

LOCAL CONTENT REQUIREMENTS: COST COMPETITIVENESS VS. 'GREEN GROWTH'?

While the global wind industry has grown enormously, it is still a relatively small player, continuously battered by the forces that govern global trade policy, and in some ways we are stuck between two conflicting imperatives: one, to generate the maximum quantity of clean, carbon free renewable electricity at the lowest possible cost, in order to be competitive with heavily subsidized incumbents in order to phase out feed in tariffs, subsidies, etc; and two, to help bring about 'green growth', which means creating new jobs in manufacturing in the country of the politician who is calling for it.

Fortunately, the nature of the wind business is such that many jobs are created through investment in wind power regardless of where the equipment is manufactured; and the size of the equipment means that at a certain stage and size of market local manufacture makes sense in purely economic terms. The more difficult issues arise in smaller markets which probably do not warrant a full fledged manufacturing industry. Every politician wants to bring a factory to town, but it's just not practical to do it in each case. In principle, of course, we are opposed to anything which hampers the development of the most efficient and cost-effective global supply chain. Political reality, however, is something different.

What follows is a discussion of the increasing use of local content requirements (LCRs) in both established and new markets for renewable energy, with a special focus on markets with commercial wind energy developments.

Background

From the late 1970s through the 1980s, the nascent commercial wind industry was the beneficiary of domestic industrial development policies in a few key OECD markets. However by the mid 1990s, the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) was concluded under the aegis of the new World Trade Organisation (WTO); and the Trade Related Investment Measures (TRIMs) were negotiated by member countries¹. The disciplines of the TRIMs Agreement focused on discriminatory treatment of imported and exported products.

A 'local content requirement' under the TRIMs refers to a government requiring companies operating in its jurisdiction to source all or part of the components for their manufacturing processes from domestic suppliers. This practice is prohibited

under TRIMs Article III:4 – even if it is applied to domestic and foreign enterprises alike, on the grounds that it discriminates against imports in favour of domestic products. The prohibition is based on the 'national treatment' principle embodied in Article III of GATT².

In the past decade, we have seen a number of countries, both OECD and Non-OECD, use a wide range of policy mechanisms that include LCR provisions for promoting national green industrial policy strategies. Often the expectation is that LCRs will ensure the expansion of local manufacturing especially when the industry is in its infancy; occasionally the hope is that imposing LCRs will allow for technology transfer in priority sectors; and sometimes the expectation is that a LCR will create 'green jobs' which makes it easier for a government to sell the transition towards 'green economic growth' to their constituents.

In fact, LCRs often put a significant burden on investors and the industry. A central question then arises: how best can governments design their policy frameworks to build domestic supply chains without imposing onerous requirements on clean energy investors and the industries they are seeking to support? In the following section we examine some key case studies to highlight the nature of LCRs and wider circumstances in those markets.

Recent Cases of LCR Use in OECD and Non-OECD Wind Markets

Brazil:

Brazil introduced Local Content Requirements for wind in 2002 under the PROINFA programme, which began operation in 2004. Under PROINFA, local content requirements (so-called 'nationalisation indices') were stipulated for equipment and services of 60%. For a variety of reasons, this programme did not result in either the development of a local industry, or substantial growth in the wind market.

However, in the regulated procurement environment of the auctions, protectionist measures were introduced in the guidelines approved for the wind energy reserve tender in 2009. These included a stipulation prohibiting the import of wind turbines with nominal capacity below 1.5 MW (see Art. 3 of the MME Portaria No. 211, 28 May 2009, in the draft introduced by Portaria No. 242, 25 June 2009). This reduced

the restriction that had initially been set for wind turbines smaller than 2 MW.

Nevertheless, there are no similar measures to be found in the Portarias approving the guidelines for the subsequent auctions, and no nationalisation index is required to take part in this tendering process. However, the nationalisation index of 60% remains as a condition to access funding from the Brazilian Development Bank (BNDES), and since BNDES financing comes at a much lower cost, this condition established a *de facto* local content requirement similar to the ones stipulated under PROINFA and the rules for the wind-only auction in 2009.

The immediate result of this has been a rapid expansion of the local supply chain, attracting manufacturers who have become eligible for BNDES funding by fulfilling the local content requirements, as well as meeting deadlines for implementation and other conditions.

