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The macroeconomic impact of renewable 1 electricity power generation projects 2 3 4 5 Corrado Andini*, Ricardo Cabral** and José Eusébio Santos*** 6 7 8 9 **ABSTRACT** 10 11 Policy makers are increasingly supporting the development of renewable electricity power generation 12 projects not only for environmental concerns but also for economic reasons. Several studies have indeed 13 documented that renewable electricity can be a viable economic alternative to electricity power generation 14 based on non-renewable sources. Yet, most of the existing studies are based on microeconomic cost-benefit 15 analyses which disregard the existence of large macroeconomic effects. This paper develops a novel method 16 to evaluate the macroeconomic impact of renewable electricity power generation projects. Economic theory 17 is used to identify the potential effects of these projects on the vector of macroeconomic variables affected by 18 their implementation. A structural vector autoregression model is thus estimated using a novel dataset of 19 quarterly macroeconomic and energy data for Portugal. The estimated impulse-response functions suggest 20 that renewable electricity power generation projects have positive effects on real economic growth in the 21 medium run, through both the investment and the operations phases. Import substitution is the key driver of 22 the overall positive impact. 23 24 JEL classification: C32, E17, Q43 25 Keywords: renewable energy, macroeconomic impact, structural VAR 26 27 28 29 * University of Madeira, CEEAplA, IZA and GLO 30 ** University of Madeira, CEEAplA and IPP 31 *** University of Madeira 32 33 Affiliation details 34 University of Madeira, Campus da Penteada, 9000-390 Funchal, Portugal 35 Centre of Applied Economic Studies of the Atlantic (CEEAplA), 9501-801 Ponta Delgada, Portugal 36 Institute for the Study of Labor (IZA), D-53072 Bonn, Germany 37 Institute of Public Policy (IPP) Thomas Jefferson - Correia da Serra, 1249-078, Lisboa, Portugal 38 Global Labor Organization (GLO), International network 39 40 Corresponding author 41 Corrado Andini E-mail: andini@uma.pt Tel.: +351 291 705 053 42 University of Madeira, Campus da Penteada, 9000-390 Funchal, Portugal 43 44 Acknowledgements 45 Though this paper is the result of joint work, José Eusébio Santos mainly contributed to the literature review. 46 For extremely useful comments and suggestions, the authors would like to thank the editor (Soteris 47 Kalogirou), the subject editor (Emilia M. Kondili) and two anonymous referees. The authors gratefully 48 acknowledge financial support from Empresa de Electricidade da Madeira (EEM, Portugal). The views 49 expressed in this paper are the sole responsibility of the authors and should not be attributed to EEM.

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