LIFEINDEXAIR

THE AIR BELONGS TO EVERYONE

Socio-economic impacts of the LIFE Index-Air project

Deliverable C2.1

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1. CONTENTS

2. EXECUTIVE SUMMARY

The current report aims to describe the socio-economic impact of the LIFE Index-Air project actions on the local economy and population. The evaluation of the effectiveness of the proposed approach and of the actions concretely implemented in the different applications areas is a key aspect of the LIFE Index-Air team's vision. The socio-economic impacts of the project are analysed and discussed, particularly in relation to policy effectiveness, public awareness, capacity building, employment, investment and health.

3. INTRODUCTION

The project does not involve direct social and economic activities that can result in socio-economic benefits. The socio-economic impacts on employment, health and environmental protection are characterised by a large proportion of benefits that are not easily measured. They will occur due to health and environmental benefits as a result of air quality improvements. Thus, monitoring the impact of the project on society and economy is a far-reaching task, as the project will have socio-economic influence years after its end date. Particularly, job-opportunities and tourism value cannot be yet fully estimated. Also, changes in attitudes towards new ways to conserve ecosystems, by endorsing a better air quality, are hard to measure. Most of social changes are driven by many factors other than air quality measures and policies, for instance by taxation rules, education policies and development, investment strategies. For these reasons precise assessment of the socio-economic benefits of the project is not possible. However, the impact of the project through adoption of new air quality action plans, volume of dissemination activities, and number of contacts in social media and consultation with stakeholders are easily tracked as indicators. Thus, this report is focused on the most noticeable socio-economic impacts of the project although there are wider social impacts on employment, health and environmental protection.

The main purpose of this socio-economic impact assessment is to highlight that LIFE Index-Air project brings benefit to the entire society and that its relevance goes far beyond pure science.

4. SOCIO-ECONOMIC IMPACTS

4.1. GOVERNANCE

The project provides the relevant authorities (such as national and regional policy makers) and stakeholders with a comprehensive characterisation of PM2.5 and PM10 pollution and corresponding emission sources in 5 European cities: Lisbon and Porto (Portugal), Athens (Greece), Kuopio (Finland) and Treviso (Italy). This information was uploaded in a user-friendly database, which was made available on-line on project website (http://www.lifeindexair.net/aq-database/). Moreover, an innovative and versatile decision support tool, the LIFE Index-Air Management Tool, was developed to support policy makers and relevant authorities to formulate cost-effective strategies for the control of particulate air pollution. The link of Management Tool has been provided to the authorities (http://194.219.150.53:5050/lifeindexair_project.php), along with support training material (Manual: http://www.lifeindexair.net/sitelifeindexair/wp-content/uploads/2021/04/Manual-for-the-management-tool-utilization.pdf and Video: http://www.lifeindexair.net/life-index-air-tool-presentation-video-available/). The project stakeholders have been trained in the use of the Tool and LIFE Index-Air partners will continue to provide any support needed to end-users. A set of mitigation measures was developed based on the data collected during the project as well as the implementation of the Management Tool and published in the document "Guidelines for good air quality in public buildings, homes and cities" (http://www.lifeindexair.net/sitelifeindexair/wp-content/uploads/2021/11/D-D2.5-Technical-guide-with-project-outputs-and-recomendations.pdf). The listed strategic measures aim not only to support the implementation of the European and Member States legislation on air quality but principally to reduce the impact of exposure to PM.

Thus, LIFE Index-Air project gave knowledge and advice to the air quality policy makers and relevant authorities to adopt cost-effective air quality measures for European, National, Regional and Local regulation. The better cost-effective air quality regulation will seek both to improve the air quality while at the same time save money. The benefits of this project on policy effectiveness include:

- Enhanced visibility of mitigation measures for air pollution through the numerous dissemination activities carried out by LIFE Index-Air partners;
- Motivation of stakeholders and national authorities to formulate and implement new air quality policies;
- Motivation of general public to adopt air quality best practices.

The **governmental bodies that participated in meetings and provide feedback to the project/tool management** are:

- Portuguese Environment Agency (APA) – Portugal
- Lisbon and Tagus Valley Regional Coordination and Development Commission (CCDR-LVT) – Portugal
- North Regional Coordination and Development Commission (CCDR-N) – Portugal
- Lisbon Parish of Olivais (JF-Olivais) – Portugal
- Lisbon Parish of Parque das Nações (JF-PN) – Portugal
- City of Kuopio – Finland
- Hellenic Ministry of the Environment and Energy – Greece
- Hellenic Ministry of Health – Greece
- Coalition of 21 Local Authorities of North and East Athens – Greece

- Region of Attica – Greece
- Association for the Sustainability Development of Cities (SVAP) – Greece
- Resilient Athens, Athens Municipality – Greece
- Hellenic Society for the Protection of Environment and the Cultural Heritage – Greece

The **governmental bodies that supported the project dissemination activities** are:

- Lisbon Parish of Olivais (JF-Olivais) – LIFE Index-Air dissemination in "Sustentabilis" and "Coffee conversations" events promoted by JF-Olivais and support in the awareness campaigns in schools
- Lisbon Parish of Parque das Nações (JF-PN) - support in the awareness campaigns in schools
- Loures Municipality – Support of the final event "The air belongs to everyone" held in Loures InSS 2017
- Ponte de Sor Municipality - support of the awareness campaigns in schools

The **governmental bodies that participated in open forums where the functionalities and implementation of the Tool were presented** are the municipalities of Lousã, Avis, Azambuja, Braga, Cascais, Castro Marim, Chamusca, Coimbra, Figueira da Foz, Gondomar, Grandola, Lagoa (Açores), Lagoa (Algarve), Loures, Matosinhos, Olhão, Palmela, Pombal, Seia, Serpa, Sesimbra, Setúbal, Soure, Terras do Bouro, Torres Vedras, Valongo, Viana do Castelo, Vila Franca de Xira, Barreiro, Entroncamento, Montijo, Porto and Seixal.

