

Partial Listing of Projects, Jeremy G. Heiken

Client/Sponsor	Study (*Italics Denote Multiple Contracts/Projects)	Period
Ontario Ministry of the Environment and Climate Change	Performance evaluation of the heavy-duty diesel inspection and maintenance program (subcontractor)	2017-2018
Confidential	Environmental assessments and compliance assistance for an off-road engine manufacturer	2017-2018
Ontario Ministry of the Environment and Climate Change	Performance evaluation of the light and heavy-duty gasoline inspection and maintenance program (subcontractor)	2017
Colorado State Auditor	Performance Audit of the Colorado Automobile I/M Program (subcontractor)	2017
Environment and Climate Change Canada	Speciation profiles and emission rates to cover pollutants not included in mobile source models (subcontractor)	2017
Environment and Climate Change Canada	Update N2O and CH4 Emission Factors in NONROAD2012C	2017
CRC	Evaporative emissions inputs to the MOVES model (subcontractor)	2016-2017
USEPA	Technical assistance and review of data collection effort for the non-road mobile source sector (subcontractor)	2016-2017
TRB (ACRP)	Improving ground access vehicle emissions modeling (subcontractor)	2016-2017
Confidential	Environmental assessments and compliance assistance for an on-road vehicle manufacturer	2016-2017
Global Automakers of Canada	Examination of Canadian GHG targets, the light-duty on-road sector GHG contribution and light-duty policy options (subcontractor)	2016
Canadian Fuels Association	MOVES2014 2-Day Workshop, MOVES Applications in the Canadian Context	2016
API	Examination of criteria pollutant lifecycle emissions of high-octane mid-level ethanol-gasoline blends (subcontractor)	2016
Confidential	Oversight and training of a environmental consultancy staff member with MOVES2014	2015-2016
Environment Canada	Technical support for the Phase 2 heavy-duty on-road fuel efficiency regulatory development	2015-2016
TRB (ACRP)	Aircraft lead (Pb) mitigation strategies at airports (subcontractor)	2014-2015
Environment Canada	Training of Canadian NONROAD model	2014-2015
CRC	Critical Review of MOVES2014	2013-2016
TRB (ACRP)	Methodology to improve EDMS/AEDT quantification of aircraft taxi/idle emissions	2013-2015
TRB (ACRP)	Quantifying aircraft lead (Pb) emissions at airports	2011-2014
<i>Confidential</i>	<i>Provided emission inventory analyses to support Expert Testimony in an on-going series of product liability litigation efforts*</i>	<i>2005-2014</i>
API	Technical review of EPA's on-road Tier 3 regulation and gasoline sulfur content regulation (NPRM)	2013
Environment Canada	Comprehensive evaluation of off-highway equipment usage in Canadian oil sands mining (facility level aggregated to the national level) and update to the Canadian NONROAD model	2013
Environment Canada	Review of equipment population data inputs for the development of the Canadian NONROAD model	2013
Environment Canada	Regulatory evaluation of Tier 3 on-road vehicle standards and gasoline sulphur control using a regulatory version of the Canadian MOVES model	2013
<i>City of Surrey</i>	<i>Development of on-road emission factors for evaluating the impact of the Port of Vancouver*</i>	<i>2011-2013</i>
Colorado State Auditor	Performance Audit of the Colorado Automobile I/M Program	2012
Environment Canada	Peer review of life-cycle analysis of transportation fuels (GHG and criteria emissions)	2012

