

Emission Inventory Information Resources Found on the Internet

Extensive information on the development of emission inventories is available on the Internet. This information can greatly supplement and enhance what is presented in this training course on inventory issues. Also, technical information of this nature on the Internet is typically updated on a more frequent basis and when there are new developments, so users are able to stay abreast of current techniques and data. The following tables contain Internet web page addresses for locating additional information associated with the primary technical topics covered in this training course. Seven tables are presented below addressing:

- General Emission Inventory Guidance and Tools (Table 1);
- Point Sources (Table 2);
- Nonpoint Sources (Table 3);
- Mobile Sources (Table 4);
- Natural Sources (Table 5);
- Quality Assurance/Quality Control (Table 6); and
- Emission Estimation Models and Tools (Table 7).

The Web page references contained in Tables 1 - 7 is by no means complete or all-inclusive. It is simply a starting point for users to locate current, mainstream information on the latest technical thinking regarding the development of emission inventories. The links shown here in the tables will undoubtedly contain more links to other useful sites related to emission inventories.

Table 1. General Emission Inventory Guidance and Tools

Inventory Topic	Web Page Address	Types of Data
General EI Guidance-U.S.	http://www.epa.gov/ttn/chief/	Entry page for extensive information on emission factors, emission models, emission inventories, and emissions modeling
General EI Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/	Entry page for emission inventory guidance produced by the U.S. Emission Inventory Improvement Program (EIIP); addresses point, nonpoint, mobile and natural sources, QA/QC, and data management
PM-10 and PM-2.5 Emissions Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume09/index.html	EIIP page for particulate emission estimation guidance
Emission Projections-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume10/index.html	EIIP page for emissions projections guidance
Data Management-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume07/index.html	EIIP page for data management guidance
Air Pollution Control Guidance-U.S.	http://www.epa.gov/ttn/catc/products.html#software	U.S. Clean Air Technology Center, tools for estimating emission reduction efficiencies and costs for various air pollution control technology
General Emission Inventory Guidance-U.S.	http://www.epa.gov/ttn/chief/net/2002inventory.html	Provides links to the U.S. National Emissions Inventory (NEI) and the documentation for how emission estimates were compiled for each sector

Table 1. General Emission Inventory Guidance and Tools (Continued)

Inventory Topic	Web Page Address	Types of Data
General Emission Inventory Guidance-Europe	http://reports.eea.eu.int/EMEPCORINAIR4/en	EMP/CORINAIR Emission Inventory Guidebook - 2004 Update, contains state-of-the-art emission inventory methodology as published by the European Environment Agency
Inventory Development Guidance and Data for Multiple Source Types and Pollutants-U.S. States	http://64.27.125.175/	Main web site for the Lake Michigan Air Directors Consortium (LADCO) and Midwest Regional Planning Organization (RPO) groups, contains various reports and information on inventory development for various source types and pollutants, emissions modeling, and emissions monitoring
Inventory Development Guidance and Data for Multiple Source Types and Pollutants-U.S. States	http://www.wrapair.org/	Main web site for the Western Regional Air Partnership (WRAP) RPO; contains various reports and information on inventory development for various source types and pollutants, emissions modeling, emissions monitoring, and emission controls; includes data on ammonia emissions, fugitive dust, PM emission sources, mobile sources, and fire sources

Table 1. General Emission Inventory Guidance and Tools (Continued)

Inventory Topic	Web Page Address	Types of Data
Inventory Development Guidance and Data for Multiple Source Types and Pollutants-U.S. States	http://www.marama.org/	Main web site for the Mid-Atlantic Regional Air Management Association (MARAMA) RPO; contains various reports and information on inventory development for various source types and pollutants, emissions modeling, emissions monitoring, and emission controls; includes data on residential wood combustion emissions, power plants, open burning emissions, and ammonia sources
Industrial Source Classification System-U.S.	http://www.census.gov/epcd/www/naics.html	North American Industry Classification System (NAICS), provides codes for classifying sources in an emission inventory and for collecting activity data
Industrial Source Classification System-U.S.	http://www.osha.gov/pls/imis/sic_manual.html	Listing of Standard Industrial Classification (SIC) codes, useful for classifying sources in an emission inventory and collecting activity data
Emission Inventory Coding Systems-U.S.	http://www.epa.gov/ttn/chief/codes/	Links to several coding systems pertinent to the development and management of emissions inventory data, includes Source Classification Code (SCC) codes, SIC codes, NAICS codes
Industrial Source Classification System-Europe	http://reports.eea.eu.int/EMEPCORINAIR3/en	SNAP (Selected Nomenclature for Air Pollution) codes for classifying sources for inventory purposes

Table 1. General Emission Inventory Guidance and Tools (Continued)

Inventory Topic	Web Page Address	Types of Data
Emission Inventory Estimates and Guidance	http://www.geiacenter.org	Guidance and data on estimating emissions of various pollutants and source categories, includes data on a global scale, address both natural and anthropogenic sources

