingdao, China	Chinese Govt rep, international organisations		China
44	poster	UWE	Sustainability, Health and Environment - Poster Exhibition	14 April 2011	Bristol, UK	?	?	UK
45	workshop	Handan	World Bank Scoping Mission	12-14 May 2011	Wuhan, China	govt reps from Wuhan Xinqu Zhongyang Huacheng area		China
46	conference	Polis & MRC	REACT conference	16-17 May 2011	Belgrade, Serbia	Transport professionals, Academics		Europe
47	conference	Polis	ECOMM - European Conference on Mobility Management	18-20 May 2011	Toulouse (France)	Transport professionals		Europe
48	workshop	Handan	workshops WRI and Renmin University	Feb, April, May 2011	China	Govt reps & international org		worldwide
49	workshop	UITP0	Bridging the Gap event invitation: Moving Transport from CDM to NAMAs	24 May 2011	Bonn, Germany	climate change and sustainable transport experts	100	worldwide
50	conference	UWE	European Council on Energy Efficient Economy	6-11 June 2011	Belambra Presqu'ile de Giens, France	Academics, policy analysts		Europe
51	conference	TRL	UNFCCC	6-17 June 2011	Bonn, Germany	National delegations, UN agencies, IGOs and NGOs		worldwide
52	conference	TRL	8th Sonora Think Tank Conference	16 June 2011	Szczecin, Poland	Academics & other transport professionals		Central and Eastern Europe
53	conference	MRC	The Sustainable Behaviours Research Groups and International Review'	17 June 2011	Edinburgh, UK	Academics, practitioners UK		UK
54	conference	Handan		27-30 June 2011	Jinan & Dezhou,	Govt rep: transport & low carbon		China

					Shangdong Province, China			
55	conference	UFRJ	IX Congresso Rio de Transportes	6-7 July 2011	Rio de Janeiro, Brazil	Transport professionals Brazil		Brazil
56	conference	UITP	GHG 2050 Roadmap Conference	29 June 2011	Brussels	DG CLIMA, EC reps, EU & international orgs & researchers	50	Europe
57	conference	TRL	The Transport Practitioners Meeting	19-20 july 2011	Liverpool	transport planners, engineers, urban transport designers, managers and anyone involved in strategy development and delivery of transport services from the public and private sectors		UK
58	newsletter	UITP	UITP Sustainable Development E-news	24/aug/11	Brussels, Belgium	UITP member signatories to the UITP charter	280	worldwide
59	conference	UFRJ	Sustentar 2011 - Fórum Internacional pelo Desenvolvimento Sustentável	23-25 August 2011	Belo Horizonte Minas Gerais, Brazil	Sustainability experts, Brazil		Brazil
60	workshop	UWE	Host Chinese delegation transport	1/sep/11	Bristol, UK	Chinese ministry transport officials	16	China
61	conference	Systematica & MRC	Traffic and Transport 2011	8-9 September 2011	Vienna, Austria	Transport providers and authorities; Interest groups representing travellers and people with special needs; Information designers and managers; Transport developers and manufacturers of real time information systems, software and displays; Educators with an interest in traffic and transport information	150	worldwide
62	conference	Systematica	Settimana Europea della Mobilità	19/sep/11	monserrato, IT	Stakeholders in European Mobility week		Europe
63	workshop	MRC	DEMOCRITOS final conference	23/09/2011	Genoa, Italy	transport professionals, experts in economic aspects		Europe
64	conference	UWE	9th Biennial Conference on Environmental Psychology	26-28 September 2011	Eindhoven, NL	Academics	70-80 people in room	worldwide
65	conference	TRL	Smart Cities, Smart People	27/09/2011	Surrey, UK	academics, sustainability experts		UK
66	conference	UITP & polis	Urban Governance: Getting People on Board!	5-7 October 2011	Gothenburg, Sweden	transport authorities, mobility professionals, governments, local officials as well as urban planners.	200	worldwide
67	conference	TRL	European Transport Conference	10-12 October 2011	Glasgow, UK	Academics and government representatives in transportm operators, consultants		Europe
68	conference	UITP	UITP 88th Metropolitan Railways Assembly	10-12 October 2011	Tokyo, Japan	UITP Metropolitan Railways division	60	worldwide
69	conference	UITP	UITP Sustainable development Commission meeting	13-14 October 2011	San Sebastian, Spain	UITP member signatories to the UITP charter + Spanish journalists	20 + Spanish journalists	worldwide
70	conference	Polis	CIVITAS Forum	17-18 October 2011	Funchal, PT	Transport professionals, especially local authority representatives		Europe

71	conference	UFRJ	18º. Congresso Brasileiro de Transporte e Trânsito	18-21 October 2011	Rio de Janeiro, Brazil	Mainly Brazilian Transport professionals		Brazil
72	conference	TRL	European Conference of Regions on Climate Change	20-21 October 2011	Lyon, France	Sustainability and climate change professionals		Europe
73	conference	Systematica	MobilityTech	24-25 October 2011	Milan, Italy	Transport professionals: Italian audience		Italy
74	workshop	UITP	UITP 10th UITP Training Programme for Public Transport Managers 1st Module: Organisation and Financing	24-26 October 2011	Munich, Germany	UITP members	35	Europe
75	workshop	UFRJ	Workshop on Sustainable Transport - Building Mobility	25 October 2011	Rio de Janeiro, Brazil	Transport professionals & low carbon experts		Brazil
76	conference	MRC	ICLEI - Informed Cities Forum 2011	26-27 October 2011	Naples, Italy	City representatives	100	Europe
77	conference	TRL	Travel 2020	2-3 November 2011	London, UK	local authorities and industry	100	UK
78	conference	UITP	Making Public Transport part of a modern urban lifestyle? Yes, we can!	7-8 November 2011	Venice, Italy	transport authorities, mobility professionals, governments, local officials as well as urban planners.	200	Europe
79	conference	MRC	Intelligent Cities Expo	8-10 November 2011	Hamburg, DE	Decision Makers, City representatives		Europe
80	conference	TRL	GHG Transpord Final conference	29/11/2011	Brussels, BE	academics, EC, transport professionals	100	Europe
81	conference	Polis	Polis Conference	1-2 December 2011	Brussels, BE	Transport professionals, local authorities		Europe
82	conference	Polis, MRC, TRL	Innovation Union conference	5-6 December 2011	Brussels, BE	EC and innovation stakeholders (large crowd)		Europe
83	conference	UWE	Transport Research Board	22-26 January 2011	Washington DC, USA	Transport professionals		worldwide
84	conference	UWE	UTSG	January 2012	Aberdeen, UK	mainly UK transport academics		UK
85	newsletter	Polis	CATCH Kick-off – Carbon-Aware Travel Choice in the City Region and World of Tomorrow	1/sep/09	online	local and regional authorities		Europe
86	newsletter	Polis	CATCH Interest Group Meeting with Polis Environment & Health WG	23/dec/09	online	Local and regional authorites, private sector, research		Europe
87	newsletter	SICE	CATCH – Carbon aware travel choices – Research and Innovation	15th January 2010	online	Other R&D projects, local and regional authorities, professionals (transport)		Europe
88	newsletter	UWE	CATCH project	jan/10	online	University staff, Governors, former staff, 'friends' of the University, media contacts		UK
89	newsletter	UWE	CATCH project	feb/10	online	University staff, Governors, former staff, 'friends' of the University, media contacts		UK
90	newsletter	Polis	Carbon Aware Travel Choice – CATCH project website online	feb/10	online	Local and regional authorites		Europe
91	publication	MRC	Psychotravel	Mar/Apr 2010	online	ITS Professionals: distributed at Amsterdam		worldwide

