

US EPA ARCHIVE DOCUMENT

Table 6-8 (SEQUESTRATION OPTION): Cost Summary for Carbon Capture, Compression, Transportation and Sequestration in Scurry County, Texas
Formosa Plastics Corporation, Texas
2012 Expansion Project
Point Comfort, Texas

Summary of Costs for Total Expansion Project and Individual Plants Involved in the Expansion

Capture and Compression Capital and Operating Costs, and Storage Operating Costs for the Individual Plants were estimated from the total expansion project cost based on relative amount of CO₂ from the individual plant and the total expansion project. Transport Capital and Operating Costs and Storage Capital Cost are not expected to be dependent on the volume of CO₂ so those costs are not adjusted for CO₂ volume.

Cost Type	Candidate CCS Sources, Total [1]		Olefins Expansion Sources (Furnaces, Boilers, PDH Reactors)			LDPE Source (RTO)			Utilities Sources (Gas Turbines)		
	Annual Cost (Million \$/yr)	Total Cost (Millions \$) [2]	Fraction of Total CCS Source CO ₂ Flow Rate [3]	Annual Cost [4] (Million \$/yr)	Total Cost (Millions \$) [2]	Fraction of Total CCS Source CO ₂ Flow Rate [3]	Annual Cost [4] (Million \$/yr)	Total Cost (Millions \$) [2]	Fraction of Total CCS Source CO ₂ Flow Rate [3]	Annual Cost [4] (Million \$/yr)	Total Cost (Millions \$) [2]
Carbon Dioxide Capture and Compression System Capital Costs	77.37	2,321	0.66	50.87	1,526	0.0014	0.11	3.35	0.34	26.39	791.6
Carbon Dioxide Capture and Compression System Operating Costs	155.81	4,674		102.45	3,073		0.23	6.75		53.14	1,594
Capital Cost for Transport to Sequestration Site	20.18	605.3		20.18	605.3		20.18	605.3		20.18	605.3
Operating Costs for Transport to Sequestration Site	3.71	111.3		3.71	111.3		3.71	111.3		3.71	111.3
Storage Capital Costs	1.55	46		1.55	46		1.55	46.4		1.55	46.4
Storage Operating Costs	36.60	1,098		24.06	722		0.053	1.59		12.48	374.45
Total Capital and Operating Cost =		8,857			6,085			774.7			3,523
Approximate Capital Cost of 2012 Expansion Project =		2,000									
Costs for Carbon Capture, Compression and Transport to Sequestration Site (% of Expansion Project Capital Cost) =		443%									

Notes:

[1] Costs for total CCS candidate sources was previous presented in Table 6-6 of the revised CCS cost evaluation.

[2] Costs for 30 year project life.

[3] Fraction of Total CCS Source CO₂ Flow Rate (for individual plants) is calculated as follows: [CO₂ volumetric flow rate for plant CCS sources (acfm)] / [total (all CCS sources) CO₂ volumetric flow rate (acfm)]. See Table 6-2 for flow rate values.

[4] Annual cost for the following is proportional to the quantity of CO₂ being processed: Capture and Compression Capital and Operating costs and storage operating costs.

The annual cost for these items (for this group of CCS sources) is calculated by multiplying the Fraction of Total CCS Source CO₂ Flow Rate by the annual cost for All Candidate CCS Sources.