

WP3A13: Evaluation report

'ENGAGING LOCAL, REGIONAL, NATIONAL AND EU POLICY MAKERS
IN HEALTHY AIR QUALITY POLICIES'



JOAQUIN



This report was drafted as a part of the Joaquin-project. This is an INTERREG IVB NWE project aiming to improve air quality in the Northwest European region.

Joaquin (Joint Air Quality Initiative) focusses on the air quality in Northwest Europe, the associated health effects and possibilities for improvement. The project comprises the measurement of some parameters showing a stronger correlation with health effects (ultrafine particles, particulate matter composition (metals, soot ...)) than the currently measured PM₁₀ and PM_{2,5} parameters.

The project will also evaluate measures currently available to policy makers. Certain measures will even be piloted in the participating cities. These findings will be presented to stakeholders and policy makers, whilst providing them with a tool to start working on these measures (decision supporting tool).

Finally, this project will also spread information on these novel parameters and air quality in general to both experts and the general public, that will enable them to better assess the air quality in their own region.

Duration: 01/05/2010-30/11/2015

Partners:

- Belgium (4): Vlaamse Milieumaatschappij (VMM), Intergewestelijke Cel voor het Leefmilieu (IRCEL-CELINE), Vlaams Agentschap Zorg & Gezondheid (VAZG), Stad Antwerpen
- France (2): École des Ingénieurs de la Ville de Paris (EIVP), Atmo Nord Pas de Calais
- The Netherlands(4): GGD Amsterdam, Provincie Noord-Holland, Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Eney research Centre of the Netherlands (ECN)
- United Kingdom (6): University of Brighton, University of Leicester, Leicester City Council, London airTEXT, Greater London Authority (GLA), Transport for London (TfL)

More information on the project can be found on www.joaquin.eu.



About JOAQUIN

This evaluation report was drafted as a part of the Joaquin project.

Joaquin (JOint Air QUALity INitiative), an INTERREG IVB NWE project aiming to improve air quality in the Northwest European region, focusses on the health effects and possibilities to reduce pollution through a variety of measures. The project comprises the measurement of some parameters showing a stronger correlation with health effects (ultrafine particles, particulate matter composition (metals, soot ...) than the currently measured PM₁₀ and PM_{2.5} parameters.

The project also evaluates measures currently available to policy makers. Certain measures will be or have already been piloted in the participating cities. These findings are presented to stakeholders and policy makers, whilst providing them with a 'decision support tool' to start working on these measures.

Finally, the project spreads information on these novel parameters and air quality in general to both experts and the general public that will enable them to better assess the air quality in their own region.

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Communicating JOAQUIN

Although air quality is a major environmental problem in the NWE-region, policy makers are not well informed on this issue. In addition, different stakeholders, such as local, regional and European authorities, environmental associations and health professionals also need to be better informed on the impacts of poor air quality on human health and the opportunities they have to turn things for the better.

To facilitate decision makers in making this shift, it is important to elaborate a common view and to take joint actions to improve the current conditions, rather than addressing slightly different messages at different times and on a different scope. Actions in the communications work package were aimed to help reduce the policy background gap regarding air pollution, and more specifically the relevance of a health oriented air quality policy, by involving an extended stakeholder consultation process and by raising the awareness of the general public on the health effects of air pollution.

The latter is also very important as the public also needs to be supportive, because citizens play an important role in cause and result of today's air quality problems. An increased awareness can lead to behavioural changes, which are even a lot more important, effective and long-lasting than measures with a limited local effect. An increased relationship between the involved policy levels, stakeholder groups and the general public on the necessity of health relevant policies and clean air in day-to-day life can facilitate behavioural changes.

One of the objectives is to increase the knowledge of the general public on issues linked to poor air quality with a focus on human health, by jointly planning, implementing and evaluating a number of cost-effective and transnational actions. The result of this is a large scale communication plan with many innovative communication outputs which are split up over the different target groups.

This is the final report on action 13, which focusses on the awareness raising of local, regional/national and EU authorities on air pollution, its impact on human health and effective mitigation measures. In that respect partners have been organising one-to-one meetings, workshops & international conferences. Promoting the decision support tool to identify the most effective measures, above all local (city-level) decision makers participated in one-to-one meetings.

Evaluation process

This document is based on a common evaluation performed by all Joaquin partners. It draws information from 2 elements: a questionnaire and an agenda containing all important contact moments with policy makers.

The questionnaire was distributed among partners and allowed for input on relevant questions. The answers to these questions have been summarised by the action leader. They contain information on decisions that were made in consultation with Joaquin partners and in which knowledge gained within the project was used. Some decisions are direct outputs of the project itself. Furthermore the outputs of the Joaquin project have also been communicated directly to policy makers in project related events and meetings. The most important outputs are our Decision Support Tool and tests of filtration effectiveness in schools to reduce exposure, interactions with policy makers to present these tools are separately. Together with the results of the questionnaire, they are discussed in the section 'Involvement of policy makers'.

