

3.022 Black carbon emissions from transport activity in Chile: historic trends and 2050 forecast.

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Abstract:

Historic fuel consumption trends from transportation modes in Chile are provided by different organizations, applying diverse methodologies and using multiple time scales, making difficult a comprehensive energy assessment of the sector for the whole country. This research provides results of a 4-year study aiming at building a database of historic and future emission and energy trends from transportation modes in Chile (land, air and sea), region by region, from 1998 until 2050. Specifically for on-road vehicles, black carbon emissions are inferred from fine particle matter emissions from different vehicle categories and engine types, using international correlation factors adjusted for local conditions in Chile. Future projections show a trend of reduction in black carbon emissions between 2020-2038, followed by a slight increase during 2040-2050. This behaviour could be explained by the interaction between the introduction of new technologies (particle filters, electric vehicles) versus a permanent growth of activity in terms of vehicle kilometers travelled.