Moreover, several **Non-Governmental Organisations (NGOs) have been informed about the progress of the implementation of the Management Tool and project's results**, namely:

- ABAE - Associação Bandeira Azul da Europa
- ZERO – Associação Sistema Terrestre Sustentável
- AAAS – American Association for the Advancement of Science
- APCD – Gabinete de Estudos e Projectos de Cooperação
- APEMETA – Associação Portuguesa de Empresas de Tecnologias Ambientais
- APEA – Associação Portuguesa de Engenharia do Ambiente
- California Air Resources Board
- CUGH – Consortium of Universities for Global Health
- GBCHealth
- GEOTA – Grupo de Estudos de Ordenamento do Território e Ambiente
- Global Health Council
- GHTC – Global Health Technologies Coalition
- GreenPeace
- IEEI – Instituto de Estudos Estratégicos Internacionais
- INDE – Intercooperação e Desenvolvimento
- Indoor Air Quality Information Centre
- ISIAQ – International Society of Indoor Air Quality and Climate
- Kaiser Family Foundation (KFF) U.S. Global Health Policy
- Quercus – Associação Nacional de Conservação da Natureza
- Research America Global Health R&D Advocacy
- The Earth Institute
- The Global Health Network Center for Strategic and International Studies (CSIS) Global Health Policy Center
- UNF – UN Foundation
- Wellcome Trust
- WHO – World Health Organization

− Worldmapper

A summary of the societal outputs and outcomes of the "governance" indicator is presented in Table 1.

In the long term, the project may improve the effectiveness of European, National, Regional and Local policies on ambient air quality by providing the means to prioritise emission control measures and take informed decisions based quantified PM reductions. The general objectives of the project are in line with the requirements of Directive 2008/50/EC for formulation of air quality plans and reductions of ambient PM concentrations, as well as World Health Organization (WHO) Guidelines for the protection of human health. The project contributes to the implementation of the 3rd thematic priority objective defined by the 7th Environment Action Programme to 2020 "to safeguard the Union's citizens from environment related pressures and risk to health and well-being".

Table 1: Impact of the "governance" indicator.

| Indicator | Context | Descriptor | Impact | |
			Absolute values	units
Governance	Compliance/enforcement	No. of cities with implementation of the LIFE Index-Air Tool	5	Number
	Involvement of non-governmental organisations (NGOs) and other stakeholders in project activities	No. of public bodies involved in the project	48	Number
		No. of NGOs involved in the project	26	Number

4.2. COMMUNICATION, DISSEMINATION, AWARENESS RAISING

A best practice measure is the direct and active participation of authorities and stakeholders within the LIFE Index-Air project. The project included specific actions aiming at disseminating to stakeholders the project rationale and the major achievements. Moreover, application of the Tool by policy makers may provide an assessment of the existing best practice measures and may indicate a need for adjustments for a more cost-efficient environmental policy. Local populations are being mobilised and educated with respect to particulate air pollution, sources and effects as well as control strategies, including adoption of environmentally friendly practices in everyday life. The dissemination activities also have a significant indirect socio-economic impact on different target groups and stakeholders. The importance of project actions and all obtained results have been publicised through different means of communication:

− Project website (https://www.lifeindexair.net/);
− Facebook account (https://www.facebook.com/LIFEIndexAir/);
− ResearchGate account (https://www.researchgate.net/project/LIFE-Index-Air);
− Twitter account (https://twitter.com/LIFEIndexAir);
− LinkedIn account (https://www.linkedin.com/groups/12038573);
− Instagram account (https://www.instagram.com/LIFE.Index.Air);
− YouTube account (https://www.youtube.com/channel/UC3Y8OsCl_dodyXaVQjeZ2tw);
− LIFE Index-Air videos:

- o 4 informative videos ("LIFE Index-Air – Improving Our Life"; "LIFE Index-Air – the air belongs to everyone"; video with work developed in schools and video developed by LIFE Portugal);
- o 1 technical video ("LIFE Index-Air Tool –Taking effective actions to improve air quality and human health);
- Notice boards (in English, Finnish, Greek and Portuguese).
- Pamphlets (in English and Portuguese);
- Bookmarks;
- Roll-ups;
- Newsletters;
- Media and press releases (More details can be found in the [Deliverable D2.7: Articles in media](#)).

Furthermore, the implementation of the public awareness campaigns also has an important indirect socio-economic impact on different target groups and stakeholders. The awareness campaigns for children can have an enormous raise awareness potential. With the proper support, education can empower pupils with knowledge about air quality and climate change and ensure they grow up knowing how to protect the environment with cemented robust, environment-aware behaviours that can pave the way towards a sustainable future and to ensure the realisation of the critical future EU targets.

The LIFE Index-Air partners were involved in the following awareness campaigns:

1. to 64. Awareness in primary schools
   - Number of schools: 26
   - Number of awareness sessions: 60
   - Total number of students: 3796
   - Total number of teachers: 165
61. Sustentabilis, Olivais Library Gardens from 25-29 May 2017
62. Loures InSS 2017, 2 - 5 June 2017, Parque Adão Barata
63. Day of Green Flags – Eco schools award
64. Week of Science and Technology 2018 (Loures, Portugal) - EB1 n.º 4 of Póvoa de Santa Iria
65. 107th Anniversary of IST (Lisbon, Portugal) - May 2018
66. Loures InSS 2018
67. Ciência 2018
68. European Researchers' Night 2018
69. LIFE Index Air in the Program "Meeting with a Scientist" of Escola Ciência Viva (Lisbon, Portugal) - February 2019
70. 2 seminars at the secondary school of Bobadela (Loures, Portugal), with the title "The air belongs to everyone – what, why and how?" - February 2019
71. Seminar at the secondary school Fernão Mendes (Almada, Portugal), with the title "The air belongs to everyone – what, why and how?" - March 2019
72. Loures InSS 2019
73. Bobadela School presentation at C2TN - June 2019
74. 2019 European Researchers' Night (Lisbon, Portugal)
75. LIFE Index Air in the Program "Meeting with a Scientist" of Escola Ciência Viva (Lisbon, Portugal) - October 2019
76. "Does the air belongs to everyone?" in "Explain it to me as if I was 5 years old", 4 july 2020 https://www.facebook.com/253571472881/videos/2681768978811136

77. N. Canha and Marina Almeida-Silva (2021) Exposure to air pollutants during COVID-19 pandemic – better or worse than before?, Webinar promoted by International Society of Exposure Science - ISES, participation of 116 participants from 21 countries, online, 23 February. More info: https://ises-europe.org/article/exposure-air-pollutants-during-covid-19-pandemic-%E2%80%93-better-or-worse
78. S.M. Almeida (2021) LIFE Virtual Stand in Green Week 2021, 1st June
79. 2021 European Researchers' Night, 24 September (Lisbon, Portugal)

The impact in absolute terms of the "communication, dissemination, awareness raising" indicator is available in Table 2.