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Environment Canada	Development of a national analysis system of life-cycle emissions from transportation fuel production and use (GHG and criteria pollutants) using MOBILE6.2C and GHGenius; examination of impacts of various on-highway renewable fuel scenarios	2012
Confidential	For an ethanol manufacturer: California low-carbon fuel applications, technical support, sensitivity analyses and life-cycle analyses	2011-2012
CRC	Development of inventory and speciation Inputs for representing ethanol blends (photochemical model inputs for E15 and E20 gasoline)	2011-2012
<i>Environment Canada</i>	<i>Continued updates to the Canadian MOVES model*</i>	<i>2011-2012</i>
Government of Hong Kong	Update to the EMFAC-HK model for the Environmental Protection Department	2011-2012
Confidential	<i>For two clients: evaluation of mitigation measures to compensate for environmental non-compliance (voluntary notification of agencies to avoid enforcement action)*</i>	2010-2012
Confidential	<i>For an ethanol manufacturer: California and EU low-carbon fuel applications, technical support and life-cycle analyses*</i>	2009-2012
Union Pacific	<i>Provided on-road and off-road emission factor support in conjunction with California railyard health risk assessments*</i>	2009-2012
Environment Canada	<i>Development and subsequent updates to the Canadian NONROAD model*</i>	2008-2012
Environment Canada	Development of a Canadian MOVES model and regulatory evaluation support for modeling heavy-duty gasoline fuel economy regulations	2011
Translink	Review of Vancouver (BC) I/M program effectiveness and recommended changes	2011
<i>Confidential</i>	<i>For an on-road vehicle manufacturer, examination of OBD scan data to identify individual analyzer/software deficiency in correctly identifying individual product line vehicles (make, model, model year)*</i>	<i>2010</i>
Confidential	For an on-road vehicle manufacturer: Evaluation of compliance strategy on in-use exhaust and evaporative emissions using MOVES2010	2010
Union Pacific	Provided detailed, temporal emission inventory work for a California railyard construction project covering each phase of the project and including all on-road, off-road and fugitive sources.	2010
<i>San Diego Gas & Electric</i>	<i>Evaluation of natural gas quality on emissions from light-duty and heavy-duty on-road natural gas vehicles*</i>	<i>2009-2010</i>
<i>API</i>	<i>Technical Review of EPA's Regulatory Impact Analysis Methodology for the Renewable Fuel Standard (draft and final regulation)*</i>	<i>2008-2010</i>
<i>Environment Canada</i>	<i>Continued updates to the Canadian MOBILE6.2 model (fugitive dust algorithms, fuel economy updates, revised sulfur corrections, cold temperature standards, renewable fuel impacts, PM temperature corrections)*</i>	<i>2006-2010</i>
EPA OTAQ	MOVES Case Study Analysis of using SIP inputs in draft MOVES2008	2009
LADCO	Rougemere Rail Yard emission inventory in support of Phase 1 of the Midwest Rail Study	2009
<i>AAM</i>	<i>Evaluation of CAA Section 177 States adoption of California standards and the impacts on criteria pollutant emissions (states evaluated included VT, CT, ME, MA, PA, OR, WA, RI, NY)*</i>	<i>2006-2009</i>
AAM	Comparative effectiveness of proposed US federal and California fuel economy standards	2008

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National Association of Manufacturers	Estimated attainment costs and economic impacts in selected regions of proposed revisions to the EPA 8-Hour ozone standard	2008
CRC	Effects of vapor pressure, oxygen content, and temperature on CO exhaust emissions	2007-2008
EPA OTAQ	Peer review of EPA's regulatory support document inventory and methods for commercial marine applications	2007-2008
AAM	Comparative effectiveness of on-road vehicle standards (US federal and California) including the ZEV Mandate	2007
Clark Co. Dept. AQ & Env. Management	Demonstration of Necessity of regulations requiring 7.0 PSI RVP gasoline in Clark County, Nevada as an ozone control strategy	2007
<i>Sacramento International Airport</i>	<i>Two projects estimating "emission reduction credits" (ERCs) for aircraft gate electrification and fuel delivery via pipeline*</i>	<i>2006-2007</i>
Colorado State Auditor	Performance Audit of the Colorado Automobile I/M Program	2006
American Trucking Association	Review of CARB Staff's estimates of the benefits, costs, and cost effectiveness of the airborne toxic control measure (ATCM) for transport refrigeration units (TRUs)	2005-2006
National Renewable Energy Laboratory	Proximate modeling of weekday versus weekend ozone (identified and integrated updates of local data for day-of-week variation in off-road sources)	2005-2006
AAM	Review of draft MOVES2004	2005
API	Examination of issues related to MOVES-GREET integration	2005
Environment Canada	Update to Canadian MOBILE6.2 model for motorcycle emission rates and regulatory context	2005
NJ Motor Vehicle Services	Evaluation of enhanced I/M program data and estimated effectiveness	2005
Translink	Review of Vancouver (BC) I/M program effectiveness and recommended changes	2005
API	Effects of ethanol-blended California reformulated gasoline on vehicle permeation emissions	2004
EMA	Impacts of vehicle pre-buy on regulatory benefits of 2007 model year heavy-duty diesel standards	2004
EPA OTAQ	NONROAD model updates	2004
General Motors	Effects of ethanol-blended California reformulated gasoline on vehicle permeation emissions	2004
LADCO	Database enhancements to the MOBILE6.2 model, created customized version of MOBILE6.2 to facility inventory processing model output	2004
Southeast Michigan COG	Evaluation of gasoline and diesel control programs for consideration in SIP development	2004
Valero Energy Corporation	Review of the Draft Bay Area 2004 Ozone Strategy.	2004
EMA	Technical support to engine industry on California ARB Tier III exhaust and evaporative rule (small SI non-road)	2003-2004
Environment Canada	Development of the Canadian MOBILE6.2 model	2003-2004
Southeast Michigan COG	On-road emission inventory methodology review and fuel survey data analysis	2003-2004
<i>Confidential</i>	<i>For engine manufacturers: On-road Diesel engine modeling of the occurrence of conditions when AECDs go into effect and estimated emissions consequences*</i>	<i>2002-2004</i>
AAM	Review of the modeling and attainment demonstrations of the 2003 AQMP of the South Coast Air Quality Management District	2003
EMA	Critical review of NONROAD2002 growth projections	2003
General Motors	Evaluation of the potential market penetration of 10% ethanol gasoline blends	2003
General Motors	GHG reduction potential from in-use flexible fueled vehicles in the U.S.	2003
Lubrizol Corporation	Evaluation of PuriNOx test data and estimated benefits	2003

