

The challenge of local content in renewable energy markets

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This is a short summary of the paper “Managing tradeoffs in green industrial policies: The role of policy design” presented at the conference “Green transformation and competitive advantage: Evidence from developing countries” taking place in Bonn, June 2018. It has been selected as one of the most policy-relevant papers.

Introduction

Renewable energy (RE) markets are booming worldwide, with investments totaling nearly 280 billion USD in 2017 (REN21 2018). As the majority of these investments now occur in developing and emerging economies, many of these countries are implementing local content requirements under their national RE policies, seeking to ensure these investments not only deploy RE capacity, but also build local capabilities and value chains around RE technologies. However, local content requirements can potentially pose a barrier to meeting other policy objectives: in the past local content mandates have been thought to either stifle private investment in renewables – proving detrimental to RE deployment goals – or increase the cost of RE projects – proving counter to traditional industrialization objectives of providing affordable energy to both local industry and households.

Combining local content with competitive auctions: Experiences from Mexico and South Africa

We explore these potential tradeoffs by examining the experiences of Mexico’s and South Africa’s RE auctions. While Mexico took a purely

market-based approach to its auctions, South Africa made local content a cornerstone in its bidding requirements. Using data from the winning wind and solar PV bids as well as interviews with private sector actors and policymakers in both countries, we unpack how specific auction design choices can lead to different outcomes in terms of RE market development, bid prices, and local value chain formation.

Key takeaways

The competitive nature of auctions can crowd out participation of local firms in RE projects.

Access to cheap finance is a key determinant of competitiveness in RE auctions. As a result, purely price-driven auctions such as Mexico’s may expect to draw greater participation from foreign project developers – due to their greater creditworthiness – and foreign sources of finance – due to their ability to offer financing at better conditions and familiarity with pricing RE project risks. Instead, incentives for local ownership and cofinancing with local banks can help build capabilities and allow for greater participation of local firms in these activities.

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No matter how attractive the market, localization of RE value chains is not ‘automatic.’

There is often a conception that localization will happen naturally, provided the market outlook is strong. However, experience from Mexico’s auctions shows that foreign project developers often prefer to tap their established networks for both project services and technology supply. Instead of seeking out potentially qualified local companies, these foreign developers tend to bring in imported value chains, hindering the process of integrating local firms into the value chain.

Local content requirements can prove effective in creating foreign-local value chain linkages and collaborations.

In South Africa, local content requirements created an imperative for integrating local players into RE projects, leading to greater foreign-local interaction through joint ventures as well as through collaborations between international and local technology suppliers. By specifying local content thresholds, rather than mandating localization of specific components, South Africa allowed the private sector to decide how it would meet local content thresholds. This local content design helped keep RE costs manageable despite reaching local content requirements of 40% and 45% for wind and solar PV, respectively.

Greater build-up of local RE value chains can help make RE projects more cost-competitive and sustainable in the long-term.

Despite the widespread view that local content requirements impose an additional cost to RE deployment, this cost is likely only short-term if the requirements are well designedⁱⁱ. Creating local RE value chains not only can lead to lower long-

term costs – for example in procurement or logistics – but can also create greater political momentum for more ambitious RE policiesⁱⁱⁱ.

Key recommendations

Local content calibrations need to strike a balance between pushing industry to realize greater local content, and setting targets that are counter-productive to other policy goals.

Local content calibrations should begin with an assessment of existing local capabilities and market potential, and should be set in open consultation with (national and international) private industry. Higher thresholds can be realized over time by implementing complementary industry policy measures such as supporting training programs or industrial parks.

Local content setting is a dynamic process. The design of local content needs to consider technological change, both in terms of the dynamic build-up of local capabilities as well as the changing cost structure of renewables – especially given that the capital costs of these technologies have dropped drastically in recent years. As a result, thresholds should be systematically reassessed and adjusted accordingly.

Local content should consider activities beyond manufacturing of components.

Several countries have focused solely on technology manufacturing in their local content policies, which can prove difficult to localize given that the supply of these technologies is both highly globalized and competitive. In contrast, activities such as project development and engineering services are not only more accessible for local firms, but also can be high value-added and exportable activities within RE value chains.

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Conclusion

Local content requirements can be effective in localizing RE value chains, which can help make RE deployment more cost-effective in the long-term. However, while the experiences of Mexico and South Africa show that localizing certain value chain steps is possible and cost-competitive for meeting the needs of domestic RE markets, further work is needed to understand

the potential for countries to *upgrade* in RE value chains – either by becoming global leaders in value chain activities or by vertically integrating to higher value-added activities.

Furthermore, the design of green industrial policies needs to consider not only the build-up of RE industries, but also the role and possible backlash of incumbent industries. Failing to account for both sides of industrialization can jeopardize green transformation outcomes.

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ⁱⁱ For example Spain, which used local content to help build an industrial base in wind (Lewis and Wiser 2007).

ⁱⁱⁱ (Meckling et al 2015).

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