Table 2: Impact of the "communication, dissemination, awareness raising" indicator.

| Indicator | Context | Descriptor | Impact | |
			Absolute values	units
Communication, dissemination, awareness raising	Website	No. of unique visits	154560	Number
		No. of individuals	97002	Number
		No. downloads	19527	Number
		Average visit duration	5	Number
	Social network	No. of social networks	6	Number
		No. of comments and/or likes	3713	Number
		No. of shares	224	Number
	Newsletters	No. of publications	5	Number
		No. of people informed	23190	Number
	Awareness campaigns	No. of events organised	79	Number
		No. of individuals made aware	15416	Number
	Media and press releases	No. of publications	39	Number

4.3. CAPACITY BUILDING

In terms of education outreach and knowledge diffusion, professionals, members of interest groups and students in higher education received training during the seminars, open-forums and courses. Specifically for project stakeholders, training courses were conducted to train them to use the Management Tool and get familiar with the Tool's functions. LIFE Index-Air partners will continue to provide any support needed to end-users.

In the last year, most of the events were conducted online due to the COVID-19 restrictions. These online meetings reached greater number of participants than through traditional face-to-face capacity building events, enhancing opportunities for networking and increasing the project's visibility.

All seminars, open-forums and courses are listed below.

Seminars:

1. Workshop "Indoor Air Quality" organized by APEA for IAQ professional and university students - May 2017

2. Workshop "25 Years of Life Innovative Tools and Technologies for Nature, Environmental Protection and Climate Action" - July 2017
3. LIFE Index Air @ Ciência 2017 - July 2017
4. LIFE Index-Air @ Coffee conversations
5. LIFE Index Air @ Meeting with National Contact Points of Greece, Bulgaria and Hungary - May 2017
6. LIFE Index Air @ Intra LIFE PT 2017 - October 2017
7. LIFE Index-Air at the IAEA course about PM source apportionment (Loures, Portugal) - November 2017
8. 1st Workshop of C2TN -IST (Loures, Portugal) - December 2017
9. LIFE Index-Air @ Training School on Black and Brown Carbon (Ljubljana, Slovenia) - January 2018
10. LIFE Index-Air at the Training School on ToF-ACSM and on source apportionment of organic aerosol (Prague, Czech Republic) - March 2018
11. "Security and Health at Work" Workshop at IST (Lisbon, Portugal) - May 2018
12. Week of Science and Technology 2018 (Loures, Portugal)
13. SEMINAR AND ROLE PLAY @ IST (Lisbon, Portugal) - November 2018
14. 5th LIFE Training on Conservation and Environment (Budapest, Hungary) - November 2018
15. SEMINAR AND ROLE PLAY @ ESTESL (Lisbon, Portugal) - December 2018
16. 2nd Workshop of C2TN -IST (Loures, Portugal)
17. LIFE Index-Air at the 3rd Workshop of NANOGUARD2AR Project - January 2019
18. LIFE Index Air @ Ciência 2019
19. LIFE Index-Air at theThink Tank "Agenda da Terra" (Lisbon, Portugal) - July 2019
20. LIFE Index-Air at the Palestras dos Estágios de Verão do DEQ, IST (Lisbon, Portugal) - July 2019
21. LIFE Index-Air in the at the Workshop "Mobilidade Elétrica para a melhoria da qualidade do ar nas cidades", European Mobility Week (Lisbon, Portugal) - September 2019
22. LIFE Index-Air at the seminar "Smart Cities. Smart Health" (Almada, Portugal) - September 2019
23. Students from ESTeSL discussing the LIFE Index-Air results (Lisbon, Portugal) - October 2019
24. 3 LIFE Index Air TALKS with future Environmental Engineers from IST (Lisbon, Portugal) - 31st October, 14th November and 28th November 2019
25. 3rd Workshop of C2TN -IST (Loures, Portugal) - December 2019
26. LIFE Index-Air at the Workshop on "Qualidade do Ar em Ambiente Urbano" (Coimbra, Portugal) - February 2020
27. Students from ESTeSL discussing the LIFE Index-Air results (Lisbon, Portugal) - January 2021

Open-Forums:

1. 1st Stakeholders meeting in APA
2. 1st Stakeholders meeting in CCDR-LVT
3. 1st Stakeholders meeting in CCDR-N
4. 1st Stakeholders meeting in JF-Olivais
5. 1st Stakeholders meeting in JF-PN
6. 1st Stakeholders meeting with school teachers
7. 1st Stakeholders meeting in City of Kuopio
8. 1st Stakeholders meeting in Athens
9. 1st Stakeholders meeting in Ministry of Health, Athens

10. Workshop "Urban Air Pollution Mitigation Tools" at EAC2017 - August 2017
11. 2nd Stakeholders Treviso, LIFE Index-Air at the final conference of the Interreg MED REMEDIO project (Treviso, Italy) - October 2019
12. LIFE Index-Air at the 34th meeting of GTAR (Working Group for Air) of APA - Stakeholders meeting - March 2018
13. LIFE Index-Air at the 36th meeting of GTAR (Working Group for Air) of APA - Stakeholders meeting - November 2019
14. LIFE Open-forum during RICTA conference
15. ERA-PLANET SMURBS project, 10-11/11/2020 Online workshop on smart urban solutions for air quality and health
16. Webinar "The air that I breath…indoors" for teachers from eco-school programme, 22 Feb 2021, https://www.youtube.com/watch?v=CglCCySf0mQ&t=30s

Courses:

1. Training Course for technical staff "Sampling and Measurement Procedures on LIFE Index-Air"
2. CARISMA - 1st Summer School of C2TN, 8 - 10 september 2020
3. Programa de Formação Universitária para Seniores, Ulisboa (Lisboa, Portugal) - November 2019
4. Programa de Formação Universitária para Seniores, Ulisboa (Lisboa, Portugal) - 10 November 2020 (online)
5. Training course for teachers "AtuAR", 23-25 november 2020 (Transference)
6. ‒"LIFE Index Air Tool, a decision support to reduce the population exposure to atmospheric particles", Webinar "Ecology and Health", VIII Fórum Rede Portuguesa de Municípios   Saudáveis https://www.facebook.com/watch/live/?v=195976971910917&ref=search
7. Second stakeholder Meeting & Training school City of Kuopio, 22 June 2021
8. Second stakeholder Meeting & Training school Athens, 30 September 2021
9. Second stakeholder Meeting & Training school Treviso, 12 October 2021
10. Second stakeholder Meeting & Training school Lisbon, 13 October 2021

LIFE Index-Air partners also coordinated an **international event** to promote the project results, the Iberian Meeting on Aerosol Science and Technology (RICTA 2019; http://www.lifeindexair.net/ricta19/). The proceedings of the international conference can be found in Deliverable D2.4.

