

Date: June 19, 2018

Subject: **Year 2017 PHL Greenhouse Gas Emissions Inventory Update**

The 2017 GHG emissions inventory results for PHL are presented in **Table 1**. This table lists emissions by scope, which identify the ownership of the source, whether it be the Airport, tenants, and/or the public. As is customary for GHG emissions inventories, the results are reported in units of metric tons (MT) of CO₂e, by source, and on an annual basis. These data are also reported as percentages (%) by scope and overall total.

As shown in **Table 1**, GHG emissions associated with Scope 3 – specifically, aircraft emissions – are by far the highest emitting sources at the Airport, with motor vehicles as the second-highest emitting source. Notably, aircraft totals include emissions from startup, taxiing, above the ground to 3,000 feet and cruise mode to destination. Airport-owned and controlled sources (Scope 1) and Airport and tenant electricity consumption (Scope 2) comprise the remaining balance.

Table 1. PHL GHG Emissions Inventory for 2017

Scope	Ownership	Emission Sources	MT CO ₂ e	Percent by Scope	Percent by Overall Total
1	Airport	GAVs ¹	27,209	57	1
		Stationary Sources	16,265	34	<1
		Contracted Shuttles	1,775	4	<1
		Construction ²	2,171	5	<1
		GSE ³	317	1	<1
		Refrigerants ²	143	<1	<1
		Fire Training Facility	172	<1	<1
		Subtotal (Scope 1):	48,053	100	1
2	Airport/Tenant	Electrical Usage – Airport	29,168	48	<1
		Electrical Usage – Tenant	31,142	52	<1
		Subtotal (Scope 2):	60,310	100	1
3	Tenant/Public	Aircraft ⁴	3,703,492	91	89
		GAVs ⁵	288,817	7	7
		SEPTA – Public Transit ⁶	28,722	1	1
		GSE ⁷	20,224	1	1
		APUs	11,901	<1	<1
		Contracted Shuttles	2,392	<1	<1
		Subtotal (Scope 3):	4,055,548	100	98
Total ⁸ :			4,163,911	--	100

Notes: APUs – Auxiliary Power Units, GAVs – Ground Access Vehicles, GSE – Ground Support Equipment, and SEPTA – Southeastern Pennsylvania Transportation Authority, and MT – Metric Tons.

1. GAV include airport fleet vehicles and employee vehicles traveling within parking facilities and on-airport roadways.

2. Construction and refrigerants may also be considered as Scope 3 sources, as these emissions may be associated with sources/activities that are owned and controlled by the Airport as well as by other entities.

3. GSE includes only airport snow removal equipment.

4. Aircraft includes taxi, above the ground to 3,000 feet and cruise mode to destination.

5. GAV include tenant fleet vehicles and employee vehicles traveling within parking facilities and on both on- and off-airport roadways.

6. SEPTA public transit includes those commuter rail and bus routes servicing the airport.

7. GSE includes tenant operated equipment such as belt loaders, baggage tractors, etc.

8. Totals may reflect rounding.

For ease of comparison, the results are also presented graphically by scope in **Figure 1**. Whereas Scope 1 emissions only comprise one percent of the total GHG inventory, Scope 2 and 3 comprise one percent and 98 percent of GHG emissions, respectively. Notably, PHL has the most control and management potential over Scopes 1 (e.g., GAVs, stationary sources, etc.) and 2 (e.g., electrical use) emissions.

Additionally, in 2017, PHL reduced its GHG emissions by 4,564 MT CO₂e as a result of waste management practices, by diverting materials from landfills (due to recycling initiatives by the Airport and tenants).