							Intertraffic event:		
92	poster	SICE	CATCH – Carbon aware travel choices	1 May 2010	online		Other R&D projects, local and regional authorities, professionals (transport)		worldwide
93	newsletter	Polis	Update on the development of online tool to promote carbon reduction	May 2010	online		Local and regional authorities		Europe
94	newsletter	SICE	CATCH – Carbon aware travel choices – Research and Innovation	15 June 2010	online		Other R&D projects, local and regional authorities, professionals (transport)		worldwide
95	newsletter	UITP	CATCH	July 2010	online		Sustainable development practitioners and decision makers		worldwide
96	newsletter	Polis	Infopolis	1/sep 2010	online		local and regional authorities		Europe
97	newsletter	UWE	CATCH project	1/sep 2010	online		University staff, Governors, former staff, 'friends' of the University, media contacts		UK
98	newsletter	UWE	Carbon reduction in transport: MRC McLean Hazel leads the way	17/08/2010	online		Transportation professionals		worldwide
99	newsletter	Polis	exploring the wider benefits of carbon reduction in urban transport	1/sep/10	online		local and regional authorities		Europe
100	newsletter	Polis	Low carbon travel choices discussed in The Hague on 15-16 November	1/okt/10	online		local and regional authorities		Europe
101	newsletter	UITP	CATCH project	jan/11	online		3500 UITP members all types of public transport player (decision makers; industry; operators and academics)		worldwide
102	newsletter	Polis	Co-benefits of low carbon transport	apr/11	online		local and regional authorities		Europe
103	newsletter	UITP	CATCH project	24 August 2011	online		UITP member signatories to the UITP charter: 280 members received		Europe
104	local newspaper	Systematica	Le buone pratiche sul web	october 2011	online		general public		Italy
105	newsletter	Polis	CATCH project update 1	June 2010	online		transport professionals	350	worldwide
106	newsletter	Polis	CATCH project update 2	January 2011	online		transport professionals	350	worldwide
107	newsletter	Polis	CATCH project update 3	october 2011	online		transport professionals	350	worldwide
108	newsletter	Polis	CATCH project update 4	January 2012	online		transport professionals	350	worldwide
109	online	Polis	final conference announcements	septemeber 2011	online		transport professionals		Europe
110	online	Systematica	final conference announcements	septemeber 2011	online		transport and architecture professionals		Europe
111	online	TRL	final conference announcements	septemeber 2011	online		transport professionals		worldwide
112	online	MRC	final conference announcements	septemeber 2011	online		transport professionals		worldwide
113	online	UITP	final conference announcements	septemeber 2011	online		transport professionals		worldwide
114	online	UWE	final conference announcements	septemeber 2011	online		transport academics		UK
115	workshop	Polis	First CATCH interest group meeting	17/02/2010	Brussels		transport professionals	25	Europe
116	workshop	Polis	second CATCH interest group meeting	15/11/2010	The Hague		transport professionals	25	Europe

117	workshop	Polis	third CATCH interest group meeting	15/06/2011	Brussels	transport professionals	15	Europe
118	conference	Polis	fourth CATCH interest group meeting / final event	13/12/2011	Bristol, UK	transport professionals	70	Europe
119	video clips	Polis	various youtube videos on http://www.youtube.com/carbonaware	ongoing	online	general public		worldwide
120	Leaflet	Polis	1st CATCH leaflet	dec/11	Online & print	transport professionals		worldwide
121	Leaflet	Polis	2nd CATCH leaflet	aug/11	Online & print	transport professionals		worldwide
122	Leaflet	Handan	1st CATCH leaflet in Chinese	jan/12	Online & print	transport professionals		China
123	Leaflet	Handan	2nd CATCH leaflet in Chinese	nov/11	Online & print	transport professionals		China
124	Website	Polis	CATCH project website	January 2010	online	transport professionals		worldwide
125	Website	Handan	Chinese version CATCH project website	aug/10	online	Chinese speaking transport professionals		China
126	Poster	Polis	Roll-up poster designed to take to conferences / exhibitions	January 2010	online	Transport professionals		worldwide
127	website	polis	www.polisnetwork.eu	ongoing	online	Transport professionals		worldwide
128	website	TRL	http://www.trl.co.uk/transport_consultancy/climate_change_in_the_transport_sector/encouraging_behavioural_change/carbon_aware_travel_choice_catch.htm	ongoing	online	Transport professionals		worldwide
129	website	UWE	http://www.transport.uwe.ac.uk/research/projects/catch.asp	ongoing	online	Transport academics		worldwide
130	website	Systematica	http://www.systematica.net/news.php?page=2&newsid=7	ongoing	online	Transport and urban planners & architects		worldwide
131	website	Systematica	http://www.systematica.net/news.php?newsid=9	ongoing	online	Transport and urban planners & architects		worldwide
132	website	SICE	http://www.sice.com/contenidos/referencias/idi/idi_001a08.html	ongoing	online	Transport professionals		worldwide
133	website	MRC	http://www.mrcmh.com/our-services/new-servicesection/catch-carbon-aware-transport-choices/	ongoing	online	Transport professionals		worldwide
134	website	UITP	http://www.uitp.org/Public-Transport/sustainabledevelopment/	ongoing	online	Transport professionals		worldwide
135	website	UITP	http://www.uitp.org/eupolicy/projects-details.cfm?id=447	ongoing	online	Transport professionals		worldwide
136	website	Polis	http://ec.europa.eu/research/transport/news/article_10013_en.html	2/03/2010	online	Transport professionals		worldwide
137	website	UWE	http://www.uwe.ac.uk/aqm/latestnews.html	1/02/2010	online	Transport professionals		worldwide

138	website	Polis	http://www.ubc-environment.net/index.php/main:activities	18/03/2010	online	Transport professionals		worldwide
139	website	Systematica	http://www.interactiondesign-lab.com/project.php?progetto_id=128&categoria_id=4	2/07/2011	online	Transport and urban planners & architects		worldwide
140	website	E-Forum	http://www.eu-forum.org/article.php3?id_article=1131	9/11/2010	online	e-government professionals		worldwide
141	website	Polis	http://www.eltis.org/index.php?ID1=5&id=60&news_id=2413	24/03/2011	online	Transport professionals		worldwide
142	website	Polis	http://www.co2neutralp.eu/index.phtml?ID1=1585&ID2=2609&id=2752	2011	online	Transport professionals		worldwide
143	website	Polis	www.climactregions.eu/web/guest/links	2011	online	Transport professionals		worldwide
144	website	UFRJ	http://www.pet.coppe.ufrj.br/index.php/component/content/article/34-demo-category/150-catch-escolha-por-viagem-consciente-em-emissoes-de-carbono	2011	online	Transport professionals		Brazil
145	website	MRC	http://www.mrcmh.com/news/umberto-pernice-spoke-at-democritos-conference-in-genoa-italy-on-23-sept-2011/	23/09/2011	online	Transport professionals		worldwide
146	website	TRL	trl and bridging the gap websites article CATCH conference	sep/11	online	Transport professionals		worldwide
147	Leaflet	Polis	brochures distributed in office	ongoing	Brussels	transport professionals		worldwide
148	Leaflet	UITP	brochures distributed in office	ongoing	Brussels	transport professionals		worldwide
149	conference	SICE	International Fair of Environmental Solutions	16 – 18 February 2011	Valencia, Spain	Scientific Community, Industry, Civil Society, Policy makers (environment and mobility)	500+	worldwide
150	conference	SICE	ITS Spain	5th – 7th Apr 2011	Barcelona, Spain	Scientific Community, Industry, Civil Society, Policy makers (transport)	300+	worldwide
151	Conference	SICE	Sustainable transport, air quality and climate change	11th – 13th May 2011	Rosario, Argentina	Decision makers, local and national policy officials, transport industry specialists and academia.	1500+	worldwide
152	Conference	SICE	Intertraffic	25th – 27th May 2011	Istambul, Turkey	Scientific Community, Industry, Civil Society, Policy makers (transport)	20000+	worldwide
153	Conference	SICE	ITS Europe	6th – 9th Jun 2011	Lyon, France	Scientific Community, Industry, Policy makers (transport)	3000+	worldwide
154	Exhibition	SICE	CATCH – Carbon aware travel choices	9th Jun 2011	Valladolid, Spain	Scientific Community, Industry, Civil Society, Policy makers (transport)	300+	worldwide
155	Press release	SICE	CATCH – Carbon aware travel choices – Research and Innovation	15th Oct 2011	online	Transport professionals		worldwide
156	Conference	SICE	BCN RAIL 2011	29th Nov - 2nd Dec 2011	Barcelona, Spain	Industry, Civil Society, Policy makers (transport)	300+	worldwide

