

Costs of VOC emission reduction techniques in car manufacturing

Minutes of the first technical meeting

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Context

- Determination of costs of VOC emission reduction measures is one of the tasks assigned to TFTEI in 2015-2016. France indeed proposed to exchange information on cost data of VOC abatement technologies through TFTEI in 2015/2016, on the basis of the work carried out in 2003-2006 by EGTEI and used in the current BREF, in order to deliver this information to Sevilla.
- TFTEI work is financially supported by ADEME.
- TFTEI will focus in a first step on two activities: packaging printing and car manufacturing
- CITEPA manages the work on car manufacturing and KIT the work on packaging printing.

Representation of reference plants fro car manufacturing

- It was decided to simplify the approach used in the previous EGTEI study and to start from a situation in which VOC emissions are already limited.
- A typical production of 250 000 tourism cars / year is taken into account (vans are excluded).
- The focus is given to existing plants.
- The paint application processes used can were described as follows:

Reference plant	E-coat (EC)	Sealing, damping (SD)	Primer (PR)	Basecoat (BC)	Clearcoat (CC)	Solution to reduce VOC emissions
1 (existing)	EC	SD	SB	SB	SB	<i>Post integrated measure (PIM) Secondary measures (SM)</i>
2 (existing)	EC	SD	SB	WB	SB	<i>Post integrated measure (PIM) Secondary measures (SM) This plant can also be transformed to use WB/WB and SB paint systems (ref 3)</i>
			WB	SB	SB	
3 (existing)	EC	SD	WB	WB	SB	<i>Post integrated measure (PIM) Secondary measures (SM)</i>
4 (new)	EC	SD	WB 1/2		SB	<i>i.e new plant</i>

It is not possible to transform a plant type 1 in a plant type 2 or 3. It is possible to transform a plant type 2 in a plant type 3.

For plants 1 to 3, additional VOC reductions can be achieved through used of PIM and secondary measures (treatment of spray booth air)

The plant 4 is a new plant with a new process wet / wet.

List of actions to be conducted by CITEPA:

1. Definition of the characteristics of the 3 existing reference installations in terms of associated VOC emissions, step per step, and air flow rates and VOC concentrations to be treated if necessary. The steps EC and SD have to be considered as they can give some g of VOC emissions per m² (CITEPA can use the report "Vehicle paint shops" transmitted by ACEA. This report is however confidential). Definition of current paints and application techniques used.
2. Description of the types of applicable reduction measures (exchanges with French car manufacturers). PIM and secondary measures can be considered for each reference installation.
3. Estimation of the cost of PIM and secondary measures (exchanges with European car manufacturers and suppliers of reduction equipment) and for plant 3 in case of modification of plant 2 in plant 3.
4. Costs of plant 4.

It was decided not to use a questionnaire approach to collect data in a first step. Preliminary information has been provided to CITEPA and CITEPA will first approach the French manufacturers and the ACEA in order to obtain data and if these data were insufficient, the possibility of questionnaires will be considered.

Time schedule

- Definition of reference installations before the end of December 2015,
- Exchanges and eventually meetings with French car manufacturers if necessary,
- Next meeting with ACEA in January 2016,
- Final report expected in April 2016.