In addition, BNDES is indicating that it is likely to impose higher LCR rules in the near future. This will place onerous requirements on the wind manufacturing industry in Brazil and certainly drive up prices.

Brazil was in a position to take advantage of its exceptional wind resource due to a unique combination of factors including high quality resource, oversupply in the global wind market and downward pressures on costs in the industry. This was supported by regular auctions that have created a robust pipeline, bringing about economies of scale and a degree of long-term demand stability for wind power in the domestic market.

Brazil's national energy planning agency's (EPE) latest 10-year plan covering 2012-2021 forecasts 16 GW of installed wind capacity by the end of that period. In order to reach it, Brazil would need to contract 1.4 GW each year from 2013 until 2018 – as a minimum three-year and maximum of five-year construction period is required under the auction rules³. However, it remains to be seen whether the new BNDES requirements will slow down this process, how much they will drive up prices, and whether or not they will ultimately be challenged internationally.



Denmark © Bent Nielsen and Danish Wind Industry Association

Canada:

Ontario's Green Energy and Green Economy Act of 2009 (GEA) established a feed-in-tariff programme that offered payments for renewable energy power generation above market prices. The 2009 Act also introduced a local content requirement for solar and wind energy, known as "Buy Local" conditions.

The LCR provisions enshrined within Ontario's GEA developed into one of the high-interest cases whose details have been followed closely by the wind industry over the past two years.

Under Ontario's LCR, wind and solar electricity generators were obliged to use an increasing percentage of equipment sourced in Ontario in order to secure a feed-in-tariff contract: for solar power generators, the LCR was set at 60%, and for onshore wind power generators the threshold was set at 50%.

In the same year, the EU and Canadian government began negotiations on a Comprehensive Economic and Trade Agreement (CETA), wherein the EU highlighted the Green Energy Act as a barrier to trade. Negotiations were begun on the broader agreement including the GEA.

In 2010, Japan requested consultations with Canada through the WTO, flagging that the provisions of the GEA were inconsistent with the national treatment provisions under the TRIMs.



Bozcaada, Turkey © Turkish Wind Energy Association (TUREB)

Eventually, in 2011, Japan asked the WTO to establish a formal dispute resolution panel. Thereafter the EU lodged its own complaint with the WTO over the GEA local content requirement.

In late 2011, the European Wind Energy Association made a submission to the European Commission in support of the EU's challenge of the Ontario LCR. The submission highlighted the general inefficiency introduced by the LCR and the higher costs incurred by the wind industry, especially European OEMs. The submission urged the EU to ensure that local content requirements did not become established in non-EU markets, as LCRs were occurring in a number of non-EU markets in various forms and were complicating the efforts of European manufacturers and component suppliers to access these markets.

In March of 2012, the WTO launched formal public hearings on the matter. In May 2012, Canadian civil society and labour unions also filed their submissions with the WTO in support of the Canadian government's defense of the Act.

In December of 2012, the WTO found that local content rules under the GEA 2009 violated non-discrimination clauses in the GATT and the agreement on TRIMs. Although this ruling was welcomed by the wind industry, it was not the end of the process. In February of 2013, the Canadian government notified the WTO of its intent to appeal the ruling against Ontario's GEA.

Although one can get lost in the legalese of the process for resolving international trade disputes, what is germane here is the demonstrable and inherent inefficiency of the local content requirement rules in a world where supply chains are globalized and manufacturers are seeking to restrict cost escalations for competing with highly subsidized conventional power generation.

China:

The Chinese government used local content requirements as leverage to spur international wind turbine manufacturers and component suppliers towards localization of their production facilities and supply chains.

There was a great deal of interest in the policy measures that China introduced between 2003 and 2009. These incentives and policy choices prompted its domestic market to go from being a nascent small-scale WTG manufacturing country to hosting four of the global top ten WTG manufacturers at the end of 2011.

In most media and research publications there seems to be a consensus about the effectiveness of the Chinese mix of financial incentives, a local content requirement and the benefits of the Clean Development Mechanism of the Kyoto Protocol, for being the drivers for making its limited domestic wind industry into the largest market in the world, both in terms of manufacturing and installed capacity.

The first government scheme that introduced the LCR was called the 'Ride the Wind' Program in 1997, which included a 20% LCR for two joint ventures. However the main growth period began after the introduction of the national Renewable Energy Support Law at the beginning of 2006 and continued up through 2009, after which the national feed-in-tariff scheme was introduced and the LCR was abolished.