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EPA OTAQ	Peer review of EPA's regulatory support document inventory and methods for commercial marine applications	2002-2003
<i>Confidential</i>	<i>For an on-road vehicle manufacturer: Computer model for confirming product plan compliance strategy with federal and California regulatory requirements*</i>	2000-2003
API	Review of NONROAD model emission factors and fuel corrections	2002
CPPI	Impact of ethanol containing gasoline on Saskatchewan emission inventories	2002
Detroit Diesel	Impacts of vehicle pre-buy on regulatory benefits of Consent Decree heavy-duty diesel standards	2002
Environment Canada	Evaluation of future vehicle and fuel control programs	2002
California ARB	OFFROAD model updates (evaporative emissions, toxics, GHGs)	2001
<i>Confidential</i>	<i>For two engine manufacturers: completed product plan compliance calculations relative to a voluntary agreement with California ARB*</i>	2001
Environment Canada	Development of regulatory on-highway emission inventories	2001
<i>EMA</i>	<i>EMFAC2000 and EMFAC2001 Heavy-duty Emissions Modeling Advisory Committees*</i>	1999-2001
AAM	Review and Commentary on EPA's Mobile Source Toxics Analysis	2000
Colorado State Auditor	Performance Audit of the Colorado Automobile I/M Program	1999
AAM	Benefits of nationwide sulfur and Distillation Index (DI) control	1998-1999
AAMA	California LEV II regulatory review	1998-1999
AAMA	Air quality impacts of the U.S. federal Clean-Fueled Fleet Program in six U.S. cities	1998
AIAM	Impacts of gasoline Distillation Index (DI) on emissions: obtained data from the auto manufacturers for Tier 0 vehicles, Tier 1 vehicles, and LEVs that was used to develop emission vs. distillation index curves and to estimate the benefits of a nationwide DI cap	1998
Clark Co. Dept. of Planning	Emission inventory and air quality modeling (SIP development support)	1998
EMA	California off-highway LSI regulatory review of the proposed large spark-ignited (LSI) regulation, technology feasibility, statewide emissions impact, and program cost-effectiveness	1998
EMA	NONROAD model review	1998
API	Review of the EPA's 112(k) air toxics inventories	1997-1998
Colorado State Auditor	Performance Audit of the Colorado Automobile I/M Program	1997-1998
Confidential	Evaluation of the EPA's Urban Air Toxics Strategy	1997-1998
Confidential	Examination of Toxics and Ozone Precursor Emissions Impacts from Fuel Additives and Fuel Reformulations	1997-1998
CRC	Evaluation of methods and emissions uncertainty in California's MVEI7G model	1997-1998
Envirotest	Review and evaluation of the Minnesota redesignation request Technical Support Document	1997-1998
EPA OMS	Development of a US federal nonroad emission inventory model (original NONROAD model code development)	1997-1998
EPA OMS	Update to EPA's particle emission factor model (i.e., PART5) and PM emissions databases	1997-1998
Oregon DEQ	Medford, Oregon PM10 SIP and CO Maintenance Plan: Update for Medford, OR estimating anthropogenic inventories, completing a local fugitive dust study, and developing an interface between travel demand modeling and inventory processing. Assisted with public outreach.	1997-1998
City of Los Angeles	Assistance for Air Pollution Technical and Policy Issues	1996-1998
Clark Co. Dept. of Planning	Field Study, Emission Inventory and Air Quality Modeling	1996-1998
Colorado DOT	Evaluation of project-level air quality procedures and development of a screening tool	1996-1998