Secondly, this report contains an activities list and calendar. All partners have been asked to sketch the difference Joaquin has made by describing the situation before and after Joaquin, lessons learned and remaining challenges. Finally a list was compiled of the most relevant meetings with policy makers organised throughout the project. This list is shown on a calendar displaying how and when policy makers on different levels were involved in the project.

Finally, there is a lessons learned and long term challenges section. The partnership is motivated to support outputs towards policy makers on the longer term, allowing continuous improvement of these outputs and continuous stimulation of policy makers to implement health relevant policies. As this process will keep going after the project end date, we will keep updating this section of the report on the project website.

This evaluation process allowed the action leader to draw general conclusions on the effectiveness and the results of this action within the Joaquin-project. The results of the activities towards policy makers are often intangible, this document tries to materialise some of those results. The format contains many lists as it is meant to highlight examples of interaction with policy makers through our project partners, it is not intended as a list of direct outputs from the project. For a complete overview of the project's achievements, please look at the reports on www.joaquin.eu.

Involvement of policy makers

Introduction

This chapter of the report will summarise the effectiveness of our interactions with policy makers. Based on the list of questions below, the partners provided input on the interaction they had with policy makers regarding the project. The questions were drafted in order to cover the objectives mentioned in our communication outline.

- Did policy makers at the regional, national and EU levels adopt certain ideas and measures to improve the air quality within their policy area?
- Which changes have policy makers at city level been able to carry out in order to improve the air quality for their citizens?
- Have the changes in policy actually been linked to plans for health improvement of citizens/the population?
- How did the conclusions and recommendations obtained in the JOAQUIN-project reach all decision-making levels in NWE?
- Has there been any transnational cooperation with regard to the implementation of 'measures'?

The answers are intended to provide insight into how the experience gained through Joaquin and the exchange of knowledge influenced policy in NW Europe.

Ideas and measures adopted to improve the air quality within different policy areas

Flemish Region

- In Flanders a campaign was launched about 'Wood burning' ('[Stook slim](#)') in order to sensitise citizens not to use their hearths, fireplaces or stoves, during periods when the air quality outside is really bad.
- The Flemish environment administration issued the [RENOVAIR](#) study, which is meant to advise school boards and the governments involved, regarding the use of filtration systems, especially for those buildings which are located near busy roads.
- The city of Antwerp adopted a second [Air Quality Action Plan \(2014-2018\)](#), comprising 118 actions to improve the air quality in the city's port and living areas.

The Netherlands

- In the IJmond region in Noord-Holland a joint effort of national, regional and local policy makers and industry is made to find measures to improve the air quality and health in this economic important industrial area via '[Milieudialoog IJmond](#)'.
- In the Netherlands, Low Emission Zones have been adopted by many more municipalities since the shown success in the Netherlands. Examples are '[Milieuzone Utrecht](#)' and '[Milieuzone Rotterdam](#)'
- Communication about air pollution and its health impact had been used in the implementation of air quality measures such as low emission zone, for example by the city of Utrecht
- Action plans in several cities or municipalities have been updated, in all of which health relevant measures were discussed thoroughly
- In Amsterdam health relevant components became a major issue; reduction ambitions as described in the four-year policy ambition document '[Agenda Duurzaamheid](#)' were specified for soot in addition to EU-regulated components. Similar ambitions were specified in Rotterdam and Utrecht
- In talking about air quality policies, especially when local governments are discussing future measures with local councils/parliaments, health became an issue often discussed. Instruments to quantify health effects in understandable terms such as years life lost or comparisons with passively smoked cigarettes, were developed in the project and applied to several local, regional and national situations in the Netherlands.

France

- Emergency plan for outdoor air quality ([Plan d'Urgence pour la Qualité de l'Air extérieur - PUQA](#)) approved and published in 2013
- Ile-De-France region: Atmospheric Protection Plan ([Plan de Protection de l'Atmosphère - PPA](#)) approved in 2013
- A [regional Air Protection Plan](#) has been drawn up in Nord-Pas-de-Calais, to improve the air quality in the region
- The Communauté Urbaine de Dunkerque (CUD) established an Air-Climate Plan
- Artois Com established an Air-Climate Plan
- The Métropole Européenne de Lille (MEL) launched a project with atmo to develop a [strategic map of the sensitive areas regarding air pollution and noise](#)

- The Ville de Lille launched a project with atmo to measure and control pollutants emissions of vehicles and evaluate the effectiveness of local actions to reduce traffic emissions

The UK

In the UK several action plans are developed in the course of the JOAQUIN project, mainly aimed at the reduction of transport emissions and the increase of active travel through the improvement of traffic management and an adjusted land use planning:

- [Leicester Air Quality Action Plan 2015-2025](#)
- [Air quality in London](#)
- [City of London Air Quality Strategy 2015-2020](#)
- [GLA: air quality and pollution](#)
- [AirText](#)
- [Air quality in Brighton & Hove](#)
- [Air Quality Strategy in the UK](#)

Changes policy makers at city level have been able to carry out in order to improve the air quality for their citizens

