



CAPTOR

Collective Awareness Platform for Tropospheric Ozone Pollution

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List of Abbreviations

APP	Application
CAP	Collective Awareness Platform
NEC	National Emission Ceilings
NGOs	Non-governmental organization
PQA	Plataforma per la Qualitat de l'Aire

Executive Summary

Description of the work

This report presents the **results of citizen empowerment for collaborative learning in the first year of the project**, documenting the number of activities realized in 2016, the number of people involved and the dissemination material provided in the three testbeds areas. This report show also the national reports on the engagement activities and empowerment strategies achieved.

Objectives

The main objectives of the deliverable are:

- Describe citizen empowerment for collaborative learning actions during the first year of the project.
- Show citizen engagement empowerment actions for collaborative learning in the Spanish, Austrian and Italian testbeds during 2016.

1. Introduction

The CAPTOR project aims to monitor the ozone concentrations in rural areas, using low-cost and widely distributed sensors, involving citizens in monitoring and in advocating public authorities for clean air. In order to reach the project objectives, the involvement of citizens from regions affected by tropospheric ozone pollution in a collaborative learning process is foreseen as a key element. To realize this goal, the best way to get in touch with people and start paths together, is realize different events with different target of stakeholders.

This report will be focused on:

- a) The strategy used by local facilitators (the NGO partners of the project) to create a collaborative learning process between volunteers and stakeholders engaged at different levels (hosts and observers), and;
- b) The activities done and the tools used to achieve the objectives.

The citizen science process and engagement, D4.2, reached during the first year of activities is closely related to the growth of the collaborative learning process expected from the project. Due to this interaction from these two aspects, some citizen science experiences realized by the project are used in the next paragraphs as starting point for the development of the collaborative learning activities achieved.

2. Activity report and materials realized

The activities carried out during the first year of the project have been numerous and have reached a broad and diversified target of citizens. In the first six months of the project, the activities were more general and concerned meetings and conferences focused on the presentation of the project in the context of specific initiatives. For example, the Conference "*Urban air quality - problems and possible solutions*" - Generalitat Valenciana, February 5th, 2016 Valencia in Spain and the workshop "*Partnering up for Citizen Science*" - June 7th 2016, Graz in Austria, have seen the presentation of Captor project and the approach used to involve people in citizen science.

In the second half of 2016, in addition to these activities, have been made more specific Captor meetings and presentations. Also, the involvement of the first volunteers has been done during the second part of the year. With the help of the website (www.captorproject.eu) and a first part of the sensors, the volunteers touched the first tools of the project and they increased the knowledge and the perception about the ozone problem. These tools have been defined, implemented and tested in the national monitoring networks of each country with the observations of the volunteers.

In this first year, Spanish partners of the project realized more diversified number of meetings and initiatives (11 in total). Their commitment was addressed not only to present the project, but also to involve directly the volunteers in view to start of the first summer ozone monitoring. The purpose of this commitment was addressed also to the verification and calibration of Captor instruments in Catalonia.

In Italy and Austria, the activities mainly related with the project have been meetings for the presentation of the project at local initiatives and internal meetings with volunteers. These activities were useful to inform and form volunteers about the development of the project (16 in total).

The activities carried out in 2016 by partners are in total 27, 50% of which concerned citizen groups and volunteers, 35% of which regards research institutes and academia, 15% of which have seen the participation of local administrators and media actions. In the first year, the number of people reached through this directly initiatives were approximately 700 units, not considering people achieved by media and social action.

Every event has involved local stakeholders (social, environmental, etc), municipal representatives (environment, health, education, etc.), schools, etc. depending on the phase of the project or on the characteristics of the Country involved.

To realize these meetings, partners produced a lot of dissemination material specific for the context of the event. At the beginning of the project, partners designed a graphical format in different sizes, to use and adapt in every Country during every meeting: starting to the graphical idea used for the logo and for the website, dissemination flayers, papers, roll up, screensaver etc. follows a common style, to guarantee a uniform communication in all the country involved.

In total in the first year we produced 3 models of flyers (in Spanish, Austrian and Italian language), 2 models of posters, 1 newsletter and 6 slides to present the project in conferences or meetings.

CAPTOR

COLLECTIVE AWARENESS PLATFORM
FOR TROPOSPHERIC OZONE POLLUTION



Newsletter No 1

Citizen Empowerment to fight Ozone Pollution

August 2016

General project overview

CAPTOR is a collaborative project funded by the European Union's Horizon 2020 research and innovation programme, which started in January 2016 for a duration of 3 years. The consortium is composed of 8 partners, environmental NGOs and research centers, coming from Spain, Italy, Austria and France.

Air pollution is the environmental topic that European citizens worry about most.¹ It is responsible for 400.000 premature deaths in Europe each year and puts considerable damage to agriculture as well as our natural environment.² The health-related costs are estimated between €300 billion and €900 billion every single year.³ CAPTOR objectives address the general **air pollution problem, which will be depicted by monitoring specifically the tropospheric ozone**. Ozone is a secondary pollutant which originates from photochemical reactions linked to its gaseous precursors nitrogen oxides (NOx) and organic volatile compounds (VOCs), emitted mainly in urban environment.



Partners of CAPTOR project
General Assembly and Kick-off meeting
Barcelona 18-19 January 2016

In CAPTOR citizens and scientists collaborate closely to monitor and address ozone pollution in Europe. We aim to establish a monitoring network made of low-cost sensors to measure ozone pollution in affected areas, and we'll use collaborative learning tools to stimulate collaborative solution finding.

Ozone Monitoring Plan

The low cost sensors will be hosted and maintained by the concerned citizens themselves and developed with a special attention on the quality of data, because this is a crucial point of the citizens' empowerment and mobilisation. The plan also involves national Air Quality Agencies in the preparation, respectively the comparison and calibration of first measurement data with data from official monitoring stations.

In order to ensure that the **data collected by the sensing nodes deployed in CAPTOR is of the highest scientific quality possible**, first steps were to develop guidelines for:

- Deployment: macro-scale and micro-scale placement criteria.
- Technical requirements: Power supply and Wi-Fi access.
- Test and Calibration before deployment.
- Maintenance and servicing.

¹ "Attitudes of European Citizens towards the Environment", 2014, Special Eurobarometer 416 / Wave EB81.3

² <http://www.eea.europa.eu/themes/air>, European Environment Agency

³ <https://ecf.com/news-and-events/news/ecf-joins-alliance-better-eu-air-quality-laws>

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Citizens' Ozone Measurement: First Campaign started!

Three ozone measurement campaigns will be carried out by volunteers during the summer periods, when tropospheric ozone reaches maximum concentrations in Europe. While in the Spanish test bed first volunteers have already been involved as hosts during the campaign 2016, in Austria and Italy the real involvement will start for the campaign in 2017. The reason is that during the first campaign the entire system as well as the developed tools to publish the captured data in real time on website, mobile app and Collaborative learning platforms will be tested.

