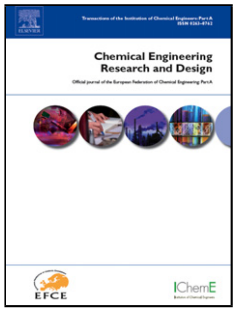

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A Dynamic Input-output Method for Energy System Modeling and Analysis

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Highlights

- A dynamic input-output model for energy system is developed.
- The model presents interaction mechanism between energy supply and demand.
- The model provides optimal design for energy supply and demand system.
- Case study of China is presented with different optimal objectives.
- Routes for energy conservation and CO2 emission reduction targets are provided.

Abstract: This paper proposes a dynamic input-output model, in order to present the interaction mechanism between energy supply and demand, and provide optimal design for energy supply-consumption system. Combined with mixed integer programming, the model is able to provide optimal technology development route for the energy supply-consumption system. In this model, the generational change and