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# A Structural Decomposition Analysis of China's Industrial Water Footprints from 2002 to 2012

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As a significant freshwater consumer and wastewater producer, industry has imposed an adverse effect on water resources in China. To provide an overall picture of the influence of industry on water resources from the perspective of quality and quantity, this study proposes the use of grey water footprint and blue water footprint as indicators to fulfill this object. A dynamic structural decomposition analysis model is used to figure out the contribution of 5 factors to the evolution of water footprints. The methodology is carried out to study China's industrial water footprints from 2002 to 2012 and decompose the structure of grey water footprint and blue water footprint. Results show that both grey water footprint and blue water footprint waved throughout these 11 years. The water footprints of different sectors differed widely from each other. Coking, gas and oil processing sector and Chemical industry sector usually had relatively higher proportion of grey water footprint, whereas the blue water footprints of Machinery equipment manufacturing sector and Construction and other manufacturing sector were relatively larger than that of other sectors. The structural decomposition analysis shows that the innovation of technology was significant in reducing freshwater consumption and wastewater discharge, whereas the increase of consumption level played an important role in doing the opposite. The amount of population, economic system efficiency and the demand structure toward industry had less effect on the evolution of China's industrial water footprints.