157	Journal	UWE	The use of framing to highlight differences between transport-related CO2 amounts. PROJECT, Journal of the Department of Planning and Architecture, UWE, Bristol.	Forthcoming – 2012 edition of the journal	UK	Planning, architecture and transport professionals	500	worldwide
158	Book Chapter	UWE	The Impact of Travel Information Systems. In: Ryley, T. and Chapman, L. (Eds.), Transport and Climate Change, Transport & Sustainability Book Series, Emerald, UK	Book to be published in 2012	UK	Transport and climate change - Academics and professionals		worldwide
159	Seminar	UWE	Carbon Aware Travel Choice (CATCH): Communicating Transport CO2 and Influencing Perceptions. The 12th International Seminar of Committee of Infrastructure Planning and Management, JSCE. December 22, Hiroshima, Japan (In Japanese).	22/12/2011	Hiroshima, Japan	Transport academics and professionals	50	Japan
160	Seminar	UWE	Carbon Aware Travel Choice (CATCH): Communicating Transport CO2 and Influencing Perceptions. Kyoto University	25/12/2011	Kyoto, Japan	Transport academics and professionals	50	Japan
161	Conference	UWE	Estimation and benchmarking of transport-related carbon emissions at European cities. The 52nd Conference of the Israeli Geographical Association (IGA2011), December 25-27, Tel-Aviv, Israel.	25/12/2011	Tel Aviv, Israel	Transport and geography academics	50	worldwide
162	Conference	UWE	Gain/loss framing of transport-related CO2 amounts. Workshop on Prospect Theory and Experience, January 9-11, The Dead Sea, Israel.	11/1/2012	Dead Sea, Israel	Academics	50	worldwide
163	online	UWE	CATCH Conference – conference announcement on CTS website http://www.transport.uwe.ac.uk/news/news-2011.asp	December 2011	UK			UK
164	online	UWE	CATCH Conference – conference announcement on UWE main website	December 2011	UK			UK
165	online	UWE	CATCH Conference – conference announcement on the Department for Planning and Architecture website	December 2011	UK			
166	online	UWE	CATCH Conference – conference announcement on the Air Quality Group website	December 2011	UK			
167	online	UWE	CATCH Conference – news update on the Department for planning and architecture website	January 2012	UK			

168	online	UWE	CATCH presentation at UTSG – news update at Air Quality Group Website	January 2012	UK			
169	online	UWE	CATCH Conference – news update on CTS website http://www.transport.uwe.ac.uk/default.asp	January 2012	UK			
170	Seminar	UWE	Seminar CATCH project Kyoto University	December 2011	Japan	researchers	15	Japan
171	Seminar	UWE	Seminar CATCH project Hiroshima University's Graduate School for International Development and Cooperation	December 2011	Japan	Researchers	21	Japan
172	Workshop	e-Forum and Handan	Yantai, China	4-5 December	Yantai,China	Local Authority		worldwide
173	Workshop	e-Forum, MRC	eGovernance workshop	27 Jan 2012	Sheffield, UK	eGovernance projects, local authorities, Interreg projects		UK

Section B (Confidential[12] or public: confidential information to be marked clearly)
Part B1

TEMPLATE B1: LIST OF APPLICATIONS FOR PATENTS, TRADEMARKS, REGISTERED DESIGNS, ETC.					
Type of IP Rights[13]:	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Application reference(s) (e.g. EP123456)	Subject or title of application	Applicant (s) (as on the application)
Not foreseen	Not foreseen	Not foreseen	Not foreseen	Not foreseen	Not foreseen

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[12] Note to be confused with the "EU CONFIDENTIAL" classification for some security research projects.

[13] A drop down list allows choosing the type of IP rights: Patents, Trademarks, Registered designs, Utility models, Others.

Part B2

Type of Exploitable Foreground[14]	Description of exploitable foreground	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Exploitable product(s) or measure(s)	Sector(s) of application[15]	Timetable, commercial or any other use	Patents or other IPR exploitation (licences)	Owner & Other Beneficiary(s) involved
General advancement of knowledge	*Research findings into how to best communicate about low carbon mobility to motivate sustainable mobility*	*N*	*N/A*	*New communication messages based on co-benefits triggering sustainable mobility choices*	*M - Professional, scientific and technical activities*	*Not foreseen*	*Not foreseen*	*UWE*
General advancement of knowledge	*CO2 estimation model*	*N*	*N/A*	*CO2 estimation model*	*M - Professional, scientific and technical activities*	*Not foreseen*	*Not foreseen*	*UWE*
General advancement of knowledge	*Data set*	*Y*	*N/A*	*DB on transport performance indicators (TPIs) and sustainable performance indicators (SPIs)*	*M - Professional, scientific and technical activities*	*Not foreseen*	*Not foreseen*	*UWE, MRC, SYSTEMA*
Commercial	*Tools*	*Y*	*N/A*	*Web-based*	*J62 - Computer*	*Not foreseen*	*Not foreseen*	*MRC; SYSTEMA*

Type of Exploitable Foreground[14]	Description of exploitable foreground	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Exploitable product(s) or measure(s)	Sector(s) of application[15]	Timetable, commercial or any other use	Patents or other IPR exploitation (licences)	Owner & Other Beneficiary(s) involved
exploitation of R&D results	*supporting sustainable urban planning and environmental city performance*			*City dashboard and web-based tools for SUMP*	*programming, consultancy and related activities M - Professional, scientific and technical activities*			

4.2.1 Exploitation Plan

In this section CATCH partners describe their own organisations' exploitation objectives and plans from the outcomes and foreground generated by CATCH.

CATCH partners can be distinct into four main categories, as follows:

1. Research organizations (UWE; UFRJ)

2. Networks (UITP; POLIS, E-FORUM)

3. Consulting and Industrial organizations (MRC, QS, SICE, SYST, TRL)

4. Local Authorities (HAND).

Such a distinction is then reflected into specific exploitation objectives and plans, sometimes common to most partners, sometimes more peculiar to a specific category of partners, as below described.

In general, for <u>Research Organizations</u> exploitation is focussed on increasing visibility of scientific advancement on: i) sustainable mobility patterns; ii) how the adoption of technology-based applications trigger sustainable behaviour; iii) new models for CO_2 emission estimation; iv) discovering how hidden relationships among different co-benefits (planning, budget, health, safety, security) can trigger sustainable mobility behaviours. Exploitation for <u>Consulting and Industrial</u> partners is focussed on transforming any relevant project outcomes (i.e demonstrators) into potential prototypes which – if further improved - can be commercialized as products or as tools enabling delivery of services. <u>Networking</u> organizations dealing with local authorities can be interested in understanding how measuring the environmental performance of cities and giving local authorities tools for implementing sustainable mobility urban plans). <u>Local Authorities</u> are interested in capacity building on managing low carbon city projects and embed green and sustainable transport into the overall low carbon city action plan.

4.2.1.1   MRC McLean Hazel Exploitation Plan

<u>Brief description of the organization</u>

MRCMH is a thought-leadership consultancy business with a strong focus on innovation and research supported by European Commission projects. MRC specialises in the analysis of city environments and research into urban mobility patterns with relevant experience of RTD and consultancy work in the areas of Sustainable Transport and intelligent Mobility within the Smart Cities context.

<u>Exploitation objectives:</u>

R&D knowledge: increasing knowledge on how triggering sustainable mobility behaviours with technology and information

Market: developing and delivering innovative applications and services for smart mobility and smart cities

Description of exploitable foreground[16]

- The CATCH knowledge platform and visual tools can be further improved to develop new commercially attractive web-based applications supporting sustainable urban mobility plans. In particular: i) a "City dashboard" web-based tool supporting sustainable urban planning and decision making; ii) tools for urban mobility planning.