Want to know how our CAPTORs sensors to measure ozone look like?

Watch a short video how the teams from UPC and CSIC in Barcelona built the first CAPTORs to measure air quality:



<https://vimeo.com/169677817>



As planned, on May 17 2016 the first call for volunteers in Catalonia (Spain) was launched and got a great response with a total of 84 registered candidates for a final selection of 20 volunteers. In addition to installing the sensors in the volunteers' homes, we proceeded to sign a collaboration agreement with the volunteers and asked to fill out the first questionnaire that helps to understand the social impact of the project. To encourage participants' involvement with the project and go forward from being a host volunteer to an *observer* (= people who watch data, discuss and take further actions), all the news and events related to the project, as well as the next steps in the campaign are actively communicated to volunteers. At the end of the first campaign we will develop a report with the collected data of the sensors in order to share the study results with participants and all interested stakeholders. The remaining candidates who were not selected (except one) maintain

interest to keep in touch for the future campaigns (planned to expand to 35 volunteers) or to collaborate in further activities provided by the project. The campaign has generated much interest in the areas by local authorities and media.

Creating CAPTOR Community

A Dissemination, Communication and Outreach Plan was prepared to define the strategy, materials and activities that will be implemented during the project in order to:

- Disseminate the results of the project and raise awareness to all relevant stakeholders.
- Facilitate information exchange and collaboration on air pollution problems and solutions.
- Use the results of the project to promote changes in collective behavior.

Generally speaking, the project dissemination strategy builds on three levels or stages of dissemination: awareness, involvement and action.



Map with the installed captor nodes

The social embeddedness in the community of CAPTOR participants will not only be supported by face-to-face events but also by community platforms (local CAPTOR platforms, mobile app and website) that will visualise the collected data and foster the sharing of experiences, learning, stories and ideas on solutions between all stakeholders involved. Important elements in each national campaign are the mass media strategy and street actions in order to reach the wider public. Social media and online activities are an additional important

element and need to be connected to the local communities. During the first months of the project large part of the dissemination and communication actions were carried out with more intensity in Spain (events, videos, street actions, press releases). These actions and lessons learned will be passed on to the other countries.



Anna Romeo, CAPTOR Volunteer in a television interview about the project

On the other hand several Project presentations were held in conferences at regional, national and European level and have been established networks and strategic partnerships to reinforce the impact of the project.

CAPTOR participation in events, workshops and scientific conferences (own and external events)

Activity	When	Where
Catalonia CAPTOR Allies Meeting	11 th January 2016	Barcelona (Spain)
Conference "Urban air quality - problems and possible solutions" Organized by: Generalitat Valenciana, with the collaboration of the European project AIRUSE LIFE +	February 5th, 2016	Valencia (Spain)
How to report on air quality? ESAIRE project. Organized by: Centro de Investigación en Epidemiología Ambiental, CREAL-ISGlobal	February 18th, 2016	Barcelona (Spain)
ÖSCK 2016 - Austrian Citizen Science Conference	18/19 February, 2016	Lunz am See (Austria)
Collective Awareness Platforms for Sustainability and Social Innovation. Community Meeting	18th of May 2016	Berlin (Germany)
ECSA Citizen Science Conference	May 19–21th, 2016	Berlin (Germany)
Symposium on tropospheric ozone and air quality Organized by Ecologistas en Acción	June 4th, 2016	Madrid (Spain)
ECSITE 2016 - Workshop "Partnering up for Citizen Science"	Jun 7th 2016	Graz (Austria)
"Air pollution in Osona Seminar" Presentation of the CAPTOR project and the campaign of citizens measuring tropospheric ozone levels in Osona and other areas of Catalonia	July 15th, 2016	Vic (Barcelona, Spain)

CAPTOR press releases achieved a positive impact in Spanish media and some activities was covered in local televisions, examples: <http://linkis.com/www.ei9nou.cat/tvcar/kVfkt>, <http://canaltaronja.tv/osona/video/info-8-agost/> (viewing from the 9:50 minute). Among the elaborated dissemination materials, videos are an important content element for social media distribution and we are thus preparing short videos about the CAPTOR project itself and its activities. They are distributed via social media channels and the website. Providing short videos has proven to be an attractive means of communicating basic ideas towards a wider audience. **Do not miss them!**



Criticona: cycling event in Barcelona

<https://www.captor-project.eu/index.php/en/2016/05/25/criticona-cycling-event-in-barcelona/>



ART for clean air!

<https://www.captor-project.eu/index.php/en/2016/06/17/art-for-clean-air/>



Putting masks on our statues

<https://www.captor-project.eu/index.php/en/2016/05/17/putting-masks-on-our-statues/>

Contacts

Project coordinator: Jorge Garcia Vidal– email: jorge@ac.upc.edu

Stay informed and register at our website: captor-project.eu

Follow us on: [@captor_air](https://twitter.com/captor_air)

CAPTOR is a #CitizenScience project addressing ozone pollution in Europe



Figure 1: Captor newsletter (English version) - page 3

2.1 Activity in Spain

The *Plataforma per la Qualitat de l'Aire* (PQA) is the principal alliance against pollution in Catalonia. It is also the privileged interlocutor for the promotion of project activities, together with concerned entities in the affected areas. The PQA members usually have a meeting every 10 to 15 days in Barcelona and have various work committees. This kind of organization and the “face to face” meetings, make it easy to realize and to organize the activities planned with the CAPTOR project.

In order to attract the interest of involved local communities and stakeholders, several events were organized to explain the project and to introduce the citizen science approach. The activities done in the testbed area during 2016 were realized with the collaboration of the local organizations, in order to improve their knowledge and to become a point of reference for local community in their areas affected by the ozone problem:

- **Catalonia CAPTOR Allies Meeting**, 11th January 2016, Barcelona.
- **Conference "Urban air quality - problems and possible solutions"**, Generalitat Valenciana, February 5th, 2016 Valencia.
- **How to report on air quality?** ESAIRE Project, CREAL-ISGlobal, Feb 18th, 2016 Barcelona.
- **Call for Captor volunteers in Catalonia** (Spain), May 17th 2016
- **Symposium on tropospheric ozone and air quality**, Ecologistas en Acción. June 4th, 2016 Madrid.
- **Air pollution in Osona** Seminar Presentation of the CAPTOR project and the campaign of citizens measuring tropospheric ozone levels in Osona and other areas of Catalonia, July 15th, 2016 Vic (Barcelona, Spain).
- **Talks on sustainable mobility**¹, October 22, 2016, Barcelona. (figure 1)
- **Seminar on Environment and health**², November 19th 2016, Barcelona.
- **Air pollution: a serious public health problem.** Presentation pollution problem and effects in external events, organized by a captor volunteer, November 25th 2016, Barcelona (Spain).