Flemish Region

- Awareness raising:
 - development of the '[car free Antwerp](#)' app to persuade citizens not to take their car when travelling short distances and to reduce the use of fireplaces and stoves
 - [AIRbezen](#), involving citizens and schools in the biomonitoring – determining the SIRM (*saturation isothermal remnant magnetisation*) – of AQ on street level using strawberry plants
- Update of [air quality maps](#) for PM₁₀, PM_{2.5}, NO₂ and EC and additional maps for ultrafine particles
- The installation of 4 extra monitoring stations in the city (by the end of 2015) in co-operation with the Flemish Environment Agency (VMM)
- Encourage local and regional authorities to make use of an advisory list of measures when construction plans of accommodations for vulnerable groups are drawn up
- The implementation of a [LEZ](#) in 2016

The Netherlands

Only a few actions from a long list:

- Detailed monitoring of the air quality in Amsterdam neighbourhoods and typical locations
- Support the use of electric cars in Amsterdam
- Clean deliveries in the city center
- Implementation of a limited LEZ in Amsterdam in 2017

France

- Paris: charter for a sustainable urban logistics in 2013
- Paris: Implementation of LEZ in 2015
- Local and regional policy makers began to implement their plans
- With local policy makers, ATMO Nord-Pas-de-Calais developed air quality maps for Lille, Dunkerque, Saint-Omer, and Douai by urban modelling

The UK

- Update of [Leicester Air Quality Action Plan 2015-2025](#)
- Retrofitting of 32 buses with pollution abatement equipment to reduce emissions of NOx and PM10 from exhausts
- Introduction of new traffic system at Glenhills Way junction

[Air quality in London](#)

[GLA: air quality and pollution](#)

[City of London Air Quality Strategy 2015-2020](#)

Met opmaak:
Standaardlinea-lettertype, Nederlands (België)

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[AirText](#)

[Air quality in Brighton & Hove](#)

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(België)

Changes in policy linked to plans for health improvement of citizens/the population

The Flemish Region

- The main considerations regarding the development of an assessment framework to make ex ante evaluations of construction or expansion plans of accommodations for vulnerable groups in Antwerp are health related. Among others the Flemish Health Care Agency participates in the meetings and advises to adjust and correct this evaluation tool.
- [IrCELine](#) informs on the ambient air quality in all Belgian regions and warns citizens via the weather forecasts about smog episodes and ozone peaks, pointing to health risks related to these conditions.

The Netherlands

- Milieudialoog IJmond was linked to the health improvement of the citizens in IJmond.
- MRA-elektrisch was more in general linked to air quality improvement. Via joint effort of Interreg E-mobility and Joaquin the health improvement was promoted.
- Obviously all actions of the Municipal Health Service are focussed on the health improvement of citizens. At least one should be mentioned in particular: in close cooperation with other organisations GGD Amsterdam developed an [app](#) to find out what the current air quality is in their own environment, so people can take action on the spot to protect their health.

France

- **Paris:** The LEZ is presented as a tool to tackle health problems related to air pollution.
- Regional policy makers have launched a number of health studies linked with air quality of which the results need to be formulated in actions.

The UK

- All of the changes in policy are driven by health improvements.
- AirTEXT produces [Daily Health Bulletins](#) for each London borough. The bulletins contain forecasts for a range of environmental information, including temperature, pollen, UV index, and air pollution.
- [The Daily Air Quality Index \(DAQI\)](#) tells you about levels of air pollution and provides recommended actions and health advice for every region in the UK.

Influence of JOAQUIN conclusions and recommendations on decision making in NWE

Flemish Region

- In Antwerp the JOAQUIN project itself and some of the actions in particular are included in the [air quality action plan](#), which was approved by the local and regional authorities in February 2014. Some of the actions mentioned there are part of the [NO₂-mitigation plan](#) which the Belgian government presented to the EU-Commission.
- The 'decision support tool' was presented to an audience of local policy maker from metropolitan cities in the EU during a meeting of the Eurocities WG on air quality in October 2015 in Bristol.

The Netherlands

- In province of Noord-Holland the JOAQUIN project itself, the importance of air quality for our health and follow up on the results including measures are included in the '[Milieubeleidsplan 2015-2018](#)', which was approved by the regional authority in December 2014.
- Knowledge as obtained in workpackage 2 was incorporated in the existing advisory role of Public Health Service Amsterdam, and thus directly applied in air quality advise in Amsterdam, Amstelveen, Aalsmeer, Uithoorn, Ouder-Amstel.
- Updates on knowledge and experience as mentioned above were shared with advisors at Public Health Services in the provinces of Noord-Holland, Utrecht and Flevoland in training sessions organized as part of the regular regional support function of Public Health Service Amsterdam. These advisors are involved in policy making processes throughout these three provinces (resulting in examples such as outputs A6 and the 'Milieubeleidsplan' mentioned above).
- Knowledge and experience as mentioned above have been shared in the national working group for air quality and health of Public Health Services Netherlands (GGD Nederland) and presented on several meeting and seminars. The working group members and attending advisors are sharing the information in their local networks and will apply this in their local decision making processes.
- The national working group for air quality and health of Public Health Services Netherlands (GGD Nederland) functions as a national sparring partner and was involved in discussing of national policies relevant to air quality such as 'Omgevingswet' on several occasions
- The national working group for air quality and health of Public Health Services Netherlands (GGD Nederland) is currently working on an update of the guideline for public health services (GGD Richtlijn), which will include the most important insights obtained in the project. The guideline is used as a handbook by advisors at public health services and often referred to by local and regional policy makers. And to a lesser account even by the national government and by our colleagues on environmental health in Flanders
- Knowledge as obtained in workpackage 1 is shared in the national network 'OLM' and thus available to experts on local, regional and national level.