- Findings from Grounding research in WP1 (i.e. algorithms based on sustainable performance indicators; recommendations and guidelines emerged on communication strategies to effectively motivate sustainable mobility behaviours) can be used to develop new indexes and incentives triggering sustainable mobility behaviours.

Description of exploitation strategy

- Timetable: During and after the end of the project.

- Sector(s) of application[17]: Other passenger land transport; Computer programming, consultancy and related activities

- Target users: Local Authorities and Public decision-makers; Transport Organizations; Travellers (Citizens, Visitors)

- Scale of exploitation expected: Europe, UK (National), Scotland and Edinburgh (regional and local)

- Partner(s) involved: CATCH partners

- Revenue expectations: consulting services and delivery services

- Actions planned for exploitation of results: MRC has been disseminating key project progress and outcomes with different stakeholders (public and private) at several dissemination and exploitation events

- Further research and development work: procedures for data gathering; algorithms to handle with data consistency, accuracy and coverage of data and indicators, design and technical features of tools; technology integration aspects of tools.

- Patents or other IPR protection: not foreseen at this stage

- Measures for the success of the exploitation activities: increasing collaboration activities with partners and stakeholders; new RTD proposals under organization;

- Main barriers to achieving exploitation goals: more resource investments (time, costs) to fine tune tools with market needs.

4.2.1.2 POLIS Exploitation Plan

Brief description of the organization

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[16] Type of Foreground can include: General advancement of knowledge, Commercial exploitation of R&D results, Exploitation of R&D results via standards, exploitation of results through EU policies, exploitation of results through (social) innovation.

[17] http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

Polis is a network of European cities and regions working together for sustainable transport. The network has approximately 60 members, including the major European capitals: London, Paris, Berlin, Madrid, Prague etc. Polis' activities are centred around four thematic pillars related to transport: 'environment and health in transport'; 'traffic mobility and efficiency'; 'safety and security of transport systems' and 'social and economic aspects of transport'. The work within the CATCH project falls under the first of these pillars 'environment and health in transport' where climate change issues are discussed within working groups. Polis is also a supporting structure of the Covenant of Mayors, to exchange with members and the CoM community on actions to reduce carbon emissions within the urban transport sector.

Polis' activities, structured along the four pillars follow three strands: exchange of experience between the members and with other actors in the sector (research, industry, etc.); involvement in European-funded activities to try to get cities and regions directly involved in research activities; and liaison with the European Institutions. As well as the Polis membership, Polis has a large database of contacts covering all actors working on aspects of European transport.

Exploitation objectives:

Polis exploitation objectives lie in getting European cities and regions to take up the results from the CATCH project in their future activities. This includes the cities that Polis has involved through the CATCH interest group and interested cities who have attended the CATCH interest group meetings organised by Polis, and beyond this, other Polis members.

Description of exploitable foreground

 For European cities and regions, we see five key exploitable aspects:

1. Research into how to best communicate about low carbon mobility (can be used in the development of carbon calculators, journey planners, etc.) (from WP1, grounding research)

2. "My city" tool which visualises a number of indicators on city level on sustainable transport and wider fields in a comparative way. (from WP4, also referred to as 'co-benefit' tool)

3. Trend visualisation of a number of city-level indicators (transport and other) which can be plotted against each other with a baseline of 1990. (from WP4, also referred to as 'scenario tool')

4. Methodology for creating CO_2 maps for cities based on existing available data. (from WP3, also known as GHG database)

5. Knowledge platform which contains the above tools and range of information relating to low carbon transport systems.

Description of exploitation strategy

1. Grounding work from WP1:

- *Timetable:* during and after project

- *Sector(s) of application:* transport

- *Target users:* local and regional authorities

- *Scale of exploitation expected:* Europe

- *Partner(s) involved:* Polis

- *Revenue expectations:* none

- *Actions planned for exploitation of results:* to take up this research: the results will and have been communicated to the target group. One way to ensure take-up of research is to incorporate it into new or future projects. Polis has, for example, already communicated this research to partners in COCITIES (http://www.co-cities.eu/) and ENHANCED WISETRIP (follow-up of WISETRIP: http://www.wisetrip-eu.org/) (in which Polis is a partner) as well In-TIME (http://www.in-time-project.eu/). Polis will continue to communicate the results to local and regional authorities of these results through projects and working group meetings (both the 'environment and health' and 'traffic efficiency and mobility' Polis pillars).

- Further research and development work: including results in new and forthcoming project proposals

- Patents or other IPR protection: n/a

- *Measures for the success of the exploitation activities:* inclusion of the mention of CATCH results in future project proposals, reference to CATCH results in existing or future projects.

- *Main barriers to achieving exploitation goals:* there are many parallel activities going on with respect to particularly carbon calculators and journey planners. It can be difficult to push CATCH findings to the front.

2. My City tool from WP4: & (3.) Trend visualisation from WP4 & (5.) CATCH knowledge platform

- *Timetable:* during and after project

- *Sector(s) of application:* transport

- *Target users:* local and regional authorities

- *Scale of exploitation expected:* Europe

- *Partner(s) involved:* Polis

- *Revenue expectations:* none

- *Actions planned for exploitation of results:* to take up this research: the results will and have been communicated to the target group. One way to encourage take-up of research is to incorporate this with sustainable urban mobility plans: both in communicating the plan to the public (and the need for the plan through the presentation in terms of co-benefits), the monitoring of indicators (beyond transport) for evaluation and the benchmarking of European cities as well as access to relevant information to incorporate climate change targets and measures in SUMPs. Polis works on the development of SUMPs with their member cities, and is also a partner in the ELTIS-Plus project (http://www.mobilityplans.eu/).

- Further research and development work: take up in projects & SUMP methodologies.

- Patents or other IPR protection: n/a

- *Measures for the success of the exploitation activities:* inclusion of the mention of CATCH results in work, reference to CATCH results in existing or future projects.

- *Main barriers to achieving exploitation goals*: data collection for this tool remains a large problem; including lack of capacities of local authorities to collect the requisite data to feed the tool & lack of data on urban level. It is also possible that the tools would have to be slightly modified to fit local conditions, and lack of IT skills with those developing SUMPs could be an issue. Other competing tools can also provide barriers to uptake of results.

4. Methodology for creating CO2 data

- *Timetable:* during and after project

- *Sector(s) of application:* transport

- *Target users:* local and regional authorities

- *Scale of exploitation expected:* Europe

- *Partner(s) involved:* Polis

- *Revenue expectations:* none

- *Actions planned for exploitation of results:* to take up this research: the results will and have been communicated to the target group. One way to encourage take-up of research is to incorporate this with actions in the Covenant of Mayors, and communicate methodology to signatories. Currently there is a lack of methodology in calculating CO2 emissions from urban transport. Also, there is growing interest in the calculation of CO2 emissions at city level as climate change takes a more prominent place within local, national and European policy. Polis will (and has) communicated this methodology to cities, and also within current (e.g. CITEAIR II – www.citeair.eu) and future projects.

- Further research and development work: take up in projects.

- Patents or other IPR protection: n/a

- *Measures for the success of the exploitation activities:* inclusion of the mention of CATCH results in work, reference to CATCH results in existing or future projects.

- *Main barriers to achieving exploitation goals*: a lack of incorporation of transport and mobility departments in the development of SEAPs (sustainable energy action plans) means difficult to incorporate the results from the transport side into SEAPs. There are several different methodologies available for calculating CO2, and currently no harmonisation of methodologies. All of this makes the take up of results uncertain and tricky, and the need for further research important.

4.2.1.3   QS Exploitation Plan

<u>Brief description of the organization</u>

Q-Sphere is an SME based in London. We develop software platforms to support on-line and real time services primarily in the financial sector and have also have had some applications more recently in Government services and m-commerce. Our technologies are primarily based on a Service Oriented Architecture in order to facilitate a loosely coupled environment for the accessibility, creation and utilisation of all the available services, content aggregation, syndication and discovery. We provide customised collaborative portal solutions and linked

exchange platforms based on Web 2.0 and utilising data mining and data modelling grounded within strong past and current research. We have a strong belief in R&D and have over 10 years of experience within Q-Sphere of European Collaborative Research. Q-Sphere is also a member of the European Technology Platform – NESSI and is represented on CEN/ISSS WG on Security.