All the digital presentations, technical guides, manuals, technical reports and scientific papers developed during the project are being very useful and they may continue to be used as working material for other projects, teaching, and sharing. The technical reports and scientific papers provide comprehensive and detailed information about time-activity patterns and concentrations of particles and their constituents in different microenvironments that can be of direct future use to authorities, researchers and other interested groups. Below is a list of all digital material produced during the project.

Dissemination in conferences (presentations):

1. T. Faria et al. (2017) 2001-2011 Trends of PM2.5, PM10 and aerosol chemical compounds in Lisbon, Portugal, 5th Iberian Meeting on Aerosol Science and Technology, Barcelona, 4 - 6 July.
2. N. Canha et al. (2017) Exposure to particulate matter during sleep, 5th Iberian Meeting on Aerosol Science and Technology, Barcelona, 4 - 6 July.
3. S.M. Almeida et al. (2017) Development of an Integrated Exposure – Dose Management Tool for Reduction of Particulate Matter in Air: Overview of the LIFE Index-Air Project, European Aerosol Conference 2017, Zurich, 27 August – 1 September.
4. S.M. Almeida et al. (2017) LIFE Index-Air project: development of an integrated exposure – dose management tool for reduction of particulate matter in air, 14th International Conference on Urban Health, Coimbra, 27 September.
5. Martins et al. (2018) Distribuição granulométrica da massa de partículas amostradas no interior e exterior de casas e escolas de Lisboa, CIALP| XX Encontro REALP | XI CAN, Aveiro (Portugal), 8-10 May.
6. Faria et al. (2018) Avaliação da exposição de crianças a matéria particulada em ambiente urbano, CIALP| XX Encontro REALP | XI CAN, Aveiro (Portugal), 8-10 May.
7. Canha et al. (2018) Será que o ar que respiramos enquanto dormimos condiciona a qualidade do nosso sono?, CIALP| XX Encontro REALP | XI CAN, Aveiro (Portugal), 8-10 May.
8. Relvas et al. (2018). Improving air quality and human health: an approach base on artificial neural networks. Air Pollution 2018. 19 - 21 June 2018. Naples.
9. Correia et al. (2018) Exposure to particulate matter and inhaled dose during commuting in Lisbon. Chemistry at ULisboa & 2018 Summer School. 3rd Meeting of the College of Chemistry. Lisbon, Portugal. 27-29 June 2018.
10. Cunha-Lopes et al. (2018) Children exposure assessment to particulate matter in urban environment. Chemistry at ULisboa & 2018 Summer School. 3rd Meeting of the College of Chemistry. Lisbon, Portugal. 27-29 June 2018.
11. Almeida et al. (2018) Indoor-to-outdoor particle concentration assessment for human exposure analysis, Indoor Air 2018, Philadelphia (USA), 22-27 July.
12. Canha et al. (2018) Indoor air quality during sleep, Indoor Air 2018, Philadelphia (USA), 22-27 July.
13. Canha et al. (2018) Is the air that we breathe during sleep affecting our sleep quality?, Indoor Air 2018, Philadelphia (USA), 22-27 July.
14. Martins et al. (2018) Child Exposure to Indoor and Outdoor PM at Schools and Homes in the Lisbon Metropolitan Area, Portugal, IAC 2018, Missouri (USA), 2 - 7 September.
15. Martins et al. (2018) Personal Exposure to Particulate Matter While Commuting, IAC 2018, Missouri (USA), 2 - 7 September.
16. Faria et al. (2018) Exposure of Children to Particulate Matter and Chemical Elements in Urban Environment, IAC 2018, Missouri (USA), 2 - 7 September.
17. Coutinho et al. (2019). Studies of carbonaceous particles at a traffic site - Moscavide/Lisbon, Portugal. 12th International Conference on Carbonaceous Particles in the Atmosphere (ICCPA). Vienna, Austria. 3-6 April.
18. Relvas et al. (2019). A tool to rapidly assess urban air quality strategies in Europe. 19th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Harmo 2019. 3 - 6 June 2019, Bruges.
19. Almeida et al. (2019) Indoor and outdoor sources of particulate matter in 40 Portuguese homes, 27th International Conference on Modelling, Monitoring and Management of Air Pollution, Aveiro, 26-28 June.

20. Ferreira et al. (2019) Modelling population exposure to PM2.5 in Lisbon, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

21. Canha et al. (2019) Particulate matter exposure during sleep, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

22. Savdie (2019) Impact of the new generation of cigarettes in the air quality, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

23. Gini et al. (2019) The effect of variability in size distribution metrics of aerosol chemical components on the deposited dose for urban areas in Lisbon, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

24. Cunha-Lopes et al. (2019) Assessment of children's exposure to sized-fractioned particulate matter and black carbon in Lisbon Metropolitan Area, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

25. Correia et al. (2019) Exposure and inhaled dose of particulate matter by commuters in Lisbon, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

26. Miranda et al. (2019) Modelling PM in the air: current practices and challenges, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

27. Faria et al. (2019) Spatial variability of personal exposure to particles in Lisbon, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

28. Martins et al. (2019) Relationship between indoor and outdoor size-fractionated particulate matter collected in urban homes and schools, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

29. Almeida et al. (2019) Sources of Children's Exposure to Particulate Matter, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

30. Relvas et al. (2019) Artificial neural networks as a tool to control urban PM atmospheric levels, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

31. Chalvatzaki (2019) Personal dose of PM10 for students in primary schools in Lisbon, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

32. Lehtomäki (2019) Burden of disease attributed to airborne particulate matter in five selected European cities, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

33. Diapouli et al. (2019) LIFE Index-Air – Development of an integrated exposure-dose management tool for the reduction of particulate matter in air and the protection of public health, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

34. Diapouli et al. (2019) Indoor and outdoor concentrations of polycyclic aromatic hydrocarbons (PAHs) at residences and schools, in Lisbon, Portugal, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

35. Ascenção et al. (2019) Impact of wood combustion in fireplaces on indoor air quality. 7th Iberian Meeting on Aerosol Science and Technology. RICTA 2019. Lisbon, Portugal. 9 - 11 July.

