



## 17th International Input-Output Conference

**TITLE: A SCENARIO ANALYSIS OF ENERGY-ECONOMIC IN IBARAKI PREFECTURE IN 2030**

**AUTHORS: ETO, RYO ; UCHIYAMA, YOHJI; OKAJIMA, KEIICHI**

**EMAIL: r0820570@risk.tsukuba.ac.jp**

**COUNTRY: JAPAN**

**KEYWORDS: MULTI-REGION INPUT-OUTPUT MODE ; ENERGY-ECONOMIC SCENARIOS ANAL ;  
IBARAKI PREFECTURE ; CO2 EMISSION ;**

**PAPER CONFERENCE CODE: 75**

**FULL PAPER IN CD?: YES**

**ABSTRACT:**

The analysis of CO<sub>2</sub> emissions in local government is required in Japan. This paper adopts multi-region input-output model for the analysis of CO<sub>2</sub> emissions in Ibaraki prefecture. Six energy-economic scenarios are developed to identify major impact factors of the emissions. Based on economic data and an input-output table in 2000, energy demand and CO<sub>2</sub> emissions per GDP are quantitatively analyzed for six different scenarios up to 2030 on both the prefecture and the rest of Japan by the model considering a sectoral and regional interdependency. Main results are obtained from this study as follows; in all scenarios, amount of CO<sub>2</sub> emissions increased in Ibaraki until 2030, the highest emission in a BAU scenario and the lowest one in a low domestic consumption scenario. On the other hand, CO<sub>2</sub> emissions per GDP decrease in all scenarios, the lowest emission in an energy-saving scenario. In terms of the ratio of CO<sub>2</sub> emission trade balance between the regions, the ratio of CO<sub>2</sub> emissions in the rest of Japan driven by Ibaraki increase relatively to CO<sub>2</sub> emissions in Ibaraki driven by the rest of Japan in all scenarios, the highest CO<sub>2</sub> emission in a low export scenario and the lowest one in a self sufficiency rate scenario and an energy-saving scenario. These results contribute to the policy implementations considering inter-sectoral and inter-regional relationship.