Exploitation objectives:

Exploiting opportunities in new market sectors and existing markets through some of the knowledge learnt from CATCH.

Description of exploitable foreground

Working with any of existing partners to explore new opportunities potentially looking at the creation of applications from the work already done and the use of data mining and related analytics for areas such as traffic pattern analysis, yield management for incentive schemes for change in modes of transport use as some exemplars.

Description of exploitation strategy

- Timetable: First 18 Months after project

- Sector(s) of application: Public authorities, Local Government, Transport Operators , EU led initiatives : Smartcities , Eco-villages and multi-modal surface transport.

- Target users: Planners, Decision makers

- Scale of exploitation expected:

- Partner(s) involved: CATCH Partners

- Revenue expectations: Software Services

- Actions planned for exploitation of results: On-going consultation with existing partners and discussions with potential clients and attendance at networking opportunities

- Further research and development work: N/A

- Patents or other IPR protection: N/A

- Measures for the success of the exploitation activities: N/A

- Main barriers to achieving exploitation goals: N/A

4.2.1.4   SICE Exploitation Plan

Brief description of the organization

SICE is an industrial company of ACS Construction Group that develops all kinds of control, management and information systems for many different business sectors including traffic and transport. Since 1921 SICE has specialised in providing added-value services, integrating technologies in the fields of intelligent systems for transport and environmental control systems.

Exploitation objectives:

CATCH project resulted in a common platform customized for providing information and creating knowledge about carbon-aware urban mobility and other co-benefit aspects derived from that. SICE considers two main possible ways of exploiting the project outcomes:

- CATCH as a tool or product, offered to clients as part of SICE current portfolio;

- CATCH as a know-how to be applied to ICT-based prototypes and solutions in the smart urban mobility and smart cities areas;

SICE might also consider exploiting CATCH as a service, where end users pay some defined fees for accessing the information, although it would need further exploration into target users' willingness for accessing the information that CATCH can provide them with.

Description of exploitable foreground

The CATCH knowledge engine and visualization tools can be further improved and developed so as to be exploited as a consultant tool aimed at sustainable urban planners and decision makers willing to make some intervention in urban mobility plans and policies.

The CATCH platform can be further improved so that urban mobility planners can offer carbon-aware mobility information services to climate-concerned visitors and to cities and daily commuters.

Description of exploitation strategy

- Timetable: during and after the project.

- Sector(s) of application: Other passenger land transport (mainly urban ITS control and management sector), Consultancy and related activities; Information service activities.

- Target users: local and regional public administrations, policy makers in transport and mobility sectors, individual citizen (travellers).

- Scale of exploitation expected: European cities and regions.

- Partner(s) involved: CATCH partners.

- Revenue expectations: None at this stage.

- Actions planned for exploitation of results: SICE plans to exploit CATCH in the short term by further developing and piloting the CATCH solution under the framework of further development and innovation projects and actions; and in a mid-term perspective, SICE plans to exploit the results in demonstration activities aiming at proving CATCH solution's market acceptance and prototype implementation feasibility.

- Further research and development work: development of CATCH platform so as to meet the requirements for a feasible implementation at national and European level; further development will include improving the navigation of the platform so as to make it more easily and widely used (i.e. development of CATCH platform as a web page and as a smartphone compatible -Android and iPhone- and multi-lingual application)

- Patents or other IPR protection: None at this stage

- Measures for the success of the exploitation activities: The wide dissemination activity undertaken and easy accessibility to carbon-aware mobility information that CATCH generates; the existing gap related to other important co-benefit aspects of carbon-aware transport of value for the society like health, transport planning, budget information.

- Main barriers to achieving exploitation goals: Availability of data in the different regions and cities may be limited due to technical, political and legal constraints faced by public administrations in order to provide such information.

4.2.1.5   UWE Exploitation Plan

Brief description of the organization

The Centre for Transport & Society (CTS) is a research centre located within the at the Department of Planning and Architecture, Faculty of Environment and Technology, University of the West of England, Bristol (UWE). CTS is a 20+ strong team of transport planners and social scientists under the direction of Prof Graham Parkhurst.

The Centre's distinctive approach aims to improve understanding of the inherent links between lifestyles and personal travel in the context of continuing social and technological change. Colleagues at CTS provide skills and experience including human factors, cognitive psychology, spatial behaviour, activity-based models, organisational and political behaviour, marketing, policy and planning.

Centre members work on research grants and contracts with a total value to UWE of around £2.5 million, supported in particular by UK Government research councils, the European Union, and the UK Department for Transport.

Exploitation objectives:

The researchers at UWE have accomplished some truly unique work with respect to the communication of greenhouse gas information, with a particular focus on carbon dioxide (CO_2). Their work has included both the application of behavioural science theory and technical abilities to create usable information.

Through grounding work (WP1), their research has applied theories from behavioural sciences in a wide range of fields including behavioural economics, psychology, and health. The results of their work are applicable not only to transport (the main sector of focus for the CATCH project), but to any communication of greenhouse gas information (for example, in energy consumption context). Their research work has included participants from Europe, South America, and East Asia. For this global problem, a global perspective has been sought.

In the development of city-level road transport CO_2 estimates (within the development of the CATCH database, WP3), UWE researchers have created a unique database. Further, their comparative analysis work has highlighted some gaps and areas for improvement in the analysis and reporting of CO_2 information within the European Union.

The main exploitation objectives of CTS's work are to continue to disseminate their findings so that European (and other) countries may continue to contribute to leading research in the field of climate change.

Some of the insights developed by UWE in the R&D CATCH activities (mainly in WP1) might inform the design of innovative information-based applications supporting sustainable behaviour, and the design of policy measures that support behaviour change.

Findings from the work UWE was leading on the GHG and Transport database might be used in the development of new performance indicators and indexes triggering sustainable travel behaviours, and provide detailed analysis to inform European stakeholders on the carbon/transport performance of cities.

Description of exploitable foreground

As a research institute, CTS will continue to work to advance knowledge in this area of information's role in environmentally sustainable behaviour change. Their work focused on both regular citizens and professionals who deal with transport issues. The findings from their work will help advocates and practitioners around the world in communicating CO_2 information and promoting sustainable (transport) behaviours. Continuing efforts in dissemination will help with the application of their findings, whether by government, businesses, or concerned individuals.

Advancement of scientific knowledge gained at the CATCH project is likely to be focused on the following:

- How contextual design of information on the environmental attributes of transport alternatives might influence perceptions, increase awareness and promote sustainable (travel) behaviours among individuals travellers;

- How contextual design of information in the city level might raise carbon awareness, improve perceptions of carbon performance and promote engagement and motivation of stakeholders in the design and implementation of relevant policy measures;

- How data collected at EU might be used to generate benchmarking and analysis of the performance cities, to inform stakeholders.

The advancement of knowledge will be obtained mainly through academic and professional dissemination, and through teaching at undergraduate and postgraduate levels (such as transport studies; energy use and climate change studies, and other relevant programmes).

Description of exploitation strategy

- Timetable: Ongoing, though with a particular focus over the next year (Feb 2012 to Jan 2013)

- Sector(s) of application[18]: H49.1, H49.3, H50.1, H51.1, P85.4, M72.2, M73, M74.1, M71.1.2

- Target users: Information educators; Transport educators; Urban planning educators; Transport information providers; Climate change information providers; Local Authorities and Public decision-makers; Transport Organizations; Travellers (Citizens, Visitors)

- Scale of exploitation expected: Global (through internationally recognized journals); have given presentations in Europe, USA, Canada, Israel and Japan so far.

- Partner(s) involved: As actions are of academic nature, mostly UWE. But other CATCH partners might be involved.

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[18] http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

- Revenue expectations: Research funding, consultancy.

- Actions planned for exploitation of results: Several academic papers have been submitted to journals for consideration, are near submission, or are in draft form.