¹ <http://www.qualitatdelaire.org/2016/10/som-meridiana-dissabte-22-doctubre.html>

² <http://associacioapquira.org/jornada-de-difusion-sobre-medio-ambiente-y-salud/>



Figure 2: Captor presentation at Talks on sustainable mobility (on the left) and Air pollution: a serious public health problem (on the right)

Social media have been an additional important element for rising awareness and interest about the ozone problem and the project proposal. During the first campaign, in the moments of high exceedances of ozone pollution, the public events, actions and social media communications became more intensive and incisive. Volunteer's engagement was enforced also through street actions, in order to arrive fast to the mass media attention.

The most prominent actions have been:

- Putting masks on our statues May 17th 2016, Barcelona.
- Criticona: cycling event in Barcelona May 25th 2016, Barcelona.

The empowerment generated by the project have been at various levels:

Volunteers have valued very positively the participation in the project and they want to continue in the next campaign. They improved the knowledge about the ozone pollution and they felt useful with their contribution to the project. Next step will be to extend the knowledge about the ozone pollution to other people and to create an active and reactive society, ready to fight air pollution.

Organizations from affected areas in Catalonia, became part of the network against pollution in Catalonia with whom the project is promoted (*Plataforma per la Qualitat de l'Aire, PQA*).

The PQA participation in government advisory committees against pollution in Catalonia (for example with the Committees of the City Council of Barcelona and the Catalan Government, and

Metropolitan area mobility Council) have contributed on possible solutions to reduce the air pollution and improve the air quality in the area.

As a result, we can highlight the following outcomes:

- ***Proposed solutions presented***

The CAPTOR allies (*Ecologistes en Acció, Grup de Defensa del Ter, Coordinadora per a la Salvaguarda del Montseny and Plataforma per la Qualitat de l'Aire*), requested concrete quality improvement plans for ozone air from the Catalan Government.

- ✓ Presentation of an European notification against the Spanish government for negligence to take a timely solution in the ozone-affected areas of the state.
- ✓ Request for the inclusion of Air Quality as a central policy of the future Catalan Climate Change law.
- ✓ Participation in the debate with MEPs on the new national emission ceilings Directive (NEC) organized in Barcelona.
- ✓ (<http://www.qualitatdelaire.org/2016/11/nova-directiva-europea-sobre-la.html>)
- ✓ Elaboration (in process) of future campaigns to ask for implementation of traffic restriction measures in the metropolitan area of Barcelona, which is the main hotspot of ozone generation.
- ✓ (<http://www.menyscotxesmessalut.org/>)

- ***Political impact***

For the first time, the Catalan Government organized an event, on 2th November, 2016, to show the report of official ozone campaign in 2016. Captor partners and allies participated underlining the need of improvements in the government information campaign and citizen proposal solutions to reduce ozone levels.

For the first time the Catalan Government sent out a survey to assess citizen satisfaction about air quality.

2.2 Activity in Italy

During the first year in Italy, Legambiente national expert and Legambiente regional groups (Lombardia, Piemonte, Veneto and Emilia-Romagna) organized **regional or provincial executive meeting** (one for region) to launch and explain the project for internal training. With these meetings, the problems and the impacts regarding air pollution have been used to present the CAPTOR proposal, and decline the best way to raise interest for citizen engagement.

At the same time, after the definition of the 10 testbed areas in Italy, Legambiente national expert and Regional group involved the Legambiente local groups in the project, laying the foundations for a correct development of the project in the selected lands: **4 meetings were done for internal training (one for region).**

CAPTOR

With the 2 Captor nodes sent to be placed in Italy in the 2016/2017 winter period, for a first engagement phase, local group started to make public initiatives to disseminate the project and to make awareness about ozone pollution in local areas. On these occasions, corners and information booths were set up for the promotion of the project.

It was found a strong interest and enthusiasm in the citizens the possibility of being personally involved in the monitoring of air quality and in trying to get a better living in their city. However, ozone pollution is still an unknown problem.

In addition, in each meeting signatures and e-mails of those attendants were collected to create a mailing list with the aim of connecting people for future actions during the project. The activities performed in Italy by Legambiente are:

- **Festambiente Vicenza**, Presentation of the CAPTOR project and the campaign of citizens measuring tropospheric ozone levels in Veneto region (Italy), June 16th 2016, Vicenza.
- **Legambiente national assembly**, presentation of the CAPTOR project at Legambiente local group and presentation of the campaign of citizens measuring tropospheric ozone levels in Italy, October 29-30th 2016, Rispeccia (Grosseto, Italy).
- **Call for Volunteers in Barbarano** (Vicenza), info point of Captor project and distribution of flyers and information about the pollution in Veneto region. Barbarano, November 13th 2016, Barbarano - Italy.
- **Legambiente Veneto Provincial meeting**, Vicenza November 14th 2016.
- **Call for Volunteers with Longare 2.0 association**, to present the Captor project and to engage volunteer for monitoring in Longare. November 15th 2016, Longare (Vicenza).
- **Legambiente Emilia Romagna executive**, Call for Volunteers. November 19th 2016, Bologna (Italy).
- **Legambiente Lombardia executive**, Call for Volunteers. November 19th 2016, Milano (Italy).
- **Legambiente Piemonte executive**, Call for Volunteers. November 21th 2016, Torino (Italy).
- **Filmambiente**, a traveling exhibition of environmental film, organized by Legambiente Vicenza, infopoint organized to explain the project. Vicenza (Italy) November 22th 2016.
- **Categnero Christmas market**, Longare 2.0 NGO and Legambiente Vicenza local group had set a Captor info point at the market. Categnero (VI), December 18th 2016.
- **Legambiente Alpignano local group**, info point during an initiative with citizens.



Figure 3: Legambiente Vicenza local group meeting with Longare 2.0 association (on the left) and Legambiente Piemonte executive meeting (on the right)



Figure 4: Festambiente Vicenza meeting and signatures sheet

For these meetings and info point stations, flyers and posters were prepared (annexes 3 and 4) in order to leave the essential information of the project to the people. A signature list form (annexes 5, 6, 7 and 8) has been used to account and obtain contact information of the people interested to take part in the project for the coming summer campaign. In total, around 120 people were reached with these initiatives.

2.3 Activity in Austria

Earlier in the year, the Austrian partners presented the project in two conferences on citizen science, one of the main objectives of the CAPTOR project and in the Global2000 General Assembly. In fact the project is based on the assumption that the combination of citizen science, collaborative networks, and environmental grassroots social activism will help to raise awareness and find solutions to the air pollution problem.

