

CARBON DIOXIDE EMISSIONS AND ACCOUNTING DISCLOSURES BY ELECTRIC UTILITIES

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ABSTRACT

The global community reached an agreement in 1997 at Kyoto, Japan, about reducing emissions of three greenhouse gases in the future. From the US perspective, the agreement to reduce carbon dioxide (one of the three gases in the agreement) by seven percent of the 1990 emission level may have serious consequences for fossil-fuel burning electric utilities. The coal-fired plants will, especially be forced to re-evaluate their production levels of electricity in order to achieve the desired pollution levels within a limited period of time.

This study evaluates whether electric utilities have already initiated activities to reduce carbon dioxide emissions. Since the Kyoto Protocol called for the reduction of gases based on the 1990 emissions, we use the 1990 emission level as a benchmark to evaluate the 1998 emissions. If our evaluation shows that there has been no significant reduction in carbon dioxide emissions in 1998 compared to the 1990 level, the utilities will have to use a more proactive approach to achieve the reduction goal. We also highlight the best and worst coal-fired plants in terms of their carbon dioxide emissions. Furthermore, we evaluate whether electric utilities have been making adequate pollution disclosures, especially with reference to the Kyoto protocol, to inform the stakeholders about the progress they are making in meeting the desired pollution levels.

The results on the comparison of 1990 and 1998 carbon dioxide emissions show that the emissions increased from 1501 million tons in 1990 to 2026 million tons in 1998. This finding suggests that the electric utilities will have to reduce pollution emissions by about 45 percent, which will present a challenge to the industry. On an individual plant basis, the worst emitters in 1990 were still the worst in 1998.

The environmental disclosures have been examined based on 66 companies out of 100 top carbon dioxide emission producing electric utilities. The results show that the companies that produced the most carbon dioxide tended to disclose comparatively more about emissions. However, disclosures relating to Kyoto agreement have been extremely limited, even by the worst pollution emitters. Because many of these companies are likely to face serious consequences in the future when they would be required to meet the emissions standards of the Kyoto agreements, the absence of pollution disclosures, especially with regard to the Kyoto agreement, will take the investors by surprise, and this will jolt the financial markets, which may result in financial instability for firms.