- Further research and development work: Further exploitation and validation of empirical findings on the effect of contextualized information on perceptions, motivation and behaviours associated with sustainable (travel) choices; further validation of algorithms used to analyse GIS-based inventory of GHG emissions.

- Further comparative analysis with available data related to transport CO_2 (e.g. Covenant of Mayors, GIS data from the Netherlands and Sweden); several surveys have been conducted in Europe, China, and South America that would benefit from further analysis.

- Patents or other IPR protection: Not foreseen at this time.

- Measures for the success of the exploitation activities: increasing collaboration activities with partners and stakeholders; new RTD proposals being developed.

- Main barriers to achieving exploitation goals: Resource investment (time and funding); low carbon transport remaining as a priority of European stakeholders and local authorities.

4.2.1.6   UFRJ Exploitation Plan

<u>Brief description of the organization</u>

UFRJ is the biggest Federal University in Brazil. The Department COPPE - UFRJ has a faculty of about 300 professors, all of them with PhD or Pos-PhD background. COPPE is the most important engineering graduate school in Latin America (about 170 graduate technicians and 3,000 students). There is a strong partnership among Transport Operators, Transport Agencies and PET.

<u>Exploitation objectives:</u>

Capacity building: further strengthen administrative capacity of designing, managing and supervising low carbon city projects

Policy implication: embed green and sustainable transport into the overall low carbon city action plan.

Raise awareness: promote CATCH research results and concept to the major local stakeholders and general public.

<u>Description of exploitable foreground</u>

- The CATCH knowledge platform and visual tools can be further improved to develop policies and applications city wide. In particular: i) a "City dashboard" can be further explored to provide reference for Brazilian cities; ii) further develop low carbon transport tools including inventory tool, GHG balance sheet analysis tools etc.

Description of exploitation strategy

- Timetable: During and after the end of the project.

- Sector(s) of application: Low Carbon Economy, Climate Change

- Target users: Local government agencies, local enterprises and organizations, general public, policy orientation and recommendation to provincial and national level stakeholders.

- Scale of exploitation expected: Rio de Janeiro, other Brazilian cities

- Partner(s) involved: CATCH partners

- Revenue expectations: n/a

- Actions planned for exploitation of results:

  Rio de Janeiro has been disseminating key project progress and outcomes with different stakeholders (public and private) at several dissemination and exploitation events

- Further research and development work: Web-based tools on inventory, energy management system, index system and green transport action plans

- Patents or other IPR protection: Not foreseen

- Measures for the success of the exploitation activities: policy adopted, city level green transport action plan in place

- Main barriers to achieving exploitation goals: More resource investments

4.2.1.7   SYSTEMATICA Exploitation Plan

Brief description of the organization

Systematica is a transportation consultancy with the main mission of helping public administrations and cities shape their transport system and networks in the most sustainable and efficient way. All Systematica's work and actions stem from the strong commitment to promoting and favouring the implementation of sustainable transport solutions for better mobility and better quality of life in cities.

Exploitation objectives:

Systematica's exploitation objectives lie in making use of CATCH results, instruments, and methodology in order to better – and more accurately – support public local authorities in shaping their low carbon transport future. Primary expected results would be increased consulting activities to support design and take-up of Sustainable Urban Mobility Plans in Italy, Europe and abroad. Experience gained in CATCH would also favour consulting activities in designing informative (and motivational) campaigns for behavioural changes in urban private transport.

Description of exploitable foreground

Within CATCH, Systematica designed, developed and deployed two motivational interactive visual tools: the "How is my city performing?", also known as the co-benefit tool; "Trends in

my city's performance", also known as the "scenario tool". The above instruments, through some necessary future changes (such as their adaptation to other languages and cultures), can help motivating public authorities to engage in the development and implementation of carbon reduction measures. Also, CATCH developed a methodology to adding value to numerical data through graphical social benchmarking and content management system integration for the promotion of best practices. This schema can be successfully applied to other experiences and researches, like the development of EU- or nation- wide information portals and systems on other transport areas.

Description of exploitation strategy

- Timetable: First 18 months after end of project

- Sector(s) of application[19]: Consultancy; Information service activities.

- Target users: Public authority; European Commission;

- Scale of exploitation expected: Italy, urban and national level; Europe;

- Partner(s) involved: CATCH partners.

- Revenue expectations:

- Actions planned for exploitation of results: Promotion of results at national and local level; use of results, methodology and developed instruments for consultancy services.

- Further research and development work: expansion of tools' functionalities; language adaptation; expansion of offered content and data.

- Patents or other IPR protection: none.

- Measures for the success of the exploitation activities: increasing collaboration activities with partners and stakeholders; new RTD proposals under organization;

- Main barriers to achieving exploitation goals: more resource investments (time, costs) to fine tune tools with market needs.

4.2.1.8   UITP Exploitation Plan

Brief description of the organization

The International Association of Public Transport (UITP) is the international network for public transport authorities and operators, policy decision-makers, scientific institutes and the public transport supply and service industry. It is a platform for worldwide cooperation, business development and the sharing of know-how between its 3,400 members from 92 countries. UITP is the global advocate of public transport and sustainable mobility, and the promoter of innovations in the sector.

Exploitation objectives:

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[19] http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

UITP's exploitation objectives lie in increasing knowledge and capacity of public transport authorities and operators in triggering sustainable low carbon mobility. This includes getting UITP members to take up the results of the CATCH project in their future activities.

Description of exploitable foreground

Assist UITP members in communicating the benefits of low carbon mobility (co-benefits tool). Utilise the application to support the advocacy efforts of UITP and its members in respect of increasing the understanding of the public transport sectors contribution to sustainable development.

Description of exploitation strategy

- Timetable: During and after the end of the project.

- Sector(s) of application: Public transport and sustainable urban mobility.

- Target users: Public transport authorities and operators.

- Scale of exploitation expected: Focus on Europe.

- Partner(s) involved: CATCH partners and UITP.

- Revenue expectations: None.

- Actions planned for exploitation of results: UITP will continue to communicate the results and outcomes of the Catch project to UITP members via projects, meetings and publications.

- Further research and development work: Alignment of Catch project results with UITP's statistical database.

- Patents or other IPR protection: None.

- Measures for the success of the exploitation activities: Inclusion of Catch results in future project proposals and advocacy efforts.

- Main barriers to achieving exploitation goals: More resource investments (time, costs) to fine tune tools with local needs and understanding.

4.2.1.9   TRL Exploitation Plan

Brief description of the organization

TRL (the UK's Transport Research Laboratory) is one of the largest and most comprehensive independent centres working in transport in the world. It has developed research-based technical knowledge for over 75, which enables clients to obtain a better understanding of transport problems and cost-effective opportunities for overcoming them.

TRL works with governments and international funding institutions to set standards for highway and vehicle design, formulate policies on road safety, improve transport and the environment, and encourage good traffic engineering practice. Its work for companies enables

them to gain added value in providing and maintaining transport infrastructure and services, or to minimise the cost of transport on their operations.

Its primary objective is to conduct commissioned research, investigations, studies and tests to the highest levels of quality, reliability and impartiality. TRL carries out its work in such a way as to ensure that clients receive results that not only meet the project-specification, but are also geared to rapid and effective implementation.

Exploitation objectives:

TRL would like to help to ensure that the potential impact of the CATCH project on decision-making in the fields of transport and climate change mitigation is capitalised upon. It would therefore like to further disseminate, review and develop the knowledge and tools developed in the project.

Description of exploitable foreground

There are three main areas of the CATCH project that TRL would like to exploit in the near future:

- Guidelines on communication principles that could encourage low carbon travel behaviours;

- The approach developed and applied for estimating CO_2 emissions in the context of limited data availability;

- The 'my city' tool, and specifically the related approach taken to co-benefits.

It is envisaged that the exploitation could take the form of research, consultancy, and/or the development of web-based applications to enhance the accessibility of the CATCH results.

Description of exploitation strategy

- Timetable: During and after the project

- Sector(s) of application: Transport

- Target users: Local government and NGOs.