France

- The dialogue with representatives on different levels of decision making has started , and the Joaquin project will help to grow competence and knowledge

The UK

- Link to Cleaner Air Better Health on the web pages of Leicester City Council, AirTEXT, Greater London Authority, ...

Implementation of 'measures' through transnational cooperation

Flemish Region

- The implementation of the LEZ in Antwerp was discussed on several occasions with partners from the JOAQUIN consortium as well as with partners – e.g. London, Berlin, Paris, ... – in the context of other (EU) network organisations such as Eurocities. This led to an adjustment of the original LEZ-format.
- Ideas about the use of filtration systems in schools were discussed with GGD Amsterdam before and during the study in schools in Flanders.

The Netherlands

- The 'MRA-elektrisch' was involved in the [Interreg E-mobility project](#). JOAQUIN was present with an information stand and was mentioned in the opening speech at the E-mobility International conference "Policy, Practice and Profitability" 10th of October 2013 in Haarlem, the Netherlands.
- Knowledge as obtained in the very transnational Actions 5 and 6 of Work Package 2 were the basis of most of the policy advice given above.

France

- Transnational cooperation did not take place in a formal context. However, it was particularly highlighted to the city of Paris that there is strong feedback and experience in the Joaquin consortium regarding LEZ. The city of Paris might get support and has already exchanged ideas with the cities of London, Antwerp and Amsterdam regarding the implementation of a low emission zone.
- There was a meeting in Lille in September 2015 between French and Belgian regional policy makers to discuss air quality measures.

The UK

- In Leicester the development of new Air Quality Action Plan was followed by public consultation to which all Joaquin project partners were invited.
- Small scale tailored measures which have already been implemented in other EU-cities were adopted
- AQ Champions and [other activities](#)

Direct communication of Joaquin outputs

Insights and findings of the JOAQUIN-project implemented in local, regional, national and/or EU air quality action plans

Flemish Region

- Together with the Antwerp Port Authority, the Flemish government and the city council an [air quality action plan](#) was drawn up and approved in February 2014
- During the VLEVA Green week 3 events were organised in Belgium, the Netherlands and the UK. These events presented Joaquin results along with results outside the project to a.o. policy makers. This approach created a clear picture of how Joaquin's work fitted in with the general field of air quality policy.

The Netherlands

- During the EU Green week in June 2013 events were organised in the Netherlands. On that occasion some Joaquin results were presented to policy makers and other visitors in addition to the highlights of local projects concerning air quality and health.
- Insights and findings of Joaquin were used in the regional (Regionaal Samenwerkingsverband Luchtkwaliteit) and national discussion about the future of air quality plans in the Netherlands. Focus is still (until 2017) on meeting the PM10 and NO2 levels in the EU legislation, but the health aspects under these levels and how to improve further is debated a lot. More focus in national ("Modernisering milieubeleid") and regional (Milieubeleidsplan 2015-2018, province Noord-Holland) plans is on the concept of "healthy cities", including air quality.
- [See outputs of A6](#)

France

- The results of the Joaquin project were debated in meetings with local, regional and national air quality experts.

The UK

- Presentation of results of the Joaquin project during the EU Green Week on air quality in June 2013
- In Leicester a new Air Quality Action Plan was developed and discussed on local, regional and national levels.

Promotion of the Decision Support Tool (WP2A5) as a tool to identify the most effective measures

Flemish Region

- Until recently the tool was not ready, but when drawing up the air quality action plan the information already available was used to define some of the actions which have to be carried out in the next years. The 'Decision Support Tool' will be presented during next meeting of WGs 'inner-city mobility' and 'exposure'(AQ Action Plan).
- The DST was presented during the last meeting of the Eurocities Environment forum meeting in Bristol in October 2015.

The Netherlands

- Not yet formally in the province of Noord-Holland, as the 'decision support tool' (DST) was not ready to use, but it is "of the record" already used to promote more effort in traffic related measures to improve air quality.
- In the limited period the DST was available, it has been referred to on several occasions. The DST will be promoted in guideline for public health services (GGD Richtlijn) soon to be updated by the national working group for air quality and health of Public Health Services Netherlands (GGD Nederland). The guideline is used as a handbook by advisors at public health services and often referred to by local and regional policy makers. And to a lesser account even by the national government and by our colleagues on environmental health in Flanders.

France

- The decision matrix has been presented to the Agence de l'Environnement et de la Maîtrise de l'Energie (ADEME) and will be presented to the local and regional authorities at the end of 2015 and the beginning of 2016.