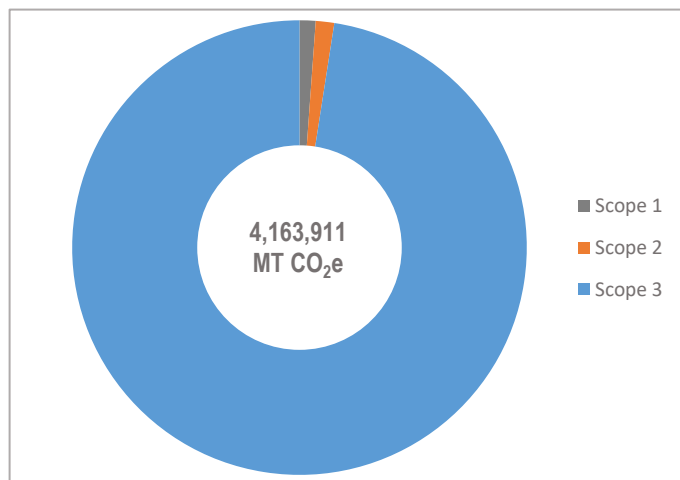


Figure 1. GHG Emissions by Scope

Summary and Historical Trends

GHG emissions inventories previously conducted for PHL include analysis years 2006, 2013 and 2016. **Table 2** and **Figure 2** present a comparison of these emissions inventories, delineated by scope. As shown, the total GHG emissions for all scopes decrease over time, which is due in part to the Airport's emissions reduction initiatives as well as a decrease in aircraft operations. The difference in emissions is also due to slight differences in methodology, assumptions, and available data between analysis years. In summary, total GHG emissions associated with Airport, tenant, and public sources decreased 9% from 2006 to 2017.

Table 2. Comparison to Prior GHG Emissions Inventories (MT of CO₂e)

Scope	2006	2013	2016	2017	Emissions Reductions from 2006 to 2017	Percent Difference from 2006 to 2017
1	47,743	58,593	47,757	48,053	-310	-1%
2	82,988	76,469	64,281	60,310	-22,678	-27%
3	4,456,144	4,339,964	4,139,205	4,055,548	-400,596	-9%
Total	4,586,874	4,475,027	4,251,242	4,163,911	-422,963	-9%

Notes: Totals may reflect rounding.

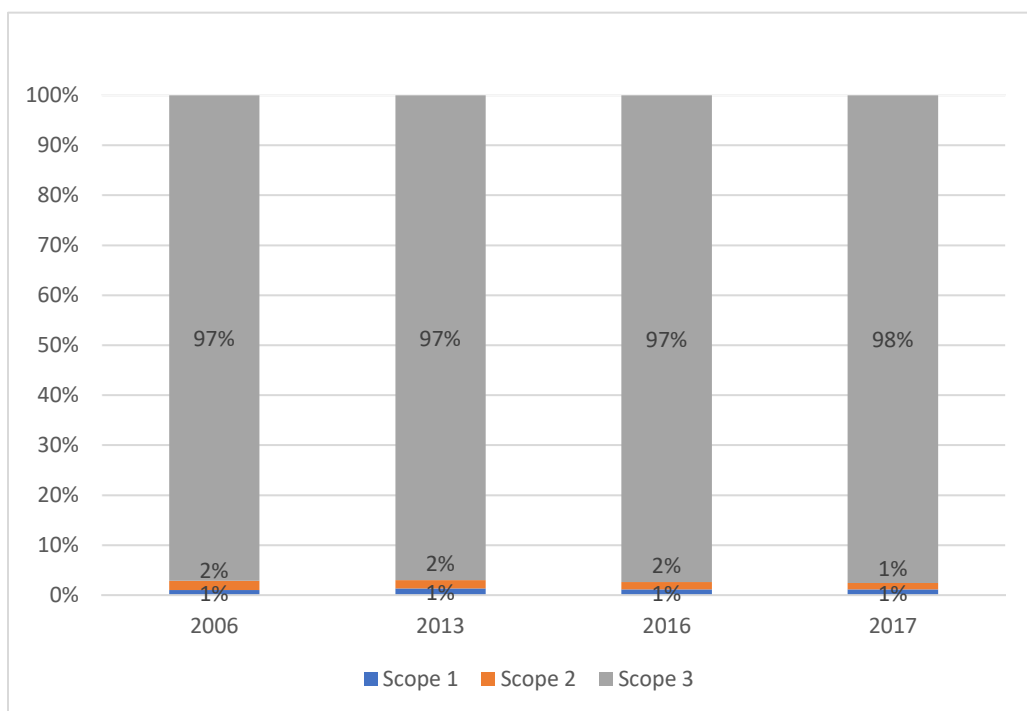


Figure 2. Percentage of Prior and Current Year GHG Emissions by Scope