36. Lazaradis et al. (2019) PM10 and metal content associated health risks in three European cities, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

37. Hanninen et al (2019) Domains of air pollution health impact assessment in the LIFE Index-Air project, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

38. Lehtomäki et al. (2019) Air pollution exposure and school absenteeism, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

39. Korhonen et al. (2019) Outdoor PM2.5 levels at home and school locations in the LIFE Index-Air target cities, 7th Iberian Meeting on Aerosol Science and Technology, Lisbon, 9-11 July.

40. Coutinho et al. (2019). Assessment of Aerosol Emission Sources in a Traffic Site Combining On-line and Off-line Measurements. European Aerosol Conference. EAC 2019. Gothenburg, Sweden. 25-30 August.

41. Chalvatzaki et al. (2019) Estimation of the personal dose in school children due to PM10 exposure. European Aerosol Conference. EAC 2019. Gothenburg, Sweden. 25-30 August.

42. Diapouli et al (2019). Chemical characterization of indoor and outdoor PM at residences and schools, in Lisbon, Portugal. European Aerosol Conference. EAC 2019. Gothenburg, Sweden. 25-30 August.

43. Almeida et al. (2019). Source Apportionment of Children Exposure to Particulate Matter in Lisbon. European Aerosol Conference. EAC 2019. Gothenburg, Sweden. 25-30 August.

44. Faria et al. (2019). Children exposure and dose assessment to chemical compounds in particulate matter in Lisbon. European Aerosol Conference. EAC 2019. Gothenburg, Sweden. 25-30 August.

45. Coutinho et al. (2019). Assessment of Aerosol Emission Sources in a Traffic Site Combining On-line and Offline Measurements. International Congress on Environmental Health. ICEH 2019. Lisbon, Portugal. 25-27 September.

46. Correia et al (2019). Commuter exposure and inhaled dose of particulate matter in four common modes of transport in Lisbon. 4th International Congress on Environmental Health. ICEH 2019. Lisbon, Portugal. 25-27 September.

47. Martins et al. (2019). Indoor-to-outdoor levels of size-segregated particulate matter in urban microenvironments. 4th International Congress on Environmental Health. ICEH 2019. Lisbon, Portugal. 25-27 September.

48. Almeida et al. (2019). Exposure to source-related components of particle air pollution. 4th International Congress on Environmental Health. ICEH 2019. Lisbon, Portugal. 25-27 September.

49. Cunha-Lopes et al. (2019). Children's exposure assessment to particulate matter in Lisbon metropolitan area. 4th International Congress on Environmental Health. ICEH 2019. Lisbon, Portugal. 25-27 September.

50. Faria et al. (2019). Children integrated exposure to chemical compounds in particulate matter. 4th International Congress on Environmental Health. ICEH 2019. Lisbon, Portugal. 25-27 September.

51. Hanninen et al (2019) Aerosol-induced changes in effect estimates due to exposure misclassification and bias in air pollution epidemiology, European Aerosol Conference (EAC), Aachen, Germany. 30 August - 4 September 2020.

52. Rumrich et al. (2019) Prenatal exposure to particulate matter: Impact on birth outcomes in Finland, European Aerosol Conference (EAC), Aachen, Germany. 30 August - 4 September 2020.

53. Korhonen et al. (2020) Assessment of model bias and PM2.5 exposures by several air quality models, European Aerosol Conference (EAC), Aachen, Germany. 30 August - 4 September 2020.

54. Diapouli et al. (2020) LIFE Index-Air: Development of an integrated exposure - dose management tool for the reduction of PM pollution and the protection of public health, European Aerosol Conference (EAC), Aachen, Germany. 30 August - 4 September 2020.

55. Diapouli et al (2020) Indoor and outdoor concentrations of polycyclic aromatic hydrocarbons (PAHs) at residences and schools, in Lisbon, Portugal, European Aerosol Conference (EAC), Aachen, Germany. 30 August - 4 September 2020.

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57. Diapouli et al. (2021). Implementation of the LIFE Index-Air Exposure - Dose Management Tool in 5 European Cities. European Aerosol Conference. EAC 2021. 30 August - 3 September.

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59. Martins et al. (2021). Concentration and chemical composition of PM in urban transport modes. European Aerosol Conference. EAC 2021. 30 August - 3 September.

60. Faria et al. (2021). Assessment of children's exposure to organic pollutants in homes in Portugal. European Aerosol Conference. EAC 2021. 30 August - 3 September.

61. Martins et al. (2021). Assessment of size-segregated particulate matter in urban microenvironments. European Aerosol Conference. EAC 2021. 30 August - 3 September.

62. Almeida et al. (2021) COVID-19 lockdown effects on air quality in the surroundings of Lisbon Airport. European Aerosol Conference. EAC 2021. 30 August - 3 September.

63. Relvas et al. (2021). A versatile decision-support tool to assess air quality and health effects, CEST 2021, Online

Manuals and technical guides:

1. Technical Guide "sampling and Chemical Characterization of Particles"
2. Manual for the Management Tool utilization (book and video)

Technical reports:

1. Report on time-activity patterns
2. Report on PM chemical characterization in different microenvironments and sources identification
3. Report on setup of the air quality modelling system
4. Report on the setup of the exposure model (and input data)
5. Report on the modelling evaluation exercise (comparison with monitoring data)
6. Report on air quality and exposure modelling results
7. Report on dose calculations for children
8. Report on environmental burden of disease
9. Report with the revision of action plans and measures to improve air quality in terms of PM.
10. Guidelines for action plans formulation for Lisbon
11. Guidelines for action plans formulation for Porto
12. Guidelines for action plans formulation for Athens
13. Guidelines for action plans formulation for Kuopio
14. Guidelines for action plans formulation for Treviso
15. Report on social-economic impacts of the project

Scientific papers:

1. E. Chalvatzaki, M. Lazaridis (2018) A dosimetry model of hygroscopic particle growth in the human respiratory tract. Air Quality, Atmosphere & Health 11 (4), 471–482. doi: 10.1007/s11869-018-0555-7. Article published on March 2018.

