

Prior Estimates of CH4 Emissions Inventories				
CALGEM Subcategory 0.1° x 0.1°	Total Flux Prior TgCH <sub>4</sub> /yr	Flux Prior CV TgCH <sub>4</sub> /yr	Flux Prior SCB TgCH <sub>4</sub> /yr	Fraction SoCAB
EDGAR 4.2 Energy manufacturing transformation	0.020	0.010	0.010	51%
EDGAR 4.2 Non-road transportation	0.000	0.000	0.000	30%
EDGAR 4.2 Road transportation	0.014	0.007	0.008	54%
EDGAR 4.2 Residential	0.026	0.018	0.007	29%
EDGAR 4.2 Fugitive from Solid	0.000	0.000	0.000	0%
EDGAR 4.2 Oil production and refineries	0.026	0.015	0.011	44%
EDGAR 4.2 Gas production and distribution	0.483	0.255	0.228	47%
EDGAR 4.2 Industrial process and product use	0.005	0.002	0.003	58%
EDGAR 4.2 Enteric Fermentation	0.345	0.338	0.007	2%
USDA Other Cattle by County	0.258	0.256	0.002	1%
USDA Beef Cows by County	0.050	0.050	0.000	0%
USDA Milk Cows by County	0.173	0.170	0.002	1%
CARB Milk Cows by Dairy Location	0.185	0.161	0.024	13%
EDGAR 4.2 Manure management	0.112	0.108	0.004	3%
EDGAR 4.2 Agricultural soils	0.032	0.032	0.000	0%
USDA Rice Planted by County May (x 12)	0.042	0.042	0.000	0%
USDA Rice Planted by County June (x 12)	0.249	0.249	0.000	0%
EDGAR 4.2 Agricultural waste burning	0.001	0.001	0.000	2%
EDGAR 4.2 Large scale biomass burning	0.001	0.001	0.000	4%
GFED Fire CH4	0.000	0.000	0.000	0%
EDGAR 4.2 Solid waste disposal	0.601	0.327	0.274	46%
CARB Landfills	0.300	0.219	0.080	27%
EDGAR 4.2 Waste water	0.153	0.068	0.085	55%
EDGAR 4.2 Fossil Fuel Fires	0.000	0.000	0.000	0%
<b>Totals</b>	<b>1.743</b>	<b>1.281</b>	<b>0.462</b>	<b>27%</b>

	CV	SoCAB	Fraction SoCAB
Effective Scaling NOAA B.C. (unitless scaling)	1.669	0.815	
Effective Scaling GEOS-Chem B.C. (unitless scaling)	1.562	0.831	
Posterior Total NOAA B.C.(TgCH4/yr)	2.138	0.377	15%
Posterior Total GEOS-Chem B.C. (TgCH4/yr)	2.001	0.384	16%

Total CA Budget (NOAA B.C.)	2.515 ± 0.331	TgCH <sub>4</sub> /yr
Total CA Budget (GEOS-Chem B.C.)	2.385 ± 0.293	TgCH <sub>4</sub> /yr

USDA/CARB/EDGAR Substituted CV Inversion					
Optimized Independently	Colinearity Factor	Scaling NOAA B.C.	Fluxes A TgCH <sub>4</sub> /yr	Scaling A GEOS-Chem B.C.	Fluxes A TgCH <sub>4</sub> /yr
C	2.03	1.007	0.010	0.663	0.007
C	2.03	1.007	0.000	0.663	0.000
C	2.03	1.007	0.007	0.663	0.004
C	2.03	1.007	0.018	0.663	0.012
C	2.03	1.007	0.000	0.663	0.000
C	2.03	1.007	0.015	0.663	0.010
C	2.03	1.007	0.257	0.663	0.169
C	2.03	1.007	0.002	0.663	0.001
A	1.53	2.156	0.552	2.296	0.588
A	1.53	2.156	0.107	2.296	0.114
A	1.53	2.156	0.347	2.296	0.370
A	1.53	2.156	0.233	2.296	0.248
D	1.35	0.905	0.038	0.576	0.024
D	1.35	0.905	0.226	0.576	0.144
C	2.03	1.007	0.001	0.663	0.001
C	2.03	1.007	0.000	0.663	0.000
B	2.36	1.913	0.419	1.676	0.367
C	2.03	1.007	0.069	0.663	0.045
C	2.03	1.007	0.000	0.663	0.000
Prior Total			1.281		1.281
INVERSION TOTAL			2.138		2.001

Scaling Factors		mean	sd	mean	sd
Dairy/NDai/Manure	A	2.156	0.058	2.296	0.055
Landfill	B	1.913	0.124	1.676	0.115
WW/Gas/Rest	C	1.007	0.054	0.663	0.050
Rice	D	0.905	0.039	0.576	0.039

Fluxes	Prior	Posterior - NOAA	CI = 2 sigma	Posterior GC	CI
Dairy/NDai/Manure	0.575	1.240	0.145	1.320	0.145
Landfill	0.219	0.419	0.104	0.367	0.085
WW/Gas/Rest	0.376	0.379	0.041	0.249	0.025
Rice	0.111	0.100	0.008	0.064	0.005
Total	1.281	2.138	0.297	2.001	0.259

USDA/CARB/EDGAR Substituted SoCAB Inversion					
Optimized Independently	Colinearity Factor	Scaling NOAA B.C.	Fluxes A TgCH <sub>4</sub> /yr	Scaling A GEOS-Chem B.C.	Fluxes A TgCH <sub>4</sub> /yr
C	2.68	0.648	0.007	0.656	0.007
C	2.68	0.648	0.000	0.656	0.000
C	2.68	0.648	0.005	0.656	0.005
C	2.68	0.648	0.005	0.656	0.005
C	2.68	0.648	0.000	0.656	0.000
C	2.68	0.648	0.007	0.656	0.007
C	2.68	0.648	0.148	0.656	0.149
C	2.68	0.648	0.002	0.656	0.002
A	1.17	1.849	0.004	1.875	0.004
A	1.17	1.849	0.000	1.875	0.000
A	1.17	1.849	0.044	1.875	0.044
A	1.17	1.849	0.007	1.875	0.007
C	2.68	0.648	0.000	0.656	0.000
C	2.68	0.648	0.000	0.656	0.000
B	2.88	1.167	0.094	1.213	0.098
C	2.68	0.648	0.055	0.656	0.056
C	2.68	0.648	0.000	0.656	0.000
Prior Total			0.462		0.462
INVERSION TOTAL			0.377		0.384

Scaling Factors		mean	sd	mean	sd
Dairy/NDai/Manure	A	1.849	0.070	1.875	0.069
Landfill	B	1.167	0.091	1.213	0.090
WW/Gas/Rest	C	0.648	0.019	0.656	0.019

Fluxes	Prior	Posterior - NOAA	CI = 2 sigma	Posterior GC	CI
Dairy/NDai/Manure	0.030	0.055	0.008	0.056	0.008
Landfill	0.080	0.094	0.017	0.098	0.018
WW/Gas/Rest	0.352	0.228	0.009	0.231	0.009
Total	0.462	0.377	0.034	0.384	0.034