Second Workshop on Marine Black Carbon Emissions:
Testing Protocols and Reporting; Instrumentation; and Emission Factors

September 16 and 17, 2015
Utrecht, Netherlands

Agenda

Workshop Goal:

- Work toward consensus on a standardized black carbon measurement and reporting approach that can be applied in marine BC emissions testing campaigns

Day 1

Time	Activity	Details
8:30 am	**Shuttle from Hotel Mitland to TNO**	-Meet in hotel lobby
9:00-9:30 am	**Registration and Coffee**	
9:30-9:45 am	**Welcome Remarks and Review of Agenda** Leo Kusters, Manag. Dir. of Urbanization, TNO Brigit Gijsbers, Dir. of Maritime Affairs, IenM Dan Rutherford, ICCT	
9:45-10:00 am	**Summary of Previous Workshop and Background** Dan Rutherford, ICCT	- CCAC project background - Definition of BC - IMO Context
10:00-11:15 am	**Session 1: Current Testing Efforts** Malte Zeretzke, DNV-GL Chiori Takahashi, NMRI Kent Johnson, UC-Riverside	- Engine/Vessel Types - Geography - Instruments - Results
11:15-11:30 am	**Break**	
11:30-12:45 pm	**Session 2: Sampling and Measurement Protocols** Ralf Oldenburg & Peter Lauer, MAN Diesel Torsten Mundt, DNV-GL Dan Lack, fmr. NOAA Bas Henzing, TNO	- Protocols (existing and proposed) - Reporting parameters (existing and proposed)
12:45-1:30 pm	**Lunch**	Boxed lunch with option to eat in the botanical gardens
1:30-2:15 pm	**Presentation by ICCT Marine Black Carbon Emissions Testing Project Awardees** Kent Johnson, UCR Kevin Thomson, NRC-Canada	- Proposed protocols - Proposed engines/vessels - Proposed fuel types
2:15-3:45 pm	**Breakout Groups** (concurrent)	Goal: identify areas of consensus as well as open questions for the larger group to discuss on Day 2.
	1) Testing Protocols & Reporting	Set up, temp, dilution, probe, pre-treatment etc.
	2) Instrumentation	Photo-acoustics, LII, Thermal-optical, filter-based including FSN, etc. and their ability to generate useful results to meet CCAC project goals.

Point of Contact: Bryan Comer, ICCT | +1 585.747.1937 | bryan.comer@theicct.org

	3) Emission Factors	BC EFs vary based on a number of factors (engine type, load, fuel, etc.) What engine-, fuel-, etc.-specific EFs are needed for a refined global marine BC inventory?
3:45-4:00 pm	**Break**	
4:00-5:00 pm	**Groups Report Out**	Report out to include larger questions or issues needing more input
5:15 pm	**Shuttle from TNO to Hotel Mitland**	
7:00-10:00 pm	**Group Dinner** Stadskasteel Oudaen Oudegracht 99 3511 AE Utrecht	-Networking -Transportation provided to/from hotel (**shuttle departs hotel 6:30 pm**)

Day 2

8:30 am	**Shuttle from Hotel Mitland to TNO**	-Meet in lobby
9:00-9:15 am	**Coffee**	
9:15-9:30 am	**Recap of Day 1** Gary Decker, Meridian Institute, Facilitator	Brief review of consensus points and open questions from Day 1
9:30-10:30 am	**Testing Protocols & Reporting Discussion** Gary Decker, Meridian Institute, Facilitator	Outcome: Agreement on protocol to measure BC and report the results for the CCAC project
10:30-10:45 am	**Break**	
10:45-11:45 am	**Instrumentation Discussion** Gary Decker, Meridian Institute, Facilitator	Outcome: Agreement on (types of) instruments that should be used to measure BC for the CCAC project
11:45-12:30 pm	**Lunch**	Buffet courtesy of TNO
12:30-1:30 pm	**Emission Factors Discussion** Gary Decker, Meridian Institute, Facilitator	Outcome: Agree on prioritized EF measurements (speed, load, fuel, etc.) to inform an updated marine BC global inventory for the CCAC project
1:30-1:45 pm	**Break**	
1:45-2:30 pm	**BC Emissions Testing Process Start-to-Finish Discussion** Gary Decker, Meridian Institute, Facilitator	Outcome: Agree on a complete BC emissions testing process based on the three discussion sessions
2:30-2:45 pm	**Discussion of Next Steps** Dan Rutherford, ICCT	
2:45-3:00 pm	**Summary and Closing Remarks** Dan Rutherford, ICCT	
3:00 pm	**Adjourn**	
3:15 pm	**Shuttle from TNO to Hotel Mitland**	

Point of Contact: Bryan Comer, ICCT | +1 585.747.1937 | bryan.comer@theicct.org