After the 2016 summer period, the activities have been addressed to the involvement of the volunteers for the coming 2017 campaign in Austria. The CAPTOR project was presented to a

group of 25 environmental students, who take part at GLOBAL 2000 volunteer training program "Umweltkulturpraktikum".

The project has been also presented during the Christmas market period, near the technical University in Vienna. CAPTOR project has been presented at the Christmas market in order to reach a broad audience. Partners have distributed flyers and promoted interesting discussions about air pollution with guests from various regions of Austria and Germany. In general, students and citizens showed a good interest for the CAPTOR project and the most part of the people manifested the will to take part in the campaign of the 2017 summer season. They also evaluated the airACT app, and they gave a useful feedback on this kind of tool of the project.

The activities done in Austria by Global2000 and ZSI are:

- **Austrian Citizen Science Conference** - February, 18th – 19th 2016, Lunz am See (http://www.frontiersin.org/books/Austrian_Citizen_Science_Conference_2016/1026)
- **Global2000 General Assembly**, March 17th 2016, Vienna (Austria)
- **ECSITE 2016 - Workshop "Partnering up for Citizen Science"**, June 7th, 2016, Graz (Austria)
- **GLOBAL 2000 volunteer training program "Umweltkulturpraktikum"**. November 17th 2016, Vienna (Austria)
- **"Search/Call for Volunteers"**, December 23th 2016, Vienna.

3. Conclusion

At the end of the first year of the **project two main aspects have been focalised with the activities** done by Captor partners: **technical and social**:

- **The technical aspect** regards the node building, their functionality and affordability. These aspects have raised interest not only in the scientific or academic world, but also in the civil society and administrative and political group.
- **The social aspect** regards the interest showed by different kinds of people to take part in scientific monitoring activities and to take part in a heterogeneous group of citizens to be active against a problem that affects themselves.

From these considerations, **the first year activities of Captor project can be characterized schematically in 3 types of initiatives**:

- external meetings for the presentation of the project (academic and scientific field);
- internal meeting for volunteers and local group training (citizen science),
- public initiatives (media action, street action, info point etc.) to involve citizen (active citizenship).

The first monitoring campaign was done in Spain in summer 2016 with 20 volunteers involved with captor nodes. The official environmental agency in each country also were involved and informed about the progress of the project. In Italy, the local group of testbed areas were involved and

informed for the coming campaigns. In Austria, the importance of social and motivational aspects were used to involve citizens.

All these activities, and the experience obtained at the end of them, allow us to learn that in order to obtain optimum results with these kind of initiatives, the two main aspects that have to be taken into account for the best way for planning all the future initiatives and campaigns are technical and social aspects.

Moreover, in order to enforce the social embeddedness in the community of CAPTOR in the next campaigns (2017 and 2018), the volunteers and stakeholder can use the community platforms that are being developed by the project (local Collective Awareness Platforms, mobile app and website).

These tools will permit to users:

- to visualise the collected data (obtained from Captor sensors but also from official reference station)
- to share local experiences, stories, action and solutions at different level
- to involve more stakeholders profile

ANNEXES

Si estàs fart de respirar aire brut i vols capgirar la situació: suma't!

Visita'ns a:
www.qualitatdelaire.org

Contacta'ns a:
<qualitat.aire@gmail.com>

Combatre la contaminació millora la salut, la mobilitat, redueix la dependència energètica i mitiga el canvi climàtic.

Plataforma per la Qualitat de l'Aire

Amb el suport:

CAPTOR

European Commission | Horizon 2020 European Union funding for Research & Innovation

2016

Plataforma per la Qualitat de l'Aire

Els nivells de contaminació atmosfèrica de Catalunya no compleixen la normativa europea.

Només a l'Àrea Metropolitana de Barcelona causa anualment 3500 morts prematures.

La situació no pot seguir així: *tenim dret a respirar un aire net!*

Sabies que?

- La contaminació atmosfèrica és una epidèmia invisible que causa: 3500 morts prematures només a l'Àrea Metropolitana de Barcelona, diversos tipus de càncer, infarts, asma, al·lèrgies i malalties neurològiques (*).
- Catalunya supera els valors indicats per l'Organització Mundial de la Salut i incompleix la normativa europea.
- La principal font de contaminació a les ciutats és el trànsit motoritzat de vehicles.
- Només el 23% dels desplaçaments diaris a la ciutat es realitzen amb cotxe i, en canvi, el vehicle privat ocupa més de la meitat de l'espai públic.

Els governs han tingut 14 anys per actuar com estan fent altres ciutats europees. La inacció actual ha derivat en l'obertura de dos procediments d'infracció per part de la Comissió Europea.

Estem farts de respirar aire contaminat. La nostra salut, economia i territori no poden esperar més.

(* "Els beneficis per a la salut pública de la reducció de la contaminació atmosfèrica a l'AMB" N Künzli, L Pérez CREAL 2007.

Qui som?

Organitzacions d'àmbits diferents: veïns i veïnes, ecologistes, científics, afectats, ciclistes, defensors del transport públic, AMPAS... i ciutadans i ciutadanes com tu que s'han sumat a la plataforma com a simpatitzants i/o com a voluntaris

Què volem?

Combatre i impulsar accions per acabar amb la contaminació atmosfèrica.

Com?

Treballant en la divulgació del problema i possibles solucions. Volem obtenir els canvis polítics i socials per a impulsar les 28 propostes del nostre manifest (el trobaràs a la nostra web).



Què pots fer?

- **Informa't:** visita la nostra web per conèixer el problema. Comparteix-ho amb els teus amics i familiars i penja-ho a les xarxes socials.
- **Participa** i suma't a les nostres campanyes per exigir més responsabilitat i pressionar als nostres governs per aplicar les mesures que la Plataforma demana.
- **Redueix** la teva exposició triant els carrers menys transitats quan vas a peu, en bicicleta o fas exercici.
- **Camina**, mou-te en bicicleta o agafa el transport públic.
- **Evita el cotxe** i si no tens altra opció per als teus desplaçaments habituals, busca gent per compartir els viatges.

Annex 3: Spanish flyer for information about ozone pollution in Spain (front)

RECOMANACIONS

En situacions d'elevada contaminació per ozó, es recomana no realitzar cap tipus d'exercici o esforç físic desacostumat a l'aire lliure, en les hores centrals del dia i al caient de la tarda, quan els nivells d'ozó són més elevats.

Aquesta indicació és especialment important per als grups més sensibles: nens i nenes, persones grans o amb malalties respiratòries o cardiovasculars cròniques i dones gestants, així com per les i els esportistes aficionats i de competició.

Respecte a la vegetació, és recomanable no regar els cultius a plena llum del dia o al capvespre, quan els nivells d'ozó són més elevats i poden induir majors danys en penetrar pels estomes de les plantes.