The UK

- The tool was not ready when the new Air Quality Action Plan of Leicester was going through consultation. Discussion about the use of the DST is planned in the near future.

Recommendations regarding filtration in reducing exposure (WP2A8)

Flemish Region

- With regard to the action on filtration of air quality in schools the recommendations are presented to the partners involved in the planning and construction of school buildings.
- One school in Antwerp near a busy road, built in 2014, installed the recommended ventilation and filtration systems.

The Netherlands

- For the province this is not the case, as it is considered more a national/local effort.
- see outputs A8 (oa; lokaal beleid Amsterdam, lokaal beleid Ouder-Amstel, landelijk verspreid via werkgroep binnenmilieu GGD-NL en werkgroep lucht en gezondheid GGD-NL, poging tot VLA-richtlijn, opnemen in GGD-richtlijnen, div presentaties)

France

- No actions taken yet.

The UK

- No actions taken yet

Activities and Calendar

Introduction

This section of the report provides an overview of the most prominent moments of contact between policy makers and Joaquin partners. We have divided them into 9 types of meetings:

- Joaquin meetings
 - Steering group
 - Coordination group
 - Reference board meetings
 - Open meetings, conferences
- Non-Joaquin meetings:
 - European meetings
 - National meetings
 - Regional meetings
 - Public events
 - Local workshops

This calendar was created to illustrate how the amount of contact gradually increases and to provide insight into the types of meetings we organised. These meetings can be seen as best practices from the Joaquin project on how to communicate certain results towards policy makers. They can be used as a source of inspiration for communicating your own results.

#	Date	Participating organisations	Link with Joaquin
0	xx-xx-xxxx	e.g. local, regional or national policymakers and/or their administration	e.g. topic discussed, work presented
	03 + 06 + 10 -2011	Working group environmental dialogue Werkgroep Milieudialog, policy and decision makers	Regional efforts to promote cleaner air
	03 + 06 + 10 -2011	Werkgroep RSL Noordvleugel (ambtelijk)	Meetings of regional networks of Noord-Holland and Flevoland with local policy makers to select measures and draw up an agenda of activities
	03 + 06 + 10-2011	National network air quality	National efforts to improve the air quality
2011			
	7-06-2011	Clean air and spatial planning	

	5-10-2011	LEZ in Amsterdam	
	17, 18, 19-10-2011	Preparatory sessions Joaquin (Ghent)	
	30-11-2011	Clean air and urban development: the Amsterdam guideline regarding sensitive locations	
2012			
	10-01-2012	Effectiveness of speed limits	
	06-02-2012	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	
	7-02-2012	Soot and health	
	14-02-2012	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	First discussion on the scenarios that would be modeled in WP2A7
	5, 6, 7-03-2012	Kick off meeting Joaquin (Antwerp)	
	31-05-2012	Flemish administration	Presentation of Joaquin and possibility for feedback and input
	11,12-06-2012	Coordination Group Meeting Joaquin (London)	
	14-06-2012	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	28-06-2012	Is smog still a problem in the Netherlands? Update of Amsterdam guideline	
	15, 16-10-2012	Coordination Group Meeting Joaquin (Utrecht)	
	25-10-2012	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and

			WP3A11 (involvement of IRCEL)
2013			
	23-01-2013	Steering group AQ Action Plan 2.0 for Antwerpen (Antwerp)	Preparation of the new AQ action plan: 2014 - 2018
	4, 5, 6-03-2013	Coordination Group Meeting Joaquin (Leicester)	
	26-03-2013	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	3-06-2013	VLEVA*-Joaquin: Clean Air in Flanders (Brussels) * Liason Agency Flanders-Europe	Discussion on Air quality, the Flemish policy and why the city of Antwerp participates in JOAQUIN
	7-06-2013	Local Policy makers	Air Quality , Joaquin project
	12-06-2013	Design project 'Clean air in schools' (Antwerp)	Pilot project: designing schools for health risk areas – case in Antwerp (Desguinlei)
	2-07-2013	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	10, 18, 25-07-2013	Design project 'Clean air in schools' (The Hague)	Pilot project: designing schools for health risk areas – case in Antwerp (Desguinlei): finalizing report
	19, 20-09-2013	Reference Board Meeting Joaquin (Antwerp)	
	10-10-2013	the E-mobility International conference "Policy, Practice and Profitability" for (inter)national delegations working on E-mobility Haarlem, the Netherlands.	E-mobility presented as a good measure to improve air quality. JOAQUIN was present with an information stand and was referred to in the opening speech

