§ 98.91 Reporting threshold.

(a) You must report GHG emissions under this subpart if electronics manufacturing production processes, as defined in §98.90, are performed at your facility and your facility meets the requirements of either §98.2(a)(1) or (a)(2). To calculate total annual GHG emissions for comparison to the 25,000 metric ton CO$_2$e per year emission threshold in §98.2(a)(2), follow the requirements of §98.2(b), with one exception. Rather than using the calculation methodologies in §98.93 to calculate emissions from electronics manufacturing processes, calculate emissions of each fluorinated GHG from electronics manufacturing production processes by using paragraphs (a)(1), (a)(2), or (a)(3) of this section, as appropriate, and then sum the emissions of each fluorinated GHG by using paragraph (a)(4) of this section.

(1) If you manufacture semiconductors or MEMS you must calculate annual production process emissions of each input gas $i$ for threshold applicability purposes using the default emission factors shown in Table I–1 to this subpart and Equation I–1 of this subpart.

\[
E_i = S \times EF_i \times GWP \times 0.001 
\]  
(Eq. I–1)

where:

- $E_i =$ Annual production process emissions of input gas $i$ for threshold applicability purposes (metric tons CO$_2$e).
- $S =$ 100 percent of annual manufacturing capacity of a facility as calculated using Equation I–5 of this subpart (m$^2$).
- $EF_i =$ Emission factor for input gas $i$ (kg/m$^2$).
- $GWP =$ Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.
- 0.001 = Conversion factor from kg to metric tons.
- $i =$ Input gas.

(2) If you manufacture LCDs, you must calculate annual production process emissions of each input gas $i$ for threshold applicability purposes using the default emission factors shown in Table I–1 to this subpart and Equation I–2 of this subpart.

\[
E_i = S \times EF_i \times GWP_i \times 0.000001 
\]  
(Eq. I–2)

where:

- $E_i =$ Annual production process emissions of input gas $i$ for threshold applicability purposes (metric tons CO$_2$e).
- $S =$ 100 percent of annual manufacturing capacity of a facility as calculated using Equation I–5 of this subpart (m$^2$).
- $EF_i =$ Emission factor for input gas $i$ (g/m$^2$).
- $GWP_i =$ Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.
- 0.000001 = Conversion factor from g to metric tons.
- $i =$ Input gas.

(3) If you manufacture PVs, you must calculate annual production process emissions of each input gas $i$ for threshold applicability purposes using gas-appropriate GWP values shown in Table A–1 to subpart A of this part and Equation I–3 of this subpart.

\[
E_i = C_i \times GWP_i \times 0.001 
\]  
(Eq. I–3)

where:

- $E_i =$ Annual production process emissions of input gas $i$ for threshold applicability purposes (metric tons CO$_2$e).
- $C_i =$ Annual fluorinated GHG (input gas $i$) purchases or consumption (kg). Only gases used in PV manufacturing that have listed GWP values in Table A–1 to

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§ 98.92 GHGs to report.

(a) You must report emissions of fluorinated GHGs (as defined in §98.6), N₂O, and fluorinated heat transfer fluids (as defined in §98.98). The fluorinated GHGs and fluorinated heat transfer fluids that are emitted from electronics manufacturing production processes include, but are not limited to, those listed in Table I–2 to this subpart. You must individually report, as appropriate:

(1) Fluorinated GHGs emitted from plasma etching.
(2) Fluorinated GHGs emitted from chamber cleaning.
(3) Fluorinated GHGs emitted from wafer cleaning.

(b) CO₂, CH₄, and N₂O combustion emissions from each stationary combustion unit. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C of this part.

§ 98.93 Calculating GHG emissions.

(a) You must calculate total annual facility-level emissions of each fluorinated GHG used in electronics manufacturing processes at your facility, for each process type, used to calculate total annual production process emissions from MEMS, LCD, or PV manufacturing.

\[ E_T = \delta \sum E_i \]  

(Eq. I-4)

where:

- \( E_T \) = Annual production process emissions of all fluorinated GHGs for threshold applicability purposes (metric tons CO₂-e).
- \( \delta \) = Factor accounting for fluorinated heat transfer fluid emissions, estimated as 10 percent of total annual production process emissions at a semiconductor facility. Set equal to 1.1 when Equation I-4 of this subpart is used to calculate total annual production process emissions from semiconductor manufacturing. Set equal to 1 when Equation I-4 of this subpart is used to calculate total annual production process emissions from MEMS, LCD, or PV manufacturing.
- \( E_i \) = Annual production process emissions of input gas i for threshold applicability purposes (metric tons CO₂-e), as calculated in Equations I-1, I-2 or I-3 of this subpart.

(b) You must calculate annual manufacturing capacity of a facility using Equation I-5 of this subpart.

\[ S = \sum W_x \]  

(Eq. I-5)

where:

- \( S \) = 100 percent of annual manufacturing capacity of a facility (m²).
- \( W_x \) = Maximum designed substrate starts of a facility in month x (m² per month).
- \( x \) = Month.