QUÈ PODEM FER?

- Exigir a les autoritats que informin de manera àgil i comprensible dels nivells d'ozó troposfèric, a través d'Internet i dels mitjans de comunicació.
- Reclamar a les Administracions l'elaboració dels preceptius plans de millora de la qualitat de l'aire i d'acció a curt termini, que redueixin els nivells d'ozó.
- Caminar o utilitzar la bicicleta i el transport públic en els nostres desplaçaments diaris, per reduir les emissions contaminants dels automòbils privats.
- Reduir el nostre consum d'electricitat, millorar l'aïllament tèrmic dels nostres habitatges, utilitzar pintures a l'aigua i evitar la utilització de dissolvents orgànics.

- Andalucía:** Parque San Jerónimo, VII - 41015 Sevilla
Tel./Fax: 954905984 andalucia@ecologistasenaccion.org
- Aragón:** Gavín 6 (esquina C/ Palafox) - 50001 Zaragoza
Tel: 629139609, 629139680 aragon@ecologistasenaccion.org
- Asturies:** Apartado nº 5015 - 33209 Xixón
Tel: 985365224 asturias@ecologistasenaccion.org
- Canarias:** C/ Dr. Juan de Padilla, 16, bajo - 35002 Las Palmas de Gran Canaria
Avda. Trinidad, Polígono Padre Anchieta, Bld. 15 - 38205 La Laguna (Tenerife)
Tel: 928960098 / 922315475 canarias@ecologistasenaccion.org
- Cantabria:** Apartado nº 2 - 39080 Santander
Tel: 608952519 cantabria@ecologistasenaccion.org
- Castilla y León:** Apartado nº 533 - 47080 Valladolid
Tel: 697415163 castillyleon@ecologistasenaccion.org
- Castilla-La Mancha:** Apartado nº 20 - 45080 Toledo
Tel: 608823110 castillalamancha@ecologistasenaccion.org
- Catalunya:** Sant Pere més Alt, 31, 2º 3ª - 08003 Barcelona
Tel: 648761199 catalunya@ecologistesenaccio.org
- Ceuta:** C/ Isabel Cabral, 2, ático - 51001 Ceuta
ceuta@ecologistasenaccion.org
- Comunidad de Madrid:** C/ Marqués de Leganés, 12 - 28004 Madrid
Tel: 915312389 Fax: 915312611 comunidademadrid@ecologistasenaccion.org
- Euskal Herria:** C/ Pelota, 5 - 48005 Bilbao Tel: 944790119
euskalherria@ekologistakmarbxa.org C/ San Agustín 24 - 31001 Pamplona.
Tel. 948229262. nafarroa@ekologista.kmarbxa.n.org
- Extremadura:** Apartado nº 334 - 06800 Mérida
Tel: 638603541 extremadura@ecologistasenaccion.org
- La Rioja:** Apartado nº 363 - 26080 Logroño
Tel: 941245114 - 616387156 rioja@ecologistasenaccion.org
- Madrid:** C/ Colombia, 17 - 52002 Melilla
Tel: 951400873 melilla@ecologista.senaccion.org
- Navarra:** C/ San Mardal, 25 - 31500 Tudela
Tel: 626679191 navarra@ecologistasenaccion.org
- Pais Valencià:** C/ Tabarca, 12 entresòl - 03012 Alacant
Tel: 965255270 paisvalencia@ecologistesenaccio.org
- Región Murciana:** Avda. Intendente Jorge Palacios, 3 - 30003 Murcia
Tel: 968281532 - 629850658 murcia@ecologista.senaccion.org

En els últims anys, està augmentant la preocupació per un contaminant molt singular, que no surt de les xemeneies ni dels tubs d'escapament, i que afecta més a les zones rurals que a les grans ciutats:
L'OZÓ TROPOSFÈRIC.



La contaminació per ozó troposfèric causa cada any 17.000 morts prematures en la Unió Europea, 1.800 d'elles a l'Estat espanyol. Dues terceres parts dels cultius i bona part dels nostres boscos i espais naturals suporten nivells d'ozó que danyen la vegetació.

Una qualitat de l'aire adequada ha de passar perquè la ciutadania conegui en tot moment l'estat de l'aire que respira, i perquè s'estableixin plans d'acció que redueixin la contaminació causada per l'ozó.

AMB TU PODEM FER MOLT MÉS
... associat · www.ecologistasenaccion.org



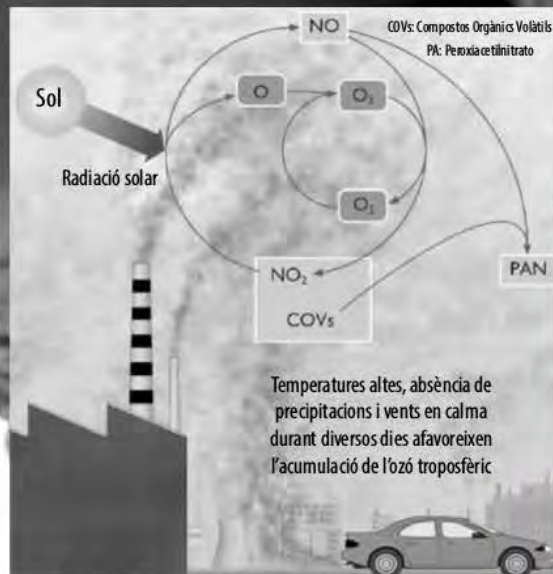
Annex 4: Spanish flyer for information about ozone pollution in Spain (retro)

COM ES FORMA?

L'origen de l'ozó es troba en les emissions d'altres contaminants anomenats "precursors", produïts pel trànsit, les indústries i les calefaccions. Aquests contaminants precursors es transformen en ozó, en presència de radiació solar.

L'automòbil, les centrals tèrmiques i l'ús de dissolvents orgànics en pintures i coles són les majors fonts de contaminants precursors de l'ozó, com són els òxids de nitrogen (NO_x) i els compostos orgànics volàtils (COV).

En el litoral mediterrani, les brises arrosseguen la contaminació cap a l'interior pel dia i cap al mar a la nit. Al centre de la Península, el vent desplaça la ploma de contaminació de Madrid fins als territoris limítrofs de les dues Castelles.



OZÓ I SALUT

L'ozó és un potent oxidant amb importants efectes sobre la salut. Els més afectats són els nens i nenes, les persones grans, les dones gestants i els qui pateixen malalties respiratòries i cardiovasculars.

Efectes a curt termini: redueix la funció pulmonar, irrita ulls i superfícies mucoses, provoca mal de cap i fatiga, induïx naixements prematurs en dones gestants, i agreuja les malalties respiratòries i cardiovasculars, amb resultat d'hospitalització o mort.