The requirements began in 2003 by requiring 50% LCR, which increased to 70% in 2004. In selecting winning projects under these rules, LCR percentages (above the minimum standards of 50-70%) were a key basis of the evaluation. Under this scheme the tendered projects could get a score from 0.20 in 2005 to 0.35 in 2007 (out of a total of 1.0) for complying with the LCR. By 2007 the 70% LCR applied to all wind farms being developed in China. Although the LCR for tendered projects

was not mandatory, since the LCR score counted for 20-35% of the final evaluation of the bid, it was nearly impossible to win a bid without complying (Wang, 2009⁴).

Although China used LCR for promoting its wind industry, the underlying factors that allowed this tool to be successful were extraordinarily diverse. China has an enormous domestic wind energy resource, which is estimated at between 700 and 1200 GW exploitable capacity onshore and offshore (GWEC 2012). But most important is the enormous size of the market due to its large population, large manufacturing industry and (formerly) export-driven economy, as well as the world's largest (and growing) electricity consumption.

Given this combination of factors, China was in a position to provide stable long-term demand for wind turbines in the domestic market, under which establishing local manufacturing made business sense, regardless of the requirement.

Does LCR have no purpose today or is it also a question of design?

In submissions from the wind industry, the broader literature, and media coverage of LCR, it appears that LCR can work, but only when the proportion of required domestic content has been gradually phased in.

Lewis and Wiser see a role for LCR only if it is introduced progressively, in stable markets with sufficient potential. Otherwise, domestic and foreign investors and manufacturers will not be keen on investing in domestic manufacturing. In addition to market stability, they see a sufficient market size as an important precondition to generate welfare effects from the use of LCR⁵.

At the end of the day, LCRs can have the desired effect, but only when governments offer a stable, long-term, fixed volume policy and clear incentives for wind power generation. If such demand is not there, the higher costs as a result of LCR tend to keep potential investors out of the market and growth is severely constrained.

2013 – 2020: Time for a Local Content Incentive?

Most governments and policy makers tend to perceive local content requirements as a means to create new green jobs and promote local manufacturing capacity and supply chains. Although local content requirements may seem appealing, the long-term impacts are usually unclear, and whether or not they achieve the desired result is more a side-effect of other policy, and they may contravene international trade laws.

In summary, heavy-handed policy design approaches like the LCR tend to distort the market, raise prices, and delay clean energy investments. Perhaps a basic re-think is needed, especially in the field of clean energy technologies. Further, current over-capacity in wind turbine manufacturing means that fulfillment of LCRs merely exacerbates an already severe problem. Ideally, of course, we would like unfettered trade in renewable energy technologies, but we're a long way from that.

Perhaps a middle ground could be found. The local content approach for promoting domestic production and employment opportunities can be brought about by a positive incentive scheme, perhaps incentivizing local content through manufacturing tax credits, or an adder on top of the FIT for locally sourced components?

But in the interim, the top-down enforcement of LCR is likely to do more harm than good for both the local and the international wind industry and our outlook for a sustainable clean energy future.

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1 The compromise that eventually emerged from the negotiations is essentially limited to an interpretation and clarification of the application to trade-related investment measures of GATT provisions on national treatment for imported goods (Article III) and on quantitative restrictions on imports or exports (Article XI). Thus, the TRIMs Agreement does not cover many of the measures that were discussed in the Uruguay Round negotiations, such as export performance and transfer of technology requirements. The term "trade-related investment measures" ("TRIMs") is not defined in the Agreement. However, the Agreement contains in an annex an Illustrative List of measures that are inconsistent with GATT Article III:4 or Article XI:1 of GATT 1994. www.wto.org

2 TRIMs Article III: 4 states that "the products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use." www.wto.org

3 Brazil wind sector eyes 2013 demand, 01-04-2013, RechargeNews <http://www.rechargenews.com/wind/article1322100.ece>

4 Wang, Bo. "Can the CDM bring technology transfer to developing countries? An empirical study of technology transfers in China's CDM projects." The Governance of Clean Development, 2009 <http://www.uea.ac.uk/international-development/research/gcd/Wang+2009>

5 Lewis, Joanna, and Ryan Wiser. "Fostering a Renewable Energy Technology Industry." Environmental Energy Technologies Division, Ernesto Orlando Lawrence Berkeley National Laboratory, 2005, 30