- Scale of exploitation expected: International

- Partner(s) involved: CATCH partner(s)

- Revenue expectations: Consultancy services

- Actions planned for exploitation of results: Continue to disseminate results and to incorporate reference to the results into research and consultancy deliverables for other clients.

- Further research and development work: Build upon certain elements of the CATCH results, particularly in respect to the findings in relation to communicating low carbon transport messages to the different CATCH stakeholders (particularly citizens and local authorities), and in incorporating CATCH tools into decision-making processes.

- Patents or other IPR protection: N/A

- Measures for the success of the exploitation activities: It is anticipated that this will largely be measured in terms of future collaboration with CATCH partners and with other stakeholders

- Main barriers to achieving exploitation goals: The availability of financial resources to support the potential for exploitation.

4.2.1.10 E-FORUM Exploitation Plan

<u>Brief description of the organization</u>

EU e-Forum is a network established with EU funding in order to help the take-up of identified best practice in eGovernment. It is unique in the sense that it combines a membership of local and central government, academics and industry. It specialises in a few areas such as governance, security and privacy, identity management, secure messaging etc as well as having a strong linkage with China through its EU-China e-Forum activities.

<u>Exploitation objectives:</u>

As a networking organisation we do not exploit products on the market and so interest will be in increasing our capacity to assist members, increasing membership and developing more areas where we can consider that we have enough competence to exploit further, with participation in new projects for our membership and for e-Forum itself. The results of CATCH will contribute to both strengthening our links with China and with increasing our understanding and relations in the area of governance and policy making.

<u>Description of exploitation strategy</u>

Events will be planned in Brussels and in Vienna in Spring 2012 to consolidate these opportunities. The visit to China in December 2011 should pave the way for strengthening and creating sector specific networks in EU-China relations. Other events will be held in Sheffield in order to consolidate a planned network around governance and policy making with contacts now established with FUPOL, Ubipol and Impact.

E-Forum would expect to be involved directly in new projects in this field based on the experience already gained and would seek to strengthen arrangements with other existing networks, such as Major Cities and Eurocities, to encourage further specialisation and division of labour.

Simple measures of success would be involvement in new initiatives, recognition and increased funding for the China work and increased membership coming from the new sectors being exploited for the first time.

4.2.1.11 HAND Exploitation Plan

<u>Brief description of the organization</u> (few lines)

Handan Informatisation Office is a government agency, which belongs to the government of the Handan City in China. Handan is currently the third largest industrial city in the Hebei Province, next only to Shi Jiazhuang and Tangshan. The aim of the Handan Informatisation Office is to provide IT services to all departments and counties concerning their e-government activities in the Handan region.

Exploitation objectives:

Capacity building: further strengthen administrative capacity of designing, managing and supervising low carbon city projects

Policy implication: embed green and sustainable transport into the overall low carbon city action plan.

Raise awareness: promote CATCH research results and concept to the major local stakeholders and general public.

Description of exploitable foreground[20]

- The CATCH knowledge platform and visual tools can be further improved to develop policies and applications provincial wide to be in conform to sustainable development actins in the 12th five-year transport plan. In particular: i) a "City dashboard" web-based tool can be further explored to provide reference for Chinese cities; ii) further develop low carbon transport tools including inventory tool, GHG balance sheet analysis tools etc.

- Further study best practices from EU countries, produce and research guidelines and tools that applicable in Chinese small and medium cities.

Description of exploitation strategy

- Timetable: During and after the end of the project.

- Sector(s) of application: Green freight, training, consulting efforts and computer programming

- Target users: Local government agencies, local enterprises and organizations, general public, policy orientation and recommendation to provincial and national level stakeholders.

- Scale of exploitation expected: Handan local authority, Hebei Province neighbouring cities, Low carbon city China alliance, EU-China eForum member cities, EU partners

- Partner(s) involved: CATCH partners and EU China eFourm

- Revenue expectations: consulting service and government fund

- Actions planned for exploitation of results:

  Handan has been disseminating key project progress and outcomes with different stakeholders (public and private) at several dissemination and exploitation events

- Further research and development work: Web-based tools on inventory, energy management system, index system and green transport action plans

- Patents or other IPR protection: Not foreseen

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[20] Type of Foreground can include: General advancement of knowledge, Commercial exploitation of R&D results, Exploitation of R&D results via standards, exploitation of results through EU policies, exploitation of results through (social) innovation.

- Measures for the success of the exploitation activities: policy adopted, city level green transport action plan in place

- Main barriers to achieving exploitation goals: More resource investments (time, costs) to fine tune tools with local needs. More expertise input from EU and other Chinese cities.

4.3 Report on societal implications

A	General Information *(completed automatically when Grant Agreement number is entered.*

Grant Agreement Number:	234094
Title of Project:	Carbon-Aware travel choice in the city, region and world of tomorrow
Name and Title of Coordinator:	Dr. Steven Cassidy – MRC McLean Hazel

B	Ethics	

1. Did your project undergo an Ethics Review (and/or Screening)? * If Yes: have you described the progress of compliance with the relevant Ethics Review/Screening Requirements in the frame of the periodic/final project reports? Special Reminder: the progress of compliance with the Ethics Review/Screening Requirements should be described in the Period/Final Project Reports under the Section 3.2.2 *'Work Progress and Achievements'*	*No*
2. Please indicate whether your project involved any of the following issues (tick box) :	*YES*
RESEARCH ON HUMANS	
* Did the project involve children?	
* Did the project involve patients?	
* Did the project involve persons not able to give consent?	
* Did the project involve adult healthy volunteers?	
* Did the project involve Human genetic material?	
• Did the project involve Human biological samples?	
• Did the project involve Human data collection?	
RESEARCH ON HUMAN EMBRYO/FOETUS	
* Did the project involve Human Embryos?	
* Did the project involve Human Foetal Tissue / Cells?	
* Did the project involve Human Embryonic Stem Cells (hESCs)?	
* Did the project on human Embryonic Stem Cells involve cells in culture?	
* Did the project on human Embryonic Stem Cells involve the derivation of cells from Embryos?	
PRIVACY	
* Did the project involve processing of genetic information or personal data (eg. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?	
* Did the project involve tracking the location or observation of people?	
RESEARCH ON ANIMALS	

* Did the project involve research on animals?	
* Were those animals transgenic small laboratory animals?	
* Were those animals transgenic farm animals?	
* Were those animals cloned farm animals?	
* Were those animals non-human primates?	
RESEARCH INVOLVING DEVELOPING COUNTRIES	
* Did the project involve the use of local resources (genetic, animal, plant etc)?	
* Was the project of benefit to local community (capacity building, access to healthcare, education etc)?	
DUAL USE	
• Research having direct military use	0 Yes 0 No
* Research having the potential for terrorist abuse	

C   Workforce Statistics

3.   Workforce statistics for the project: Please indicate in the table below the number of people who worked on the project (on a headcount basis).

Type of Position	Number of Women	Number of Men
Scientific Coordinator	3	4
Work package leaders	4	5
Experienced researchers (i.e. PhD holders)	5	5
PhD Students	4	6
Other	0	5

4. How many additional researchers (in companies and universities) were recruited specifically for this project?	**2**
Of which, indicate the number of men:	2

D   Gender Aspects

5.	Did you carry out specific Gender Equality Actions under the project?	○ ●	Yes No

6.   Which of the following actions did you carry out and how effective were they?

		Not at all effective				Very effective
❏	Design and implement an equal opportunity policy	○	○	○	○	○
❏	Set targets to achieve a gender balance in the workforce	○	○	○	○	○
❏	Organise conferences and workshops on gender	○	○	○	○	○
❏	Actions to improve work-life balance	○	○	○	○	○
○	Other:					

7.   Was there a gender dimension associated with the research content – i.e. wherever people were the focus of the research as, for example, consumers, users, patients or in trials, was the issue of gender considered and addressed?

- ○   Yes- please specify

- ●   No

E   Synergies with Science Education

8.   Did your project involve working with students and/or school pupils (e.g. open days, participation in science festivals and events, prizes/competitions or joint projects)?