Efectes a llarg termini: afecta el desenvolupament pulmonar, augmenta la incidència i gravetat de l'asma, provoca alteracions cognitives similars a l'Alzheimer, i incrementa la mortalitat de malalts respiratoris i cardiovasculars crònics, per malaltia pulmonar obstructiva crònica (MPOC), diabetis i infart.



OZÓ I VEGETACIÓ

Es nivells actuals de contaminació per ozó tenen una responsabilitat directa en la caiguda de la productivitat de cultius com la patata, el tomàquet, els cítrics, el meló, la síndria o el blat, que segons llocs i anys pot descendir fins a un 40%.

Exposició aguda: exposició a altes concentracions d'ozó durant períodes curts de temps. Provoca generalment danys que s'observen a simple vista, especialment taques en les fulles, no sempre associats a reduccions en el creixement.

Exposició crònica: es produeix amb concentracions d'ozó baixes o mitjanes durant llargs períodes de temps. El seu resultat és l'envelliment prematur i la reducció del creixement i la productivitat de les plantes, sense que s'observin sempre símptomes visibles.



Annex 5: Italian flyer for Legambiente local group meeting and citizen info point (front)



CAPTOR

COLLECTIVE AWARENESS PLATFORM FOR TROPOSPHERIC OZONE POLLUTION

Il progetto **CAPTOR** avvicina cittadini e ricercatori scientifici che collaborano per monitorare e affrontare l'inquinamento da ozono in Europa.

L'ozono troposferico viene considerato un inquinante dimenticato, si forma spesso nelle zone rurali attraverso reazioni chimiche di gas precursori che sono però emessi principalmente in ambiente urbano.

L'obiettivo è **stabilire una rete di monitoraggio**, tramite l'utilizzo di sensori a basso costo ma di alta precisione, per misurare l'inquinamento da ozono nelle aree periferiche e rurali.

I sensori vengono affidati e installati ai cittadini interessati al problema dell'inquinamento da ozono. Viene favorita la **collaborazione dal basso di comunità locali, cittadini, associazioni e mondo scientifico, per sensibilizzare e trovare delle soluzioni al problema dell'inquinamento atmosferico.**

L'INQUINAMENTO ATMOSFERICO È DANNOSO PER LE PERSONE, LA VEGETAZIONE E LE COLTURE

<p>Causa circa 430.000 MORTI premature in Europa ogni anno, oltre 17.000 derivanti dall'Ozono di cui 3.000 solo in Italia.</p>	<p>In Europa i COSTI per i diversi sistemi sanitari legati alle patologie che derivano dall'inquinamento atmosferico oscillano tra i 330 e i 940 miliardi di euro all'anno.</p>	<p>L'OZONO riduce la capacità delle piante di assorbire CO₂, alterandone crescita e varietà, danneggia le strutture e le funzioni degli ecosistemi, nonché la salute e la produttività delle colture, minacciando così la sicurezza alimentare.</p>
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PARTECIPA ALLE ATTIVITÀ

Le tre aree selezionate dal progetto si trovano in **Italia** (Piemonte, Lombardia, Veneto ed Emilia Romagna), **Spagna** (Barcelonès, Maresme, Vallès o Baix Ripolles) e **Austria** (Niederösterreich, Burgenland, Steiermark).

Queste regioni risultano fortemente colpite da elevati livelli di ozono troposferico ed è proprio in queste aree che misuriamo l'inquinamento da ozono.

OSPITA UN SENSORE E MISURA I LIVELLI DI OZONO VICINO CASA TUA

È molto facile. Chi ospita un sensore non necessita di esperienze pregresse o di specifiche competenze.

I sensori vengono forniti, installati e disinstallati dai membri del progetto. I dati saranno pubblici e il progetto darà informazioni a chi ospita i sensori circa la qualità dell'aria rilevata.



PERCHÉ DOVRESTI OSPITARE UN SENSORE?

- Per sapere se l'aria che respiri è inquinata.
- Per creare consapevolezza sugli effetti dell'inquinamento da ozono sulla salute, sull'agricoltura e sull'ambiente naturale.
- Per collaborare e dare supporto nel trovare soluzioni al problema dell'ozono.
- Per accrescere tra i tuoi cittadini la consapevolezza sull'inquinamento atmosferico nella tua regione.

QUALI SONO I REQUISITI PER OSPITARE UN SENSORE?

- Vivere in una delle aree di studio selezionate dal progetto CAPTOR.
- Abitare in una zona rurale e comunque lontana o da fonti di diretta influenza come strade trafficate o da aree industriali.
- Avere un posto dove installare il sensore nei due periodi di monitoraggio in Italia (estate del 2017 e 2018).
- Fornire un collegamento elettrico (una normale connessione di alimentazione per uso domestico).
- Avere una connessione wi-fi, necessaria al sensore per inviare le informazioni raccolte al database.

**NON
COMPORTE
ALCUN COSTO.**

eccetto l'energia elettrica che si stima in un totale di 1,5 euro all'anno (il consumo del sensore è molto basso)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 698110

PER MAGGIORI INFORMAZIONI VISITA IL SITO

WWW.CAPTOR-PROJECT.EU

o mandaci una mail all'indirizzo: scientifico@legambiente.it



Annex 7: Italian poster (100 x 70 cm) for Legambiente regional and local group meetings and info point.

CAPTOR

COLLECTIVE AWARENESS PLATFORM FOR TROPOSPHERIC OZONE POLLUTION

CAPTOR è un progetto finanziato dal programma ricerca e innovazione dell'Unione Europea Horizon 2020. Iniziato nel gennaio 2016 e dalla durata di 3 anni, affronta il problema dell'inquinamento atmosferico, uno dei temi ambientali che preoccupa maggiormente i cittadini europei.

L'inquinamento atmosferico è responsabile ogni anno di circa 430.000 morti premature in Europa e arreca notevoli danni all'ambiente. I costi sanitari correlati a patologie insorte per l'inquinamento atmosferico sono stimati tra i 300 e 900 miliardi di euro l'anno.

IL PROGETTO

CAPTOR focalizza l'attenzione sul monitoraggio specifico dell'ozono troposferico, inquinante secondario che si origina da reazioni fotochimiche di gas precursori quali gli ossidi di azoto (NOx) e i composti organici volatili (VOCs), che vengono emessi soprattutto in ambiente urbano. Nonostante la convinzione comune che l'inquinamento atmosferico sia un problema esclusivo delle città, le zone dove si registrano le più alte concentrazioni di Ozono sono quelle rurali.

CAPTOR promuove la collaborazione dal basso tra comunità locali, cittadini, organizzazioni non governative e istituti di ricerca, per sensibilizzare e trovare soluzioni al problema dell'inquinamento atmosferico.

