



# TRANSPHORM

## Transport related Air Pollution and Health impacts – Integrated Methodologies for Assessing Particulate Matter

Collaborative Project, Large-scale Integrating Project

SEVENTH FRAMEWORK PROGRAMME

ENV.2009.1.2.2.1 Transport related air pollution and health impacts

## Deliverable D6.2.8, type R

### Newsletters of the project: Newsletter number 2

Due date of deliverable: 9, 21, 33, 45 (first newsletter shifted to M17)

Actual submission date: project month 36

Start date of project: 1 January 2010      Duration: 48 months

Organisation name of lead contractor for this deliverable: UH

Scientist responsible for this deliverable: Heather Price

Revision: [0]

#### Table of contents

Deliverable Overview.....	1
Copy of the second newsletter.....	2



*Improving our knowledge on transport pollution and health*

# TRANSPHORM NEWSLETTER

Number 2, January 2013

Welcome to the next newsletter from TRANSPHORM!

The second phase of the project has been marked with intense activity with the initiation of new particulate matter (PM) source apportionment campaigns in Rotterdam and Thessaloniki, improved transport related emission factors and emission inventories and development of new mitigation scenarios. Multiple advanced models are being used to simulate concentrations of PM and related species which will in turn be used to calculate health impacts of PM for Europe and in a number of cities including Athens, Helsinki, London and Rotterdam. A highly successful special session for stakeholders on transport related air pollution was held at the 8<sup>th</sup> International Conference on Air Quality – Science and Application, 19-23 March 2012. It attracted many participants and stimulated lively discussions on several areas including sources and characterisation of PM, improvements in modelling techniques and how to best assess the effectiveness of measures to reduce the health impact of PM on city and European scales. The final phase of the project gathered pace at the last project meeting held in Oslo, 3-4 December 2012. Over the next six months, results from the new source apportionment campaigns will be analysed and new concentration response functions are expected. These should pave the way for new estimates of health impacts of PM for current and future years.

**Prof. R.S. Sokhi (project coordinator)**

**For more information on TRANSPHORM, please visit [www.transphorm.eu](http://www.transphorm.eu)**

## Highlights

Editorial.....	p1
Source apportionment campaign.....	p2
Air Quality 2012.....	p3
Upcoming events.....	p4
TRANSPHORM on facebook.....	p4

## New source apportionment campaign begins

A new source apportionment sampling campaign has begun in Rotterdam and Thessaloniki within work package 2.

The aim of the campaign is to discriminate between the inputs of different transport sources to the total particulate matter at the locations using tracer identification, and to quantify these inputs using receptor modelling. The campaign will build on the source apportionment work already ongoing in TRANSPHORM using data collected during ESCAPE (<http://www.escapeproject.eu/>) in 2009 and 2010.

The project is a TRANSPHORM collaboration between researchers at the University of Hertfordshire (UH), TNO and the Aristotle University of Thessaloniki (AUTH). The campaign will run for at least three months at both locations. In each city four locations will be sampled using identical methodologies, including an urban background site, a street site, a shipping site and a rural site. The use of a targeted campaign should improve our ability to discriminate between the different transport sources, e.g. shipping and vehicles.

At each site, PM<sub>2.5</sub> and PM<sub>10</sub> are being sampled concurrently to investigate how PM sources (transport and non-transport) input to different particle size fractions. In addition, the use of 24 hour samples should capture the diurnal variation in the majority of these sources, for example the increase in vehicles during the day and increases in domestic heating during the colder portions of the day.



### Sampling has begun in Thessaloniki

Particle samples will be analysed using a variety of techniques to help with the identification of sources, for example EDXRF analysis for inorganic species (UH), absorbance (TNO and AUTH), ion chromatography (UH) and GC-MS for organic species (AUTH).

Receptor modelling, particularly the USEPA's Positive Matrix Factorization (PMF version 3.0) will be used to analyse the particle data. The aim is not only to assign sources using specific tracers, but to quantitatively assess the contribution they make to particulate matter in the two cities. The use of a northern European city and a southern European city should provide some information about the variability of source inputs to PM across Europe. The first results from the campaign are expected in May 2013.