2. H. Lehtomäki, A. Korhonen, A. Asikainen, N. Karvosenoja, K. Kupiainen, V.V. Paunu, M. Savolahti, M. Sofiev, Y. Palamarchuk, A. Karppinen, J. Kukkonen, O. Hänninen (2018) Health Impacts of Ambient Air Pollution in Finland. International Journal of

Environmental Research and Public Health 15(4), 736. doi: 10.3390/ijerph15040736. Article published on April 2018.

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8. C. Correia, V. Martins, I. Cunha-Lopes, T. Faria, E. Diapouli, K. Eleftheriadis, S.M. Almeida (2020) Particle exposure and inhaled dose while commuting in Lisbon. Environmental Pollution 257. doi:10.1016/j.envpol.2019.113547. Article published on November 2019.

9. T. Faria, V. Martins, C. Correia, N. Canha, E. Diapouli, M. Manousakas, K. Eleftheriadis, S.M. Almeida (2020) Children's exposure and dose assessment to particulate matter in Lisbon. Building and Environment 171. doi:10.1016/j.buildenv.2020.106666. Article published on February 2020.

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by school children due to PM10 air pollution in Lisbon, Aerosol and Air Quality Research. doi:10.4209/aaqr.2020.01.0022.

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18. N. Canha, E. Diapouli, S.M. Almeida (2021) Integrated Human Exposure to Air Pollution. Int. J. Environ. Res. Public Health 18, 2233. doi:10.3390/ijerph18052233.

19. A. Korhonen, H. Relvas, A.I. Miranda, J. Ferreira, D. Lopes, S. Rafael, S.M. Almeida, T. Faria, V. Martins, N. Canha, E. Diapouli, K. Eleftheriadis, E. Chalvatzaki, M. Lazaridis, H. Lehtomäki, I. Rumrich, O. Hänninen (2021) Analysis of spatial factors, time-activity and infiltration on outdoor generated PM2.5 exposures of school children in five European cities, Science of the Total Environment. doi:10.1016/j.scitotenv.2021.147111.

20. C. Viegas, M. Dias, A. Monteiro, T. Faria, J. Lage, E. Carolino, L. Aranha Caetano, A. Quintal Gomes, S.M. Almeida, S. Cabo Verde, J. Belo, N. Canha (2021) Bioburden in sleeping environments from Portuguese dwellings, Environmental Pollution, 273, 116417. doi:10.1016/j.envpol.2020.116417.

21. N. Canha, C. Teixeira, M. Figueira, C. Correia (2021) How Is Indoor Air Quality during Sleep? A Review of Field Studies. Atmosphere. 2021; 12(1):110. doi: 10.3390/atmos12010110.

22. T. Faria, V. Martins, N. Canha, E. Diapouli, M. Manousakas, P. Fetfatzis, M.I. Geni, S.M. Almeida (2021) Assessment of children's exposure to carbonaceous matter and to PM major and trace elements, Science of the Total Environment. doi: 10.1016/j.scitotenv.2021.151021 (published after the end of the project).

23. S.M. Almeida, J. Sousa (2021) Modelling the contribution of factors influencing the risk of SARS-CoV-2 infection in indoor environments, Acta Med Port. doi:10.20344/amp.15982 (published after the end of the project).

In addition to the technical material mentioned above, several master' **thesis** have been developed within the framework of LIFE Index-Air project. All thesis are available online in the institutional repository.

Thesis:

1. Carolina Correia (2018) Exposição a partículas atmosféricas e dose inalada em movimentos pendulares em Lisboa. Master Thesis of the Integrated Master in Environmental Engineering at Instituto Superior Técnico, Universidade de Lisboa, Portugal.

2. Inês Lopes (2018) Avaliação da exposição de crianças a matéria particulada em ambiente urbano. Master Thesis of the Integrated Master in Environmental Engineering at Instituto Superior Técnico, Universidade de Lisboa, Portugal.

3. João Ramos (2019) Caraterização do sono em estudantes universitários: A influência da Qualidade do Ar Interior. Master Thesis of the Integrated Master in Environmental Engineering at Instituto Superior Técnico, Universidade de Lisboa, Portugal.

4. Joseph Lozano (2019) Analysis of the effects of new cigarette generations on indoor air quality. Master Thesis of the Integrated Master in Environmental Engineering at Instituto Superior Técnico, Universidade de Lisboa, Portugal.
5. Nicole Buitrago (2019) Indoor air quality inside vehicle cabins while commuting in Lisbon. Master Thesis of the Integrated Master in Environmental Engineering at Instituto Superior Técnico, Universidade de Lisboa, Portugal.
6. Marco Dionisio (2020) Air quality and health impact assessment: Lisbon case study. Master Thesis of the Integrated Master in Environmental Engineering at Instituto Superior Técnico, Universidade de Lisboa, Portugal.
7. Kanella Laskari - Master Hellenic Open University, Greece.

One PhD thesis, two master thesis and several scientific publications and presentations in international conferences based on LIFE Index-Air results are expected to be produced after the end of the project.

The impact in absolute terms of the "capacity building" indicator is available in Table 3.

Table 3: Impact of the "capacity building" indicator.

Indicator	Context	Descriptor	Impact	
			Absolute values	units
Capacity building	Seminars	No. of events organised	27	Number
		No. of individuals reached	1119	Number
	Open-Forums	No. of events organised	16	Number
		No. of individuals reached	860	Number
	Courses	No. of events organised	10	Number
		No. of individuals reached	231	Number
	International Conference	No. of events organised	1	Number
		No. of participants	88	Number
	Dissemination in conferences	No. of works presented	63	Number
	Manuals and technical guides	No. of manuals/technical guides	2	Number
	Technical reports	No. of technical reports	15	Number
	Scientific papers	No. of scientific papers	21 (+2 after the end of the project)	Number

4.4. SOCIAL GROWTH

The potential impact of the project in the tourism value is not quantifiable. Most of social changes are driven by many factors other than air quality measures and policies, for instance by taxation rules, education policies and development, investment strategies. Nevertheless, the impact can be evaluated qualitatively by comparing the PM reductions associated with mitigation strategies (evaluated and proposed by the project) with the state of the art concerning PM impacts on tourism value.