	15-10-2013	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	17-10-2013	Working Group: knowledge base AQ Action Plan 2.0 for Antwerpen (Antwerp)	Selection of actions regarding monitoring, mapping and reporting AQ in the city and port area in Antwerp
	24-10-2013	Steering group AQ Action Plan 2.0 for Antwerpen (Antwerp)	Developing AQ action plan: 2014 – 2018 with Flemish environment administration and Antwerp Port Authority
	28, 29-10-2013	Coordination Group Meeting Joaquin (Amsterdam)	
	31-10-2013	Air pollution and health	
	13-11-2013	Locations sensitive to air pollution in Amsterdam	
	2, 3-12-2013	Workshop wood burning (Ghent)	Presentation of AQ monitoring campaigns about wood burning with a focus on Flanders and a discussion on the situation in other European member-states
	6-12-2013	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Final discussion on the scenarios that would be modeled in WP2A7
2014			
	14-01-2014	Steering group AQ Action Plan 2.0 for Antwerpen (Antwerp)	Drawing up the Antwerp AQ action plan: 2014 – 2018 with Flemish environment administration and Antwerp Port Authority
	28-01-2014	Launch meeting RENOVAIR (Antwerp)	Monitoring indoor AQ in schools (comparing the use of filtration systems)
	13-02-2014	Administrations of regional policy makers (Flanders, Wallonia,	Coordination Committee IRCEL: Overview of status of Joaquin

		Brussels)	regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	10, 11, 12-02-2014	Coordination Group Meeting Joaquin (Bruges)	
	14-03-2014	Regional policy makers	Assumptions regarding the trend scenario 2020 and the measures of the air protection plan
	26-03-2014	European administration European Commission - DG environnement – EC National administration: MEDDE (Ministry of Ecology)	Conference on the technical and economic issues of the new EU Air Policy Package. Presentation of European policies and actions by French policy makers
	22-04-2014	Working Group Assessment Framework vulnerable groups (Antwerp)	Discussion on reducing the exposure to air pollution of vulnerable groups
	20-05-2014	Steering Group Meeting Joaquin (Leicester)	
	21-05-2014	Joaquin Mid-term Meeting (Leicester)	
	22-05-2014	Coordination Group Meeting Joaquin (Leicester)	
	5-06-2014	Trends in NO ₂ concentrations in Amsterdam	
	6-06-2014	Regional policy makers	Assumptions regarding the trend scenario 2020 and the measures of the air protection plan
	10-06-2014	Regional policy makers	Assumptions regarding the trend scenario 2020 and the measures of the air protection plan
	12-06-2014	Regional policy makers	Assumptions regarding the trend scenario 2020 and the measures of the air protection plan
	23-06-2014	Administrations of regional policy makers (Flanders, Wallonia,	Coordination Committee IRCEL: Overview of status of Joaquin

		Brussels)	regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	25-06-2014	Launch meeting AQ Action Plan 2.0 for Antwerpen (Antwerp)	Developing AQ action plan: 2014 – 2018 with Flemish environment administration and Antwerp Port Authority
	27-06-2014	Working Group Assessment Framework vulnerable groups (Antwerp)	Discussion on reducing the exposure to air pollution of vulnerable groups
	1-07-2014	RENOVAIR meeting (Antwerp)	Monitoring indoor AQ in schools (comparing the use of filtration systems): selection of schools and discussion of case study
	3-07-2014	Side Event of the international Fifth session of the Meeting of the Parties to the Aarhus Convention and second session of the Meeting of the Parties to the Protocol on PRTRs; about environmental democracy, the right to know in	Presentation about the health oriented and more personal information approach of Joaquin (combined with the AtlasLeefomgeving)
	4-07-2014	Regional policy makers	Assumptions regarding the trend scenario 2020 and the measures of the air protection plan
	11-07-2014	National administration: air quality evaluation department, ADEME	To improve the understanding between scientists and decision makers
	14-09-2014	Public event: Car free Antwerp	Annual public event Presenting AQ maps and behavior app (mobility + heating)
	19-09-2014	Meeting with local administrations roads and mobility department of the City of Paris	Discussion on the implementation of an anti-pollution plan (which was finally voted in February 2015). The Joaquin project was presented
	1, 2, 3-10-2014	Coordination Group Meeting Joaquin (Haarlem)	