Combinando l'apprendimento collaborativo e l'attivismo ambientale, il progetto coinvolge i vari soggetti in una vera e propria ricerca scientifica, al fine di creare una cittadinanza critica e attiva nel richiedere nuovi modelli di produzione e di consumo meno impattanti.

I PARTNER

Il gruppo di lavoro è composto da 8 partners tra centri di ricerca e associazioni ambientaliste della società civile italiana, austriaca e spagnola, che sono l'interfaccia tra i ministeri dell'ambiente, i decisori politici e i cittadini.

Universitat Politècnica de Catalunya, Consejo Superior de Investigaciones Científicas, Ecologistas en Acción, Legambiente Onlus, Zentrum für Soziale Innovation, Global-2000, Univ. Blaise Pascal, Laboratoire Informatique, Modélisation et Optimisation des Systèmes, Fundació privada per a la Xarxa Oberta, Lliure i Neutral Guilf.net

I TERRITORI COINVOLTI

ITALIA

Piemonte, Lombardia, Veneto ed Emilia Romagna

SPAGNA

Barcelonès, Maresme, Vallès, Baix Ripolles

AUSTRIA

Niederösterreich, Burgenland, Steiermark

GLI OBIETTIVI DI CAPTOR SONO

Attivare una rete di comunità scientifiche locali, formate da cittadini non professionisti, per il monitoraggio dell'ozono troposferico

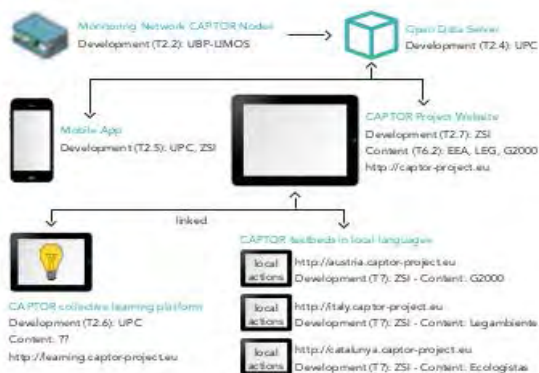
Coinvolgere le comunità locali in un processo di apprendimento collaborativo su l'inquinamento dell'aria

Promuovere cambiamenti comportamentali dei cittadini e la loro partecipazione ai processi decisionali

STRUMENTI DEL PROGETTO

CAPTOR stabilisce una rete di monitoraggio, attraverso l'utilizzo di sensori a basso costo e alta precisione che, ospitati e gestiti dagli stessi cittadini, servono a misurare l'inquinamento dell'Ozono.

La condivisione del monitoraggio è garantita da piattaforme comunicative (sito web, App per dispositivi mobili e piattaforme di condivisione dei dati) che visualizzano i dati raccolti e favoriscono, tra tutti gli stakeholders coinvolti, scambio di esperienze, apprendimento e idee sulle soluzioni.



LE PERSONE COINVOLTE POSSONO ESSERLO A DIVERSI LIVELLI

MAKERS
Coloro che aiutano a sviluppare la piattaforma, collaborando a disporre i sensori e a creare la APP sul monitoraggio atmosferico

HOSTS
Cittadini o gruppi di persone che si rendono disponibili ad ospitare un sensore e a fornire la rete per collegarlo alla piattaforma e che si impegnano a monitorare il funzionamento

OBSERVERS
Coloro che controllano periodicamente l'andamento dei dati sull'Ozono e diffondono ad altri cittadini eventuali problemi o criticità rilevate

INNOVATORS
Gruppi, enti, associazioni o cittadini che propongono idee e soluzioni per rendere possibile o più facile l'applicazione



WWW.CAPTOR-PROJECT.EU

IL PROGETTO

L'inquinamento atmosferico è il tema ambientale che preoccupa di più i cittadini europei (secondo un sondaggio dell'Eurobarometro 2014). Esso causa considerevoli danni alla salute, l'agricoltura e alla natura.

Nonostante questi fatti, la capacità di reazione e la capacità dei cittadini europei di intraprendere da soli azioni di mitigazione limitata.

I protagonisti del progetto CAPTOR sono tre grandi organizzazioni della società civile, italiana, austriaca e spagnola. Essi sono interfaccia tra Ministeri dell'ambiente, decisori politici nazionali e locali e cittadini, e la loro esperienza sottolinea che i dati e le informazioni sull'inquinamento atmosferico ai cittadini come accade oggi – cioè secondo un approccio top-down e passivo – non è sufficiente per creare una massa critica di cittadini attivi nel richiedere un cambiamento profondo nei modi di produzione e di consumo, che sono alle radici dell'inquinamento atmosferico.

Il progetto CAPTOR combina la citizen science, l'apprendimento collaborativo e l'attivismo ambientale per sfruttare l'intelligenza collettiva dei network già esistenti a livello locale; l'obiettivo è permettere ai cittadini (e alle loro associazioni) di comprendere cause e conseguenze dell'inquinamento atmosferico, per stimolare il dibattito, incalzare le autorità con dati scientifici provenienti da un monitoraggio dei cittadini, trasformare il dibattito in soluzioni concrete e bottom-up.

I PARTNER E I TERRITORI COINVOLTI

Universitat Politècnica de Catalunya (UPC)

Consejo Superior de Investigaciones Científica (CSIC)

Ecologistas en Acción (EEA)

Legambiente Onlus (LEG)

Zentrum für Soziale Innovation (ZSI)

Global-2000 (G2000)

Univ. Blaise Pascal, Laboratoire Informatique, Modélisation et Optimisation des Systèmes (UBP-LIMOS)

Fundació privada per a la Xarxa Oberta, Lliure i Neutral Guifi.net (GUI)

OBIETTIVI DEL PROGETTO

Lo scopo di CAPTOR è quello di dimostrare il potenziale delle Collective Awareness Platforms (CAPs) per promuovere la collaborazione dal basso delle comunità locali, i cittadini, le organizzazioni non governative, e gli scienziati per sensibilizzare e trovare soluzioni al problema dell'inquinamento atmosferico.



Annex 9: Official Captor Presentation to the Environmental Regional Agency in Italy (retro)

Gli Europei sono preoccupati dello stato dell'ambiente in generale, ma la loro volontà di risolvere il problema con azioni in prima persona è limitata. CAPTOR vuole cambiare la passività dei cittadini di fronte ai dati sull'inquinamento atmosferico, rendendoli protagonisti nel monitoraggio del problema e dare alle comunità la capacità di fornire soluzioni.