- ○   Yes- please specify

- ●   No

9.   Did the project generate any science education material (e.g. kits, websites, explanatory booklets, DVDs)?

- ○   Yes- please specify

- ○   No

F   Interdisciplinarity

10.   Which disciplines (see list below) are involved in your project?

- ○   Main discipline[21]: 2.3 Other engineering science
- ○   Associated discipline[21]: Psychology   ○   Associated discipline[21]: Other Social Scinces

G   Engaging with Civil society and policy makers

11a	Did your project engage with societal actors beyond the research community? *(if 'No', go to Question 14)*	● ○	Yes No

11b   If yes, did you engage with citizens (citizens' panels / juries) or organised civil society (NGOs, patients' groups etc.)?

- ○   No
- ○   Yes- in determining what research should be performed
- ●   Yes - in implementing the research
- ○   Yes, in communicating /disseminating / using the results of the project

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[21] Insert number from list below (Frascati Manual).

			Yes
11c	**In doing so, did your project involve actors whose role is mainly to organise the dialogue with citizens and organised civil society (e.g. professional mediator; communication company, science museums)?**	○ ○	Yes No

12.	**Did you engage with government / public bodies or policy makers (including international organisations)**
	○ No
	○ Yes- in framing the research agenda
	● Yes - in implementing the research agenda
	○ Yes, in communicating /disseminating / using the results of the project

13a Will the project generate outputs (expertise or scientific advice) which could be used by policy makers?

    ○   Yes – as a **primary** objective (please indicate areas below- multiple answers possible)

    ●   Yes – as a **secondary** objective (please indicate areas below - multiple answer possible)

    ○   No

13b If Yes, in which fields?

Agriculture	Energy	Human rights
Audiovisual and Media	Enlargement	Information Society
Budget	Enterprise	Institutional affairs
Competition	**Environment**	Internal Market
Consumers	External Relations	Justice, freedom and security
Culture	External Trade	Public Health
Customs	Fisheries and Maritime Affairs	Regional Policy
Development Economic and Monetary Affairs	Food Safety	Research and Innovation
Education, Training, Youth	Foreign and Security Policy	Space
Employment and Social Affairs	Fraud	Taxation
	Humanitarian aid	Transport

13c If Yes, at which level?

- ● Local / regional levels
- ○ National level
- ○ European level
- ○ International level

H   Use and dissemination

14. How many Articles were published/accepted for publication in peer-reviewed journals?	**0**
To how many of these is open access[22] provided?	**0**
How many of these are published in open access journals?	**0**
How many of these are published in open repositories?	**0**
To how many of these is open access not provided?	**0**
Please check all applicable reasons for not providing open access:	
❑ publisher's licensing agreement would not permit publishing in a repository ❑ no suitable repository available ❑ no suitable open access journal available ❑ no funds available to publish in an open access journal ❑ lack of time and resources ❑ lack of information on open access ❑ other[23]: ……………	

15. How many new patent applications ('priority filings') have been made? *("Technologically unique": multiple applications for the same invention in different jurisdictions should be counted as just one application of grant).*		**0**
16. Indicate how many of the following Intellectual Property Rights were applied for (give number in each box).	Trademark	**0**
	Registered design	**0**
	Other	**0**
17. How many spin-off companies were created / are planned as a direct result of the project?		**0**
	Indicate the approximate number of additional jobs in these companies:	

18. Please indicate whether your project has a potential impact on employment, in comparison with the situation before your project: ❑ Increase in employment, or ❑ In small & medium-sized enterprises ❑ Safeguard employment, or ❑ In large companies ❑ Decrease in employment, ■ None of the above / not relevant to the project ❑ Difficult to estimate / not possible to quantify	
19. For your project partnership please estimate the employment effect resulting directly from your participation in Full Time Equivalent (*FTE = one person working fulltime for a year*) jobs:	*Indicate figure:* *Difficult to estimate*

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[22] Open Access is defined as free of charge access for anyone via Internet.

[23] For instance: classification for security project.

■

Difficult to estimate / not possible to quantify

I   Media and Communication to the general public

20.   As part of the project, were any of the beneficiaries professionals in communication or media relations?

● ●   Yes   ○   No

21.   As part of the project, have any beneficiaries received professional media / communication training / advice to improve communication with the general public?

○   Yes   ●   No

22   Which of the following have been used to communicate information about your project to the general public, or have resulted from your project?

❏	Press Release	■	Coverage in specialist press
❏	Media briefing	❏	Coverage in general (non-specialist) press
❏	TV coverage / report	❏	Coverage in national press
❏	Radio coverage / report	■	Coverage in international press
❏	Brochures /posters / flyers	❏	Website for the general public / internet
❏	DVD /Film /Multimedia	❏	Event targeting general public (festival, conference, exhibition, science café)

23   In which languages are the information products for the general public produced?

❏	Language of the coordinator	■	English
❏	Other language(s)		

Question F-10: Classification of Scientific Disciplines according to the Frascati Manual 2002 (Proposed Standard Practice for Surveys on Research and Experimental Development, OECD 2002):

FIELDS OF SCIENCE AND TECHNOLOGY

1.   NATURAL SCIENCES
1.1   Mathematics and computer sciences [mathematics and other allied fields: computer sciences and other allied subjects (software development only; hardware development should be classified in the engineering fields)]
1.2   Physical sciences (astronomy and space sciences, physics and other allied subjects)
1.3   Chemical sciences (chemistry, other allied subjects)
1.4   Earth and related environmental sciences (geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, vulcanology, palaeoecology, other allied sciences)
1.5   Biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, other allied sciences, excluding clinical and veterinary sciences)

2   ENGINEERING AND TECHNOLOGY
2.1   Civil engineering (architecture engineering, building science and engineering, construction engineering, municipal and structural engineering and other allied subjects)
2.2   Electrical engineering, electronics [electrical engineering, electronics, communication engineering and systems, computer engineering (hardware only) and other allied subjects]
2.3.   Other engineering sciences (such as chemical, aeronautical and space, mechanical, metallurgical and materials engineering, and their specialised subdivisions; forest products; applied sciences such as

geodesy, industrial chemistry, etc.; the science and technology of food production; specialised technologies of interdisciplinary fields, e.g. systems analysis, metallurgy, mining, textile technology and other applied subjects)

3.   MEDICAL SCIENCES
3.1   Basic medicine (anatomy, cytology, physiology, genetics, pharmacy, pharmacology, toxicology, immunology and immunohaematology, clinical chemistry, clinical microbiology, pathology)
3.2   Clinical medicine (anaesthesiology, paediatrics, obstetrics and gynaecology, internal medicine, surgery, dentistry, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology, ophthalmology)
3.3   Health sciences (public health services, social medicine, hygiene, nursing, epidemiology)

4.   AGRICULTURAL SCIENCES
4.1   Agriculture, forestry, fisheries and allied sciences (agronomy, animal husbandry, fisheries, forestry, horticulture, other allied subjects)
4.2   Veterinary medicine

5.   SOCIAL SCIENCES
5.1   Psychology
5.2   Economics
5.3   Educational sciences (education and training and other allied subjects)
5.4   Other social sciences [anthropology (social and cultural) and ethnology, demography, geography (human, economic and social), town and country planning, management, law, linguistics, political sciences, sociology, organisation and methods, miscellaneous social sciences and interdisciplinary , methodological and historical S1T activities relating to subjects in this group. Physical anthropology, physical geography and psychophysiology should normally be classified with the natural sciences].

6.   HUMANITIES
6.1   History (history, prehistory and history, together with auxiliary historical disciplines such as archaeology, numismatics, palaeography, genealogy, etc.)
6.2   Languages and literature (ancient and modern)
6.3   Other humanities [philosophy (including the history of science and technology) arts, history of art, art criticism, painting, sculpture, musicology, dramatic art excluding artistic "research" of any kind, religion, theology, other fields and subjects pertaining to the humanities, methodological, historical and other S1T activities relating to the subjects in this group]