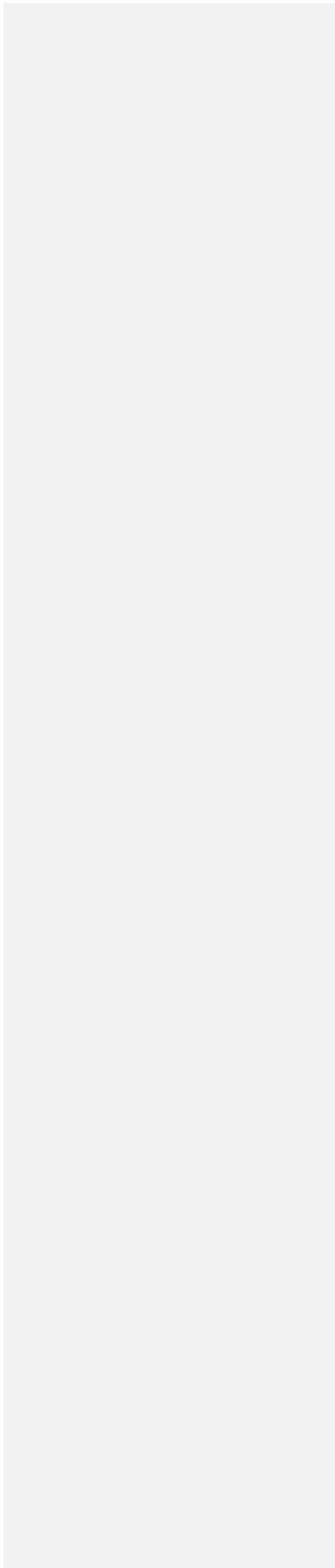
	10-10-2014	Working Group knowledge base AQ Action Plan 2.0 for Antwerpen (Antwerp)	Discussing actions regarding monitoring, mapping and reporting AQ in the city and port area in Antwerp
	20-10-2014	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	12-11-2014	Working Group inner-city mobility	Discussing actions to reduce traffic related air pollution in the city of Antwerp
	21-11-2014	Working Group Assessment Framework vulnerable groups (Antwerp)	Discussion on reducing the exposure to air pollution of vulnerable groups
	26-11-2014	National administrations: MEDDE (Ministry of Ecology) Local administrations: SCoT Grenoble Plaine Commune	Conference on mobility, urban planning and air quality at "Le salon des maires" (mayors conference). Many examples of action were presented by policy makers at both national and local level
	03-12-2014	National administration Marie Pouponneau: air quality evaluation department, ADEME	M. Pouponneau is really interested by the Joaquin decision support tool. She originally felt that the score system used in the tool was a bit "dangerous" but feel reassured with the forewords and the usual manual. We will present her the finished tool soon.
	10-12-2014	Steering group AQ Action Plan 2.0 for Antwerpen (Antwerp)	Drawing up the Antwerp AQ action plan: 2014 – 2018 with Flemish environment administration and Antwerp Port Authority
	12-2014	Milieudefensie 2014	Reference to JOAQUIN website for information on health and AQ

2015			
	30-01-2015	RENOVAIR meeting (Antwerp)	Monitoring indoor AQ in schools (comparing the use of filtration systems): discussion on results
	03-02-2015	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	27-02-2015	Working Group assessment framework vulnerable groups (Antwerp)	Discussion on reducing the exposure to air pollution of vulnerable groups
	10-03-2015	Local policy makers	Mobility Town planning Industry Heating Communication
	11, 12, 13-03-2015	Coordination Group Meeting Joaquin (Paris)	
	18-04-2015	Environment festival BorgerRio (Antwerp)	Public event Presenting AQ maps and behavior app (mobility + heating)
	21-04-2015	RENOVAIR meeting (Antwerp)	Monitoring indoor AQ in schools (comparing the use of filtration systems) : presentation final report
	18-05-2015	Local policy makers	Mobility Town planning Industry Heating Communication
	19-05-2015	Local policy makers	Mobility

			Town planning Industry Heating Communication
	20-05-2015	National administration: air quality evaluation department, ADEME	Study on resilience by EIVP within the framework of Joaquin project. The links between urban planning and air quality at a more local scale need to be studied further
	21-05-2015	Local policy makers	Mobility Town planning Industry Heating Communication
	1-06-2015	Local administration: the anti-pollution plan of the City of Paris linked with the roads and mobility department	The main measure of the plan is the implementation of a low emission zone. It was presented during the Joaquin meeting in March. The fact that Paris got some strong feedback and could exchange experience in the Joaquin consortium regarding LEZ.
	2-06-2015	Administrations of regional policy makers (Flanders, Wallonia, Brussels)	Coordination Committee IRCEL: Overview of status of Joaquin regarding WP1A4, WP2A7 and WP3A11 (involvement of IRCEL)
	11-06-2015	'Cleaner Air, Better Health': final Joaquin conference (Amsterdam)	
	16-06-2015	Working Group inner-city mobility	Discussing actions to reduce traffic related air pollution in the city of Antwerp
	22-06-2015	Local policy makers	Communication and information about air quality Green cities

			Air quality public policies (town planning) Decision support tool
	14-09-2015	Thematic workshop 'Clean air'	
	16-09-2015	Regional policy makers	Decision support tool
	21, 22, 23-09-2015	Coordination Group Meeting Joaquin (Antwerp)	
	7-10-2015	Presentation 'decision support tool' by VMM during Eurocities meeting of the environment forum (Bristol)	As an active member in the Eurocities Environment Committee, the city of Antwerp managed to put a presentation by VMM on the

-  Joaquin Steering Group Meeting
-  Joaquin Coordination Group Meeting
-  Joaquin Reference Board Meeting
-  Joaquin open meetings
-  European meetings
-  National meetings
-  Regional meetings
-  Public event
-  Local workshop



Lessons learned and long term challenges

Introduction

The final chapter of this report, provides you with a brief overview of the project's impact, the lessons learned and the remaining challenges. As all our partner are committed to continue working with the outputs of the project, this section is intended for future update on our long term implementation.

