

# RSC Sustainability

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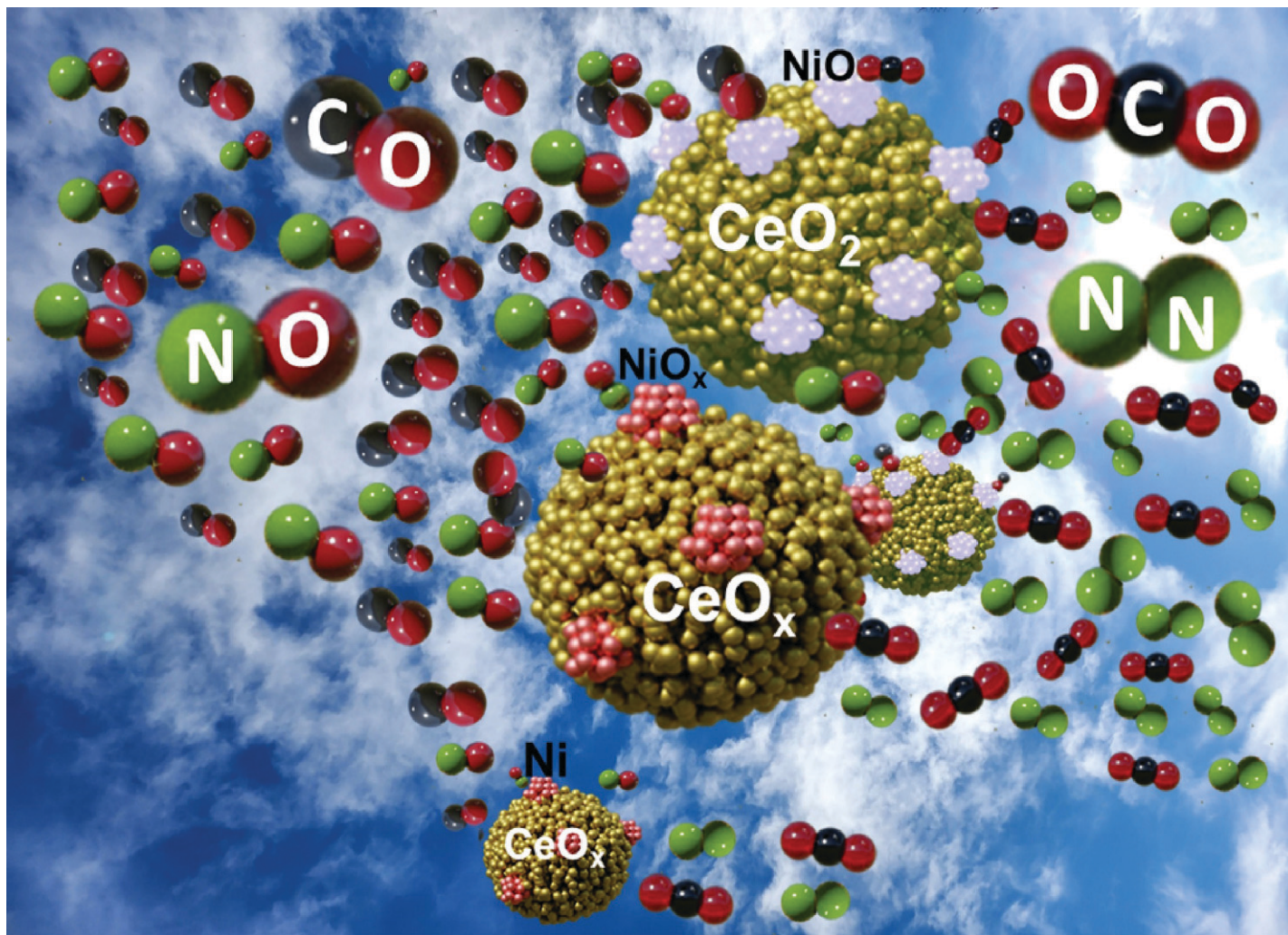
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Fundamental questions  
Elemental answers





Showcasing research from Kyung-Min Lee, Byeongseok Kim, Juwon Lee, Gihan Kwon, Kwangsuk Yoon, Hocheol Song, Kyung Hoon Min, Sang Eun Shim, Sungwon Hwang, and Taejin Kim's group at Stony Brook University (U.S.A), Inha University (Republic of Korea), Brookhaven National Laboratory (U.S.A), and Hanyang University (Republic of Korea).

The NO reduction by CO over  $\text{NiO}_x/\text{CeO}_2$  catalysts with a fixed Ni surface density: pretreatment effects on the catalyst structure and catalytic activity

The impact of the physicochemical properties of  $\text{NiO}_x/\text{CeO}_2$  catalyst—specifically the oxidation state, specific surface area, and defect site—was investigated concerning the fixed Ni surface density (# of Ni atoms/nm<sup>2</sup>) on its catalytic performance for NO reduction by CO reaction. This study suggests that Ni oxide, higher specific surface area, and ceria defect sites are advantageous for producing N<sub>2</sub> and CO<sub>2</sub> at lower temperatures.

### As featured in:



See Taejin Kim *et al.*,  
*Catal. Sci. Technol.*, 2024, **14**, 279.