For more information on the project, please contact Dr Heather Price at the University of Hertfordshire; [h.price2@herts.ac.uk](mailto:h.price2@herts.ac.uk).

## TRANSPHORM at the Air Quality conference, 2012



### Delegates at the Air Quality 2012 conference in Athens, Greece

The eighth Air Quality conference was held in Athens, Greece between the 19<sup>th</sup> and 23<sup>rd</sup> March. The conference welcomed over 250 delegates from 47 countries, and over the five days there were 150 oral presentations and 80 poster presentations.

The conference dealt with a number of themes including the measurement of air pollutants, air quality management and emissions. There were a number of special sessions at the conference, including Transport-related Air Pollution – Science for Policy which was organised with TRANSPHORM. The session was chaired by Leonor Tarrason (NILU) and Dick van den Hout (TNO), who both play a prominent role in TRANSPHORM.

The session attracted a lot of interest and featured presentations by TRANSPHORM scientists, as well as those from other research institutions. Research topics included exposure

modelling, air quality policy, and measurements of transport-derived pollutants.

Matthias Karl (NILU) who works on TRANSPHORM gave a presentation entitled ‘Modelling PNC from Kerbside to Urban Scale’ which described the process of modelling the fate of exhaust particles. He found that after 10 minutes of transport time 14% and 21% of PNC were removed from the atmosphere through coagulation and dry deposition in Oslo and Rotterdam respectively.

Jochen Theloke from the University of Stuttgart described how TRANSPHORM aimed to identify European transport policies designed to reduce health risks from exposure to atmospheric pollutants.

For more information about the conference, see <http://www.airqualityconference.org/>.

## Upcoming Events...

### Within TRANSPHORM

#### Understanding the Health Effects of Air Pollution: Recent Advances to Inform EU Policies

Brussels, Belgium. 30<sup>th</sup> – 31<sup>st</sup> January 2013. Organised by the EC/WHO/HEI. Presentations to include 'Air Quality and Implications for Health – Latest Advances from TRANSPHORM', presented by Prof. Ranjeet S. Sokhi.

#### Project meeting – Stuttgart – June 2013

A project meeting will be hosted by the University of Stuttgart in southern Germany for all TRANSPHORM partners. Discussions will be held on progress and next steps during the final year of the project. A meeting agenda and further information will be added to the TRANSPHORM website ([www.transphorm.eu](http://www.transphorm.eu)) in due course.

### Outside of TRANSPHORM

#### Annual Aerosol Science Conference

Hertfordshire, UK. 25<sup>th</sup> and 26<sup>th</sup> March 2013. The call for abstracts is now open. For more information, please see: <http://www.aerosol-soc.org.uk/>.

#### Environmental Health Risk 2013

Budapest, Hungary. 23<sup>rd</sup> – 25<sup>th</sup> April. The call for abstracts is now open. For more information, please see: <http://www.wessex.ac.uk/13-conferences/environmental-health-risk-2013.html>.

#### Air Pollution 2013

Siena, Italy. 3<sup>rd</sup> – 5<sup>th</sup> June. The call for abstracts is now open. For more information, please see: [www.wessex.ac.uk/13-conferences/air-pollution-2013.html](http://www.wessex.ac.uk/13-conferences/air-pollution-2013.html).

#### Urban Transport 2013

Kos, Greece. 29<sup>th</sup> – 31<sup>st</sup> May, 2013. The call for abstracts is now open. For more information, please see: [www.wessex.ac.uk/13-conferences/urban-transport-2013.html](http://www.wessex.ac.uk/13-conferences/urban-transport-2013.html).

## TRANSPHORM on Facebook

The TRANSPHORM facebook page is up and running and available for project partners in TRANSPHORM, other scientists and the public for keeping up to date with developments in the field of air quality. Just search 'TRANSPHORM' on facebook, or follow this link: <https://www.facebook.com/pages/Transphorm/105279872899041?fref=ts>.

### Edited by Heather Price

Centre for atmospheric and instrument research (CAIR)  
University of Hertfordshire  
AL10 9AB  
Email: [h.price2@herts.ac.uk](mailto:h.price2@herts.ac.uk)