Results

Situation before JOAQUIN

- **Monitoring**
 - Traditional air quality monitoring stations
- **Modelling**
 - AQ maps: PM₁₀, PM_{2.5}, NO₂, elemental carbon
- **Measures**
 - Highly scientific reports on individual measures, no joint assessments
- **Communication**
 - Information on air quality scattered over many different websites that was also too complicated for the general public, not presented in an appealing way and not actively communicated.
- **Vulnerable groups**
 - No specific policy

Situation after JOAQUIN

- **Monitoring**
 - A next generation watchdog network monitoring ultrafine particles and black carbon at 2 existing sites (Antwerp, Amsterdam) and 2 new sites (Leicester, Brighton)
 - Interpreted data on the distribution and levels of ultrafine particles across NW Europe, validated with a mobile reference station
 - Joint source apportionment throughout NW Europe on all Joaquin monitoring sites
 - Evidence on the health effects of specific components in particulate matter.
 - An online air pollution observatory including the Joaquin network and also other monitoring networks
 - 6 monitoring stations spread out across the city of Antwerp for evaluation of the LEZ will also monitor BC
- **Modelling**
 - Models capable of handling ultrafine particles
 - Databases of emission data covering the entire NW European area that can be used by all common models in the area

- An intercomparison of certain air quality models in NW Europe
- An evaluation of the transnational scope of air quality and the benefits of rolling out measures on a regional scale
- Updated air quality maps (PM₁₀, PM_{2.5}, NO₂, EC, UFP) for the entire region and also specific cities
- **Measures**
 - A Decision Support Tool enabling quick navigation through the state-of-art regarding air quality measures, while also providing and expert advice and possibilities for discussion to policy makers
 - A handbook on implementation process based on experiences with air quality measures throughout NW Europe containing updated policy plans etc.
 - A study manuals on the effectiveness of filtration systems as a measure for exposure reduction in houses, schools and vehicles.
- **Communication**
 - “Cleaner Air, Better Health” communication campaign featuring a single comprehensible message on air quality
 - www.cleanerairbetterhealth.eu as a central hub for comprehensible information on air quality
 - Public events organised throughout NW Europe to get this message across to the general public
 - An educational package for kids ages 9-11 derived from the “Cleaner Air, Better Health”-message
 - An online game, also available as stand-alone game and mobile app (all platforms) based on the content of the educational package and aimed at kids.
 - Websites of different actors in AQ policy are interlinked
 - Tools for citizens to determine the effect of their own actions on the AQ in the city
- **Vulnerable groups**
 - A joint international evaluation of air quality indices and best practice implementation in The Netherlands, resulting in an app with accompanying health advice.
 - Assessment frameworks have been initiated by various partners on a regional level to evaluate risks and determine measures before the construction of accommodations for vulnerable groups can be pursued (needs political approval)

Lessons Learned

Changes in local/regional air quality policy

- UFP, BC monitoring
- Up till now the effect of wood burning on the AQ has been underestimated
- Information about measures should appeal to and be shared with the general public

Obstacles

- Policy regarding vulnerable groups involves several partners on different political levels each one with its own particular aims, which makes it difficult to set a common goal

Met opmaak: Engels
(Groot-Brittannië)

Ongoing challenges

What has been improved?

- AQ Monitoring
- Source apportionment
- Reduction of health risks due to application of practices which proved to be effective (e.g. filtration systems in schools)
- Involvement of citizens in local AQ policy

What still needs to be improved?

- Policy towards all vulnerable groups
- Regularly updated and easily accessible information about the local air quality: nowcast and forecast
- Warning & alerting system air pollution

Final conclusions

The Joaquin project has been a very interesting and necessary endeavour. Looking for a joint approach to tackle a variety of problems regarding air quality and related health issues in one of the most industrious and thus heavily polluted regions in Europe cannot be taken lightly.

In recent years reports of the European Environment Agency warned about the high health risk linked to air pollution and the fact that the prosperity of the north-west European region did not automatically clean the air.

Air pollution in Europe still is the cause of more than 400,000 early deaths. That is why the World Health Organization (WHO) keeps pointing out that particulate matter, nitrogen dioxide or ultrafine particles are never harmless no matter how low emission and concentration levels have dropped.

Joaquin certainly has done a great deal to raise the awareness of experts, policy makers and the broader public.

From the monitoring actions it became apparent that not only traffic, but also wood burning has a serious impact on the quality of the air even in cities, and that additional measures on a larger scale are urgently needed to reduce the emission of black carbon and soot.

All partners in the Joaquin project have been drawing up or updating action plans to reduce the local air pollution and to contribute to the overall improvement of the regional air quality. In these plans more attention than ever is paid to the exposure of citizens and especially vulnerable groups (children, pregnant women, the elderly and people with a precarious state of health). In the course of the Joaquin project several partners developed assessment tools or adopted measures to better protect nurseries and schools which are located near busy roads. Not all vulnerable groups have been thoroughly looked at and policy makers still need to elaborate plans which will focus more on the elderly.

Accessible and tailor-made information is now available on the web sites of the Joaquin partners with a lot of links to expert pages.

For school children aged 9 to 11 an education package was developed and playful youngsters may turn to online games for ideas on behavioural changes to clean the air.

Some partners started communication about the air quality index and linked it to health advices. The possibility to plan a healthy route through the city for those who prefer active transportation is something that needs to be closely followed. It will be nice to be able to exchange experiences among the partners in order to develop a European-wide GPS-application in the long run.