

Understanding the effects of energy management practices on renewable energy supply chains: Implications for energy policy in emerging economies

*Yudi Fernando^{a,e}, Poh Swan Bee^b, Charbel Jose Chiappetta Jabbour^c,
Antônio Márcio Tavares Thomé^d*

^aFaculty of Industrial Management, Universiti Malaysia Pahang, 26300 Pahang, Malaysia

^bGraduate School of Business, Universiti Sains Malaysia, Penang 11800, Malaysia

^cMontpellier Business School, Montpellier Research in Management, 2300, avenue des Moulins, 34185
Montpellier Cédex 4, France

^dIndustrial Engineering Department, Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Rua
Marquês de São Vicente, 225. Sala 952L - Gávea, Rio de Janeiro,
RJ 22451-000, Brazil

^eManagement Department, BINUS Online Learning, Bina Nusantara University, 11530, Indonesia

ABSTRACT

Drawing from the resource-based view (RBV) and complexity theories, we test the effects of energy management practices on renewable energy supply chain (RESC) initiatives in 151 certified (ISO 14001 and ISO 50001) manufacturing firms in Malaysia. Our results showed three dimensions of energy management practices (EMP) –top management commitment, energy awareness, and energy auditing – which were positively associated with the development of RESC initiatives. We found that insufficient knowledge of energy efficiency means firms struggle to manage energy effectively, constraining opportunities such as converting waste into energy to support business' targets. Our work has implications for energy policy. For example, we suggest that the transfer of energy efficiency management knowledge and technology from multinational to local companies could help to improve energy usage, and that local companies could generate renewable energy through supply chain networks. The findings of this work shed light on how to further develop energy efficiency policy in emerging economies, with implications for academics, practitioners and decision-makers. This work makes the case for an integrated discussion of energy management and renewable energy supply chains.

KEYWORDS:

Energy efficiency; Renewable energy; Sustainable supply chain; Energy audit; Emerging economy

DOI: <https://doi.org/10.1016/j.enpol.2018.03.043>