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Ethyl Canada	NOx emissions impacts associated with use of MMT in Canadian gasoline	1995-1998
AAMA	Evaluation of Need for Phase II Cold CO Standards	1997
Alamo Area COG	Emission inventory and ozone air quality modeling (in support of SIP development)	1997
ARCO	Comparison of on-road emissions forecasts as new models are developed (a review of multiple versions of MOBILE and EMFAC and the evaluation of model predictions over time)	1997
Clark Co. APCD	Critical Review of MOBILE Emission Factors	1997
Confidential	Review of an Airport Expansion EIR	1997
CPPI	Chemical Assessment of Vehicle Tailpipe Emissions	1997
CPPI	State of the Science of U.S. PM Emission Inventory Modeling Protocols	1997
Envirotest	Review of Remote Sensor Clean Screen Technologies in Motor Vehicle I/M Programs	1997
Maricopa Assoc. of Govern.	1997 CO Federal Implementation Plan	1997
TNRCC	Facility-level speciated VOC emissions for the Dallas/Fort Worth nonattainment area: Designed and developed a database and methodology to incorporating facility-specific, speciated VOC emissions data into the emission inventory methodology	1997
EPA OMS	US EPA's Emission Inventory Improvement Program: lawn and garden equipment	1996-1997
Maricopa Assoc. of Govern.	PM10 emission inventory and air quality modeling (in support of the SIP)	1996-1997
Denver Regional AQ Council	On-road and Nonroad Inventory Review and Control Program Development	1996
New United Motor Manufacturing	Development of an emissions and air toxics database for inventorying and permitting responsibilities	1996
Southern California Edison	Development of an emissions and air toxics database for inventorying and permitting responsibilities	1996
WSPA	A Review and Comment Upon the South Coast Air Quality Management District's Emission Inventory for the Combined Ozone and PM10 AQMP	1996
WSPA	Comparison of MVEI7g and EMFAC7f	1996
WSPA	Examination of Inconsistencies in Fuel Sulfur Content in California's Regulatory Emission Inventories	1996
EPA OMS	Emission Inventory Improvement Program: Mobile-source Locality Specific Data	1995-1996
Pennsylvania Power and Light	Emission Inventory and Ozone Air Quality Modeling	1995-1996
Puget Sound APCD	Evaluation of project-level air quality procedures and development of a screening tool	1995-1996
Confidential	Review of a Municipal Solid Waste Landfill EIR	1995
Environment Canada	PM10 Emission and air quality impacts associated with changes to Canadian gasoline and diesel fuels: developed province-wide Canadian emission inventories for each province providing support of proposed regulations for the control of sulfur content in diesel and gasoline.	1995
TNRCC	Development of boundary conditions for the Texas SIP: completed a multi-state, photochemical-model-ready, episodic inventory assessment to address regions not covered by the EPA's Ozone Transport Assessment Group and needed to establish photochemical modeling boundary conditions for the Texas's SIP activities	1995
CRC	Auto/Oil Air Quality Improvement Research Program (emission inventory development and software for interfacing between EPS and MOBILE/EMFAC)	1990-1995
AAMA	Emissions Benefit Analysis of Alternatives to the California Zero Emission Vehicle (ZEV) Mandate	1994
API	Investigation of MOBILE5a Emission Factors	1994

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City of Coronado	City of Coronado Third and Fourth Street Corridor Air Quality Study	1994
EPA OMS	Methodologies For Estimating Emission and Travel Activity Effects of TCMs	1994
General Motors	The Federal Low Emission Vehicle Program analysis (the study that became the basis for the NLEV program)	1994
Minnesota APCA	Evaluation of mobile source emission control cost-effectiveness for Minneapolis-St. Paul	1994
Pacific Gas & Electric	Emission benefits of electric vehicles in the Pacific Gas and Electric service territory	1994
AAMA	Review of Mobile Source Control Strategies in the Baltimore Non-attainment Area	1993
EPA OMS	Development of Specifications for a Nonroad Emissions Model (original NONROAD model scoping/logic)	1993
General Motors	Review of E.H. Pechan and Associates Emissions Analysis of the LEV Program in the Mid-Atlantic States	1993
San Diego Gas & Electric	Emission Benefits of Electric Vehicles in the San Diego Gas & Electric service territory	1993
CRC	Comparison of remote sensing data and vehicle emission models	1992
EPA OMS	Update to the TECH5 model; development of U.S. EPA particulate emission factor model	1992
California ARB	Transportation control measure analysis procedures and guidance documentation	1991
CRC	Assessment of computer models for estimating vehicle emission factors	1991
EPA Region IX	Carbon Monoxide air quality modeling of the Phoenix metropolitan area in support of the Federal Implementation Plan	1991
California ARB	OFFROAD model development from NEVES (original OFFROAD development)	1990-1991
CRC	Urban formaldehyde and methanol concentrations for alternative-fuel methanol vehicle scenarios	1990
Exxon Corporation	Emission changes associated with the use of a reformulated Exxon premium unleaded fuel in Los Angeles, San Francisco, and Sacramento	1990