4.5. COMPETITIVENESS

The number of companies, professional associations, schools' managers, and environment, maintenance, energy and health professionals involved and made aware for green economy potential during the project was not measured. Actually, there was no work aimed to link the economic growth and environmental protection within the project.

4.6. EMPLOYMENT

LIFE Index-Air project employed temporary staff (specialised technicians and scientists) for project activities in all beneficiary institutions, as well as via the contracted companies (*MSensis* for developing the Tool software and *Slab Studio* for production of dissemination material) who have received job opportunities via LIFE Index-Air activities.

The number of young researchers paid by the project for each beneficiary partner was:

- – 6 in IST (5 of them continue in IST after the end of the project)
- – 6 in NCSRD (5 of them continue in the institution after the end of the project)
- – 4 in UAVR (3 of them continue in the institution after the end of the project)
- – 2 in TUC (both continue in the institution after the end of the project)
- – 2 in THL (both continue in the institution after the end of the project)

Indirectly the project can also affect regional employment by the successful implementation of the new cost-effective strategies. Companies/industries that should comply with the new measures will attract and retain skilled staff. Thus, possible job gain might arise from the need of additional staff to implement new measures, such as:

- – Creation of large parking lots at main transport interfaces at the outskirts of the city;
- – Expansion of public transport network;
- – Improvement of the design of the public transportation itineraries;
- – Creation or expansion of cycling paths and pedestrian lanes;
- – Vehicle and road maintenance;
- – Street cleaning;
- – Improvement of the thermal behaviour of residential buildings;
- – Installation of renewable energy systems;
- – Mandatory certification of residential combustion equipment;
- – Inspection and control of ships fuels.

4.7. ECONOMIC GROWTH

A database was developed with the mass concentrations of PM2.5 and PM10, as well as with the chemical components associated to these particle fractions. Database incorporates historical data from Lisbon, Porto, Athens, Kuopio and Treviso and new data obtained in the sampling campaigns conducted in Lisbon. It is available for use by stakeholders and provide a detailed characterisation of the air quality at these 5 studied European cities. The information on database will allow the establishment of links among chemical monitoring data on PM chemical mixtures, exposure and human health and will contribute for the identification of cost effectiveness measures to minimise exposure to hazardous substances. Further understanding

of the problem of particulate air pollution has been provided by the identification of the main sources contributing to PM concentration levels for the 5 studied cities, both through the application of mass balance approaches and compilation of emission inventories.

The Management Tool developed in the framework of the LIFE Index-Air project, aiming to cover the gap between ambient air quality management and real-life exposure of urban populations and related health risks. It aspires to provide policy makers with the means to assess citizens' exposure to PM and related health effects, as well as to evaluate the effectiveness of selected air pollution mitigation measures with respect to ambient air quality, population exposure and the protection of public health. All the estimations are performed based on current ambient air quality data (base case for 2015), but also on modified scenarios, determined by the user in order to test different exposure mitigation measures. The modified scenarios are evaluated based on changes in the road vehicles fleet, residential heating and cruise shipping. Three packages of measures (modified scenarios) can be tested in the Management Tool, focusing on:

1. traffic - changes in the number of vehicles (passenger cars and buses) and the percentage of vehicles with respect to fuel type (petrol, dieses, natural gas and electric) and European emission standard (from EURO I and VI);
2. residential heating - changes in the amount of wood consumed and the type of equipment used (fireplace, more efficient fireplaces, woodstove, wood burning furnace, salamander stove, boiler, oven, wood burning water heater and furnace);
3. shipping (changes in the number of cruise ships).

The Tool calculates the impact of these new scenarios on ambient concentrations, population exposure and related health effects.

The LIFE Index-Air Tool is available online, free of charge. Currently the Tool is applied for the 5 studied cities; nevertheless, its design allows the inclusion of other cities in the future.

The results of the implementation of the Management Tool in the 5 cities for the base case scenario and 10 modified scenarios (mitigation measures) are present in deliverables B6.1 and B6.2. The mitigation measures implemented in the Tool are indicated in Table 4. The cruise shipping scenario can only be applied for Athens, Lisbon and Porto. The other two cities (Kuopio and Treviso) are not expected to be significantly affected by cruise shipping emissions.

Table 4: Modified scenarios/mitigation measures tested in the LIFE Index-Air Management Tool.

Sector		Scenario	Measure
Road traffic	Passenger cars fleet	S1	Diesel cars replaced by electric cars
		S2	100% electric cars
		S3	-50% no. of cars
		S4	No cars EURO I, II, III and IV -> 50% cars EURO V and 50% cars EURO VI
	Buses fleet	S5	No buses EURO I, II, III and IV -> 50% cars EURO V and 50% cars EURO VI
		S6	100% electric buses
Residential heating		S7	More efficient fireplaces (No fireplaces, woodstove and salamander stove)
		S8	-20% of wood consumed
Cruise ships		S9	+20% no. of cruises
		S10	No cruises

The Tool provides a quantitative evaluation of the effectiveness of already implemented or future policies, either targeting directly ambient air pollution or aiming at reducing citizens'

exposure through the adoption of alternative, less impacted by air pollution, everyday schedules. Thus, the project will stimulate the allocation of European funds for the implementation of new mitigation strategies. The stakeholders were trained in the use of the Tool and project partners will provide any support needed to end-users. The governmental bodies that participated in open-forums where the functionalities and implementation of the tool were presented are:

Portugal

– Municipalities of Lousã, Avis, Azambuja, Braga, Cascais, Castro Marim, Chamusca, Coimbra, Figueira da Foz, Gondomar, Grandola, Lagoa (Açores), Lagoa (Algarve), Loures, Matosinho, Olhão, Palmela, Pombal, Seia, Serpa, Sesimbra, Setúbal, Soure, Terras do Bouro, Torres Vedras, Valongo, Viana do Castelo, Vila Franca de Xira, Barreiro, Entrocamento, Montijo, Porto and Seixal
– Commission for Regional Development and Coordination of:
    o Lisbon and Tagus Valley
    o Norte
    o Centro
    o Alentejo
    o Algarve
– Portuguese Environment Agency

