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Energy Efficiency and Renewable Energy Supply for the G-7 Countries, with Emphasis on Germany

Jon Strand

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Fiscal Affairs Department

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Prepared by Jon Strand*

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Abstract

This Working Paper should not be reported as representing the views of the IMF.

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

This paper discusses structure, impact, costs, and efficiency of renewable energy supply in the eight largest advanced economies (the G-7 plus Spain), with focus on Germany. Renewables production costs are compared to benefits, defined as reductions in net carbon emissions; technological innovation, and increased energy security. The latter part of the paper centers on Germany, the main European producer of non-traditional renewables. We question whether the level of subsidies can be justified, relative to other means to increase energy security and reduce carbon emissions. We also find an excessive emphasis on current productive activity, relative to development of new technologies.

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Author's E-Mail Address: jstrand@imf.org

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