Table 2. Inventory Information Related to Point Sources

Inventory Topic	Web Page Address	Types of Data
Point Source Inventory Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume02/index.html	EIIP page for point sources emissions estimation guidance
Point Source Emission Factors-U.S.	http://www.epa.gov/ttn/chief/ap42/index.html	Entry page for AP-42 emission factors, from this page user can go to specific source category factors
PM-10 and PM-2.5 Point Source Emissions-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume09/index.html	EIIP page for particulate emissions estimation guidance
Point Source Emission Factors-U.S.	http://www.epa.gov/ttn/chief/software/fire/index.html	Factor Information and Retrieval (FIRE) emission factor database, contains thousands of factors and criteria, air toxics, and other pollutant species
Greenhouse Gases (GHGs) Emission Estimation Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume08/index.html	EIIP page for GHG sources and emissions estimation guidance
GHG Emission Factors	http://www.ipcc-nggip.iges.or.jp/EFDB/main.php	IPCC emission factor database for greenhouse gas pollutants and sources

Table 3. Inventory Information Related to Nonpoint Sources

Inventory Topic	Web Page Address	Types of Data
Nonpoint Source Inventory Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume03/index.html	EIIP page for nonpoint sources emissions estimation guidance
PM-10 and PM-2.5 Area Source Emissions-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume09/index.html	EIIP page for particulate emissions estimation guidance
Nonpoint Source Emission Factors-U.S.	http://www.epa.gov/ttn/chief/ap42/index.html	Entry page for AP-42 emission factors, from this page user can go to specific source category factors
Nonpoint Source Emission Factors-U.S.	http://www.epa.gov/ttn/chief/software/fire/index.html	Factor Information and Retrieval (FIRE) emission factor database, contains thousands of factors and criteria, air toxics, and other pollutant species
Greenhouse Gases (GHGs) Emission Estimation Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume08/index.html	EIIP page for GHG sources and emissions estimation guidance
GHG Emission Factors	http://www.ipcc-nggip.iges.or.jp/EFDB/main.php	IPCC emission factor database for greenhouse gas pollutants and sources

Table 4. Inventory Information Related to Mobile Sources

Inventory Topic	Web Page Address	Types of Data
Onroad and Nonroad Mobile Sources Inventory Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume04/index.html	EIIP page for mobile sources emissions estimation guidance
Onroad and Nonroad Mobile Sources Guidance-U.S.	http://www.epa.gov/otaq/	Entry page for U.S. EPA Office of Transportation and Air Quality (OTAQ)
Onroad and Nonroad Mobile Sources Inventory Guidance-U.S.	http://www.epa.gov/otaq/models.htm	Entry page for various onroad and nonroad mobile source emission models available from US EPA/OTAQ
Onroad Mobile Sources Emissions Estimation Model-U.S.	http://www.epa.gov/otaq/mobile.htm	MOBILE6 emissions model and software page (onroad sources)
Nonroad Mobile Sources Emissions Estimation Model-U.S.	http://www.epa.gov/otaq/nonrdmdl.htm	NONROAD emissions model and software page (nonroad sources)
Aircraft Emissions Estimation Model-U.S.	http://www.aee.faa.gov/emissions/edms/edms_Updates/Updates.htm	Emissions and Dispersion Modeling System (EDMS) software and database files, provides files needed to estimate aircraft emissions
Aircraft Emissions Estimation Model-U.S.	http://www.aee.faa.gov/emissions/edms/OrderInfo.htm	Web page link for pricing and ordering the FAA EDMS software for estimating aircraft emissions

Table 4. Inventory Information Related to Mobile Sources (Continued)

Inventory Topic	Web Page Address	Types of Data
GHG Emission Factors for Mobile Sources	http://www.ipcc-nggip.iges.or.jp/EFDB/main.php	IPCC emission factor database for greenhouse gas pollutants and sources
Aircraft Emission Estimation Guidance-Europe	http://reports.eea.eu.int/EMEPCORINAIR4/en/B851vs2.4.pdf	Air traffic chapter of the European Environmental Agency CORINAIR emission inventory guidance
Locomotive Emission Estimation Guidance-Europe	http://reports.eea.eu.int/EMEPCORINAIR4/en/B810vs3.2.pdf	Chapter of the European Environmental Agency CORINAIR emission inventory guidance addressing locomotives
Assessment of Emissions from Commercial Marine Vessel (CMV) Engines-U.S.	http://www.epa.gov/otaq/regs/nonroad/marine/ci/fr/ria.pdf	Regulatory impact analysis document from EPA/OTAQ on CMV diesel marine engine emissions
International Vehicle Emissions Model	http://www.issrc.org	Main page for the International Vehicle Emissions Model, estimates emissions of criteria, toxic, and GHG pollutants from onroad mobile sources, allows users to register and download model software
International Vehicle Emissions Model	http://www.issrc.org/ive/downloads/manuals/UsersManual.pdf	Software Users Manual for the International Vehicle Emissions Model