Gli obiettivi di CAPTOR sono:

1. attivare una rete di comunità locali di citizens science in tre aree-test per il monitoraggio di uno specifico inquinante atmosferico: l'ozono troposferico
2. coinvolgere le comunità locali in un processo di apprendimento collaborativo sull'inquinamento dell'aria, sostenere un processo bottom-up di definizione e progettazione di interventi. Questo vuole dimostrare l'efficacia di un modello di innovazione sociale basata su una Piattaforma di sensibilizzazione collettiva (CAP) che sfrutta l'intelligenza collettiva delle reti esistenti nelle comunità locali.
3. coinvolgere i cittadini nella promozione di cambiamenti comportamentali e nella partecipazione attiva al processo decisionale: il progetto stimolerà la discussione nelle comunità locali coinvolte nel progetto tra i diversi attori dei settori dell'energia e dei trasporti, le amministrazioni locali, scienziati, il mondo accademico e gli innovatori, promuovendo pratiche e piani di advocacy per monitorare e ridurre l'inquinamento atmosferico.
4. Imparare e valutare l'efficacia, la replicabilità e la forza creativa dell'approccio bottom-up nel risolvere problemi ambientali. Il progetto vuole fornire le prove del suo impatto e trarne insegnamenti per iniziative analoghe.

CAPTOR affronta il problema dell'inquinamento atmosferico in generale, attivando i cittadini su una questione particolare: l'ozono troposferico, un inquinante "dimenticato" perché si forma nelle aree rurali per cause che hanno origine principalmente in ambiente urbano.

Il progetto agisce combinando la citizens science, le reti collaborative e l'attivismo ambientalista, coinvolgendo associazioni, gruppi e comunità già esistenti nel monitoraggio dell'inquinamento atmosferico e nel miglioramento della qualità dell'aria, con un particolare focus nelle aree extraurbane e rurali.

In Italia, l'area coinvolta dalla attività è la pianura padana, peraltro quella con maggiori livelli di Ozono troposferico a livello europeo.

Le persone coinvolte possono esserlo a diversi livelli:

Makers: coloro che aiutano a sviluppare la piattaforma, collaborando a disporre i sensori, dando un contributo a creare la APP sul monitoraggio atmosferico, conoscitori dei sistemi Arduino;

Hosts: cittadini (gruppi di) che si rendono disponibili ad ospitare un sensore e a fornire la rete per collegarlo alla piattaforma e che si impegnano a monitorarne lo stato

Observers: coloro che monitorano i dati e li diffondono ad altri cittadini

Innovators: gruppi, enti, associazioni o cittadini che propongono soluzioni e ne rendono possibile o più facile l'applicazione.



Gemeinsam gegen die Ozonbelastung

Teresa Schäfer, Barbara Kieslinger, Sylvana Kroop (ZSI – Zentrum für Soziale Innovation)

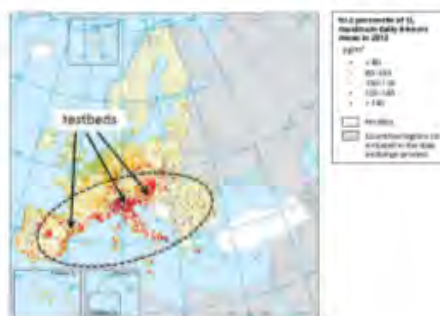
Ozonbelastung in Europa: Sind auch Sie betroffen?

Luftverschmutzung führt zu:

- **Jährlich 400.000 frühzeitigen Todesfällen** in Europa
- Erheblichen Schäden für **Landwirtschaft und Umwelt**

Die Ozonbelastung ist besonders hoch:

- In großen Bereichen Europas (**Punkte auf der Karte**), wo Messwerte **über den EU Zielwert** von 120 µg/m³ und 25 erlaubten Überschreitungen liegen.
- in den **Grüngürteln rund um Ballungsgebiete** und im ländlichen Raum



↑ Quelle: Air quality in Europe – 2015 report, European Environment Agency (EEA)



Geringe Ozonkonzentration an verkehrsreichen Straßen (Stadt)



Oft: höhere Ozonkonzentration in verkehrsfernen Parks & Stadtrand



Besonders viel Ozon an heißen Sommertagen auf dem Land

← Quelle: Bodennahes Ozon und Sommerog, Bayerisches Landesamt für Umwelt 2015

Wir benötigen mehr und verlässliche Messdaten, sonst reden sich politische Entscheidungsträger nur heraus.



Seit Jahren versuchen wir auf die Ozonbelastung aufmerksam zu machen. Aber top-down Kommunikations-Kampagnen führen nur selten zu dem Gefühl selbst etwas dagegen tun zu können!

Europäische Umweltschutzorganisationen als Projekttreiber

CAPTOR Ziele und Eckpfeiler

- Installation und Betreuung **kostengünstiger Ozon-Messgeräte mit und bei BürgerInnen**.
- Bereitstellung hoch-qualitativer, kostengünstiger und verlässlicher Messdaten
- Instrumente und **Lernprozesse auf lokaler Ebene** zur gemeinsamen Lösungsfindung
- Aktive Einbeziehung der BürgerInnen, mit dem Ziel der **größeren Selbstverantwortung**.



Nimm teil:



Collective Awareness Platform for Tropospheric Ozone Pollution



captor.zsi.at

CAPTOR

Citizen Science: Who is in the driver seat?

Teresa Schäfer, Barbara Kieslinger, Sylvana Kroop (ZSI – Zentrum für Soziale Innovation)

Along the axes the **Influence of Society** increases:

- Horizontal axis → Focus of Project Activities: as drivers for specific scientific challenges

- Vertical axis → Locus of Knowledge Creation: as producers of knowledge

Left lower corner (e.g. *Contributory projects*):

- **Researchers** are the drivers and main creators of scientific knowledge
- **Citizens** take part in executing well-defined tasks (e.g. data collection)

Right upper corner (e.g. *Action projects*):

- **Citizens** are the main creators of new knowledge
- **Researchers** support citizens' grassroots and bottom-up initiatives

Middle of the matrix (e.g. *Co-created projects*):

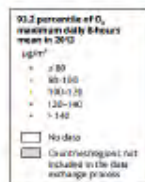
- Mutual learning and collaboration between **citizens** and **researchers** during all project phases



The co-created project CAPTOR

Air Pollution:

- is responsible for **400.00 premature deaths in Europe each year**
- and puts considerable **damage to agriculture as well as our natural environment**



- Installation and support of **low-cost ozone sensors with and at citizens' homes**
- Provision of **high-quality** and reliable measurement data
- Tools and learning processes on local level for jointly finding solutions
- Active involvement of citizens aiming to **increase self-responsibility**



We need more and reliable measured data otherwise political decision makers do not take it serious.

European Environmental Organisations as driver of the project



Nimm teil:



Collective Awareness Platform for Tropospheric Ozone Pollution



captor-project.eu/

CAPTOR