Importancia del sector de Petróleo y Gas en las emisiones de México

Ficha #
11 de octubre, 2022

Contexto

Cement is the second-most-used substance in the world after water, and cement production is a significant source of greenhouse gas emissions. Substituting materials such as volcanic ash, certain clays, finely ground limestone, ground bottle glass, or industrial waste products for conventional inputs can reduce the carbon footprint of cement by 7.70 to 15.56 gigatons between 2020 and 2050. Cement is the second-most-used substance in the world after water, and cement production is a significant source of greenhouse gas emissions. Substituting materials such as volcanic ash, certain clays, finely ground limestone, ground bottle glass, or industrial waste products for conventional inputs can reduce the carbon footprint of cement by 7.70 to 15.56 gigatons between 2020 and 2050.

Cement, the second-most-used substance in the world after water, is the source of significant greenhouse gas emissions. In 2016 alone, 1.46 gigatons of carbon dioxide were released as a result of cement production (Andrew, 2018).

Discusion

We considered a variety of materials that can reduce the clinker-to-cement ratio is based on international standards of cement production and including cement types CEM II–CEM V. CEM III and CEM IV are typically used in specialty applications and were weighted according to base-year adoption levels (combined to be about 10 percent). CEM II and CEM V see increased adoption to nearly 90 percent of the market, displacing all market share of CEM I (traditional ordinary portland cement [OPC] system) in 2050 in both scenarios. Because the model is not limited by the availability of alternative binding materials, high adoption of the solution is feasible. We expect fly ash and slag supply to diminish as coal power and virgin steel production decreases. Other alternative materials, such as calcined clays, limestone, and natural pozzolanic materials, will replace fly ash and slag. And how it may change our friking future.

Acciones necesarias para implementación

Cost data were collected from cement suppliers and peer-reviewed literature, and all monetary values are presented in 2014 US$.

Scenario 1 mitigates 7.70 gigatons of carbon dioxide equivalent emissions from 2020 to 2050. The marginal first benefit of implementing this solution is US$61.38 billion, and the lifetime saving is US$0.

Scenario 2 mitigates 15.56 gigatons of carbon dioxide equivalent emissions over the same period. The marginal first benefit of implementing this solution is US$61.38 billion, and the lifetime saving is US$0.

Scenario 3 mitigates 15.56 gigatons of carbon dioxide equivalent emissions over the same period. The marginal first benefit of implementing this solution is US$61.38 billion, and the lifetime saving is US$0.

Scenario 4 mitigates 15.56 gigatons of carbon dioxide equivalent emissions over the same period. The marginal first benefit of implementing this solution is US$61.38 billion, and the lifetime saving is US$0.

Scenario 5 mitigates 7.70 gigatons of carbon dioxide equivalent emissions from 2020 to 2050. The marginal first benefit of implementing this solution is US$61.38 billion, and the lifetime saving is US$0.

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Referencias

Andrew, R.M. (2018). Global CO_2 emissions from cement production. Earth System Science Data, 10 pp. 195-217. DOI: https://doi.org/essd-10-195-2018.

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INSTRUMENTOS DE PRECIO AL CARBONO EN CIFRAS

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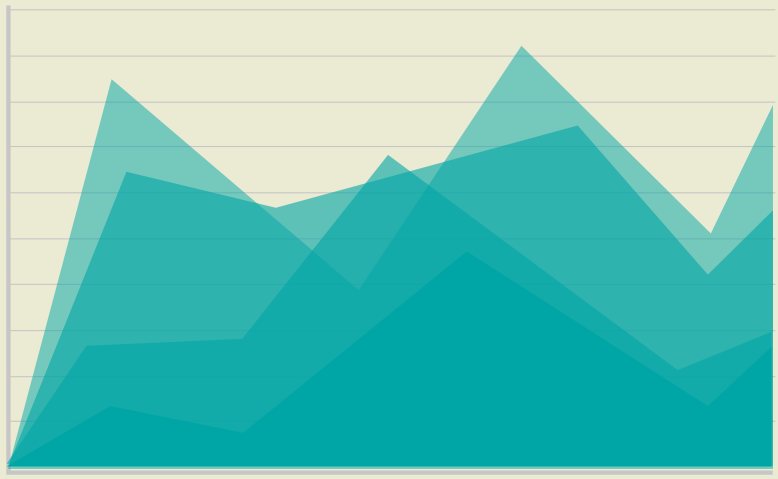
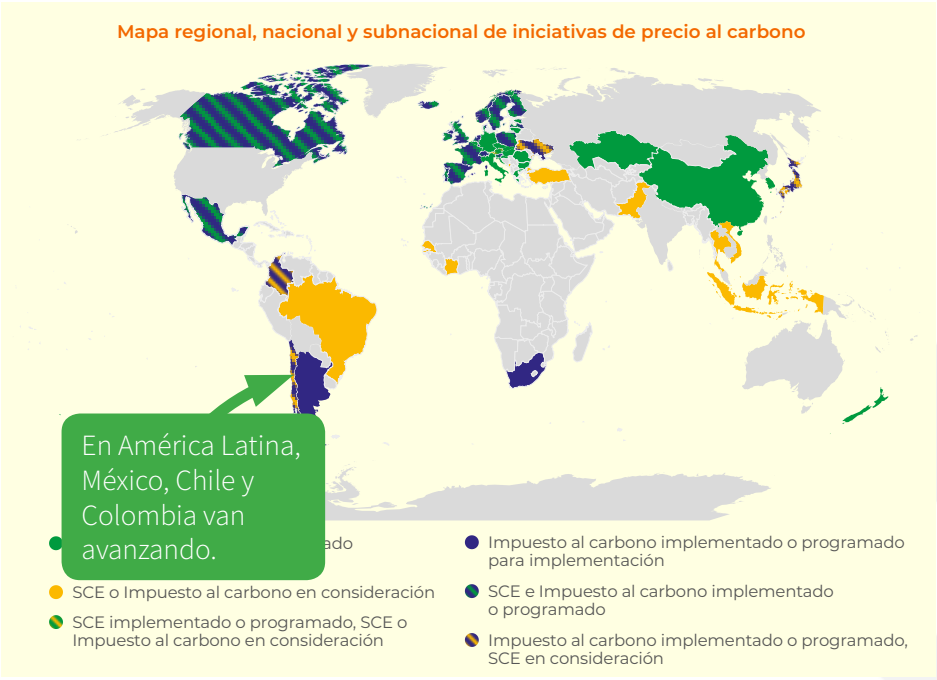


Fuente: Tomado de The World Bank, Carbon Pricing Dashboard, (Abril, 2021).



Fuente: Tomado de The World Bank, Carbon Pricing Dashboard, (Abril, 2021).

$61.38
BILLION US NET
First cost to implement

7.7 to 15.56
GIGATONS CO_2 equivalent
Reduced/sequestered
2020 – 2050

Instrumentos de precio al carbono en cifras

de reducción de emisiones de las instalaciones participantes en el SCE de la Unión Europea

35%

21.5%

de las emisiones globales están cubiertas por instrumentos de precio al carbono

Más información en:
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