Table 5. Inventory Information Related to Natural Sources

Inventory Topic	Web Page Address	Types of Data
Natural Sources Inventory Guidance-U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume05/index.html	EIIP page for biogenic sources emission inventory guidance
GHG Emission Factors	http://www.ipcc-nggip.iges.or.jp/EFDB/main.php	IPCC emission factor database for greenhouse gas pollutants and sources
Biogenic Emissions Inventory System (BEIS)-U.S.	http://www.epa.gov/asmdnerl/biogen.html	Home page for the BEIS emissions estimation software model, estimates VOC emissions from vegetation and nitric oxide from soils, provide links to other natural emission sources data
Global Biosphere Emissions and Interactions System (GLOBEIS)	http://www.globeis.com	Home page for the GLOBEIS emissions estimation software, estimates emission from biogenic sources
Biogenic Emissions Estimation Data	http://edcdaac.usgs.gov/glcc/afdoc2_oasp	Link to land use/land cover data maintained the U.S. Geological Survey (USGS)-Eurasia Land Cover Characteristics Database
Biogenic Emissions Estimation Data	http://glcf.umiacs.umd.edu/data/guide/	Link to Asia land use/land cover data maintained Global Land Cover Facility-University of Maryland
Biogenic Emissions Estimation Data-Europe	http://www.sai.jrc.it/	Link to land use/land cover data maintained EU Joint Research Center, Space Applications Institute, contains daily global area coverage information

Table 5. Inventory Information Related to Natural Sources (Continued)

Inventory Topic	Web Page Address	Types of Data
Geogenic Emissions Estimation Data-U.S.	http://www.volcano.si.edu	Link contains volcano activity and emissions data-Smithsonian Institute's Volcanism Program and the USGS Volcano Hazards Program
Geogenic Emissions Estimation Data-U.S.	http://www.ssd.noaa.gov/VAAC/	Link contains volcano activity and emissions data-U.S. National Oceanic and Atmospheric Administration's Satellite Services Division
Emission Inventory Guidance for Wildfires and Prescribed Burning-U.S.	http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s01.pdf	Emission factor and inventory development guidance for wildfires and prescribed burning sources, contained in U.S. EPA AP-42 document
Emission Inventory Guidance for Wildfires-California	http://www.arb.ca.gov/emisinv/areasrc/index9.htm	Emission inventory estimation guidance for wildfires from the California Air Resources Board
Emission Inventory Guidance for Wildfires-Europe	http://reports.eea.eu.int/EMEPCORINAIR3/en/B1103vs1.2.pdf	Emission inventory estimation guidance for forest fires from the European Environmental Agency

Table 6. Inventory Information Related to Quality Assurance

Inventory Topic	Web Page Address	Types of Data
Emission Inventory QA/QC Guidance- U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume06/index.html	EIIP page for QA/QC
Emission Inventory QA/QC Assessment Tool- U.S.	http://www.epa.gov/ttn/chief/eiip/techreport/volume06/index.html	Data Attribute Rating System (DARS) software and users manual for tool to assign relative quantitative uncertainty scores to inventory estimates

Table 7. Emission Estimation Models and Tools

Inventory Topic	Web Page Address	Types of Data
Storage Tank Emissions Estimation Model-U.S.	http://www.epa.gov/ttn/chief/software/tanks/index.html	TANKS storage tank emissions model, estimates emissions from fixed and floating roof volatile organic liquid storage tanks
Wastewater Treatment Emissions Estimation Model-U.S.	http://www.epa.gov/ttn/chief/software/water/index.html	WATER9 wastewater treatment emissions model, consists of analytical expressions for estimating air emissions of individual waste constituents in wastewater collection, storage, treatment, and disposal facilities; a database listing many of the organic compounds; and procedures for obtaining reports of constituent fates, including air emissions and treatment effectiveness.
Point Sources/Calculates PM-2.5 Emissions-U.S.	http://www.epa.gov/ttn/chief/software/pmcalc/index.html	PM Calculator emissions estimation model, applicable to point sources only and requires the user to input uncontrolled emissions (either total filterable particulate or filterable PM10) for each source, the source category classification (SCC) and the control device, if any. The program will then calculate controlled emissions for filterable PM2.5 and filterable PM10 for each point source.

Table 7. Emission Estimation Models and Tools (Continued)

Inventory Topic	Web Page Address	Types of Data
Software Tool for Chemical Speciation of VOC & PM-U.S.	http://www.epa.gov/ttn/chief/software/speciate/index.html	SPECIATE model for chemically speciating PM and VOC emission streams
Landfills Emission Estimation Model-U.S.	http://www.epa.gov/oar/oaqps/landfill.html	Landfill Air Emissions Estimation Model (LAEEM) main page, PC-based software for estimating emissions of methane, carbon dioxide, nonmethane organic compounds, and hazardous air pollutants from municipal solid waste landfills. These emissions are generated by decomposition of refuse in landfills. The mathematical model used in model is based on a first order decay equation that can be run using site-specific data supplied by the user for the parameters needed to estimate emissions or, if data are not available, using default value sets included in the model.