Italy

– ARPA Veneto

Finland

– City of Kuopio
– National Supervisory Authority for Welfare and Health (Valvira)
– Regional State Administrative Agency for Southern Finland (AVI)

Greece

– Ministry of Environment and Energy
– Ministry of Health

The implementation of effective emission control measures improves the ambient air quality and consequently the public health by minimising the population's exposure to air pollutants. In Table 5 is estimated the reduction of number of years lost due to ill-health, disability or early death with the implementation of the mitigation measures tested in the Tool in the studied cities. Nevertheless, in the lifetime of the LIFE-Index Air project is rather difficult to evaluate the long-term health benefits for the local populations due to the improvement of ambient air quality.

Any effort to reduce air pollution and the consequent health impact will produce economic gain. The implementation of the Tool will potentially reduce annual economic costs of health impacts and mortality from air pollution foreseen by the strategies developed in the project and evaluated by the Tool (Table 5). Moreover, high costs are associated with failure of implement legislation, broadly estimated at around EUR 1124 million a year, including costs related to infringement cases. The Tool was provided to policy makers for cost-effective air quality management and will help the stakeholders to:

– evaluate the current air mitigation measures;

- develop and adopt new strategies to decrease the PM concentrations in the air, to reduce exposure to PM chemical compounds and to improve the health of citizens;
- correctly apply the regulation in order to decrease the associated costs.

The cities involved, chosen as target areas, are representative of a large urbanised population of the European countries, within its climate characteristics and different air pollution sources. In this framework the project can be considered as a demonstration application for cities of medium-large size, in order to assess the specific relevance of PM in the urban environment and the related health effects on the population. The proposed methodology can have a high degree of portability in different EU urban contexts and the project can be seen as a demonstration that an EU wide assessment (including all EU countries) can be conducted. In addition, specific activities are being carried out during the project to support the technological transfer of all the aspects which could be applied in other contexts, such as protocols for data collection, chemical analysis, statistical analysis and reports to stakeholders.

The impact in absolute terms of the "economic growth" indicator is available in Table 5. The potential impacts in the historic buildings, tourism value and properties value are not quantifiable.

Table 5: Impact of the "economic growth" indicator.

Indicator	Context	Descriptor	Impact Absolute values	Impact units
Economic growth	**Operating costs during the project**	Costs associated with the implementation of the project	1369071	€
	Entry into new geographical areas	No. of geographical (NUT3) areas	7	Number
	Reduction of costs associated with the	No. of items added in the air quality database	2	Number
		No. of strategies	10	Number
		No. of cities affected by the strategies	5	Number
		No. of stakeholders informed/trained about the tool features	140	Number
		No. of governmental bodies involved	48	Number
		Costs associated with failure of EU legislation implementation	1124 millions	EUR/year
	Reduction of the exposure to PM chemical compounds and inhaled dose	Costs associated with premature death from air pollution in selected cities	15515 millions	EUR/year
	Reduction of the annual economic costs of health impacts and mortality from air pollution foreseen by the proposed strategies			
	Reduction of burden disease associated with the exposure to PM chemical compounds	Potential burden disease reduction associated with the proposed strategic measures across the studied cities	22494	DALYs/year

DALYs: Disability Adjusted Life Years;

4.8. IMPROVED ECOSYSTEMS

The potential impacts of the project in the ecosystems are not quantifiable. These impacts can be evaluated qualitatively by comparing the PM reductions associated with mitigation strategies (evaluated and proposed by the project) with the state of the art concerning PM impacts on ecosystems. The direct environmental benefits of the project relate to resource savings from the implementation of cost-effective environmental policies and reductions of PM concentrations leading to attainment of air quality standards. The dissemination of the project results contributes to the raising of awareness regarding the environmental problem targeted to the general public in order to foster the implementation of good practices conducting to a reduction of PM exposure in schools, homes and other microenvironments.

5. FURTHER BENEFITS OF THE PROJECT

Transference of knowledge: the project actions will continue by LIFE Index-Air beneficiaries through new funded national and European projects.

IST team currently runs 7 projects, namely:

- FCT ExpoLIS
- Interreg Sudoe 3SQAIR
- Hospital Interreg Sudoe 4.0
- Fundo Ambiental A-Tu-Ar
- EEA Grants Pab_LAB
- H2020 ECF4CLIM
- FCT HypnosAir

New projects of the NCSRD team:

- ERA-PLANET SMURBS
- LIFE FROSTDEFEND

New projects of the TUC team:

- Interreg MOUSEIA
- CLIMACT National project

New projects of the THL team:

- Nordforsk Nordic WelfAir
- Academy of Finland APPEAL
- Michael J. Fox Foundation FINPARK
- H2020 ULTRHAS

New projects of the UAVR team:

- FCT BigAir

All these projects are related to LIFE Index-Air activities.

6. REPLICABILITY, TRANSFERABILITY, COOPERATION

LIFE Index-Air can be considered a replicable and transferable project once the Tool, aiming the reduction of air pollution levels and associated impacts, was firstly applied and tested in Lisbon and afterwards implemented in more 4 EU cities – Athens, Kuopio, Treviso and Oporto, with different characteristics, in order to demonstrate its replicability to all EU cities. The Tool may be implemented to other regions. The software is free of charge to interested end-users and is user-friendly. Nevertheless, it requires input databases characteristic of the application region. PM concentration data are easily accessible from national monitoring networks. Emission strength and source contribution data require more resources and greater expertise to be obtained. Project partners cannot supply these data for other areas of interest but will provide any support needed for the application of the Tool when the required input data are available. The demonstration of Tool may assist towards the mobilisation of the general public to adopt control measures (such as installation of only certified wood burning appliances, more extensive use of public transportation) and to put pressure on the relevant authorities to implement effective mitigation strategies. Air quality management needs both policy makers and local populations/stakeholders in order to be successful. In this framework the dissemination plan of LIFE Index-Air project included all the above target groups.