

2. Non-tariff measures on “green” and “brown” energy products

2.1. Introduction

The global green energy transition from fossil fuels to renewable energy is important for many reasons. These include the recent increases in oil, gas and coal prices and the growing impact of climate change.

The renewable energy sector can create new employment opportunities while it also fosters innovation and research and development. Furthermore, some green technologies, such as off-grid solar energy and wind energy systems can provide affordable electricity in remote agricultural areas that are currently without access to electricity or with limited or unreliable electricity supply. It is also expected to expand small-scale industrial and entrepreneurial opportunities in these communities.

Sustainable Development Goal 7 calls for international cooperation on shifting from fossil fuel to renewable energy, including through increased trade for green energy technologies such as hydro, wind and solar power generation systems and their components. The transition aims to limit the future extent of climate change by substantially reducing energy-related carbon emissions to achieve net zero global carbon emissions towards the middle of this century.

Trade in energy efficient goods and technology are necessary to are a vital complement to tariff data as NTMs can be as important as tariffs in determining market

Box 1: NTM data collection: Methodology and coverage

UNCTAD, jointly with several other international organisations, such as the WTO, has developed a methodology to collect data on NTMs. It uses the international classification of NTMs, approved by the United Nations statistics department. A common taxonomy for NTMs allows for regular and consistent data collection.

access. Internationally comparable data on NTMs is scarce, but useful information is made available through UNCTAD's Trade Analysis Information System (TRAINS – see Box 1).

Furthermore, inclusion in the database of NTMs derived from national requirements does not imply a judgement on the legitimacy or appropriateness of these requirements. NTMs are recorded in a neutral way with the purpose of fostering transparency for the policy tools that may affect international trade.



2.2. Use of NTMs in “green” and “brown” energy products

The TRAINS NTM database can be used to produce statistics for any region or for any product group. Three basic indicators – frequency index, coverage ratio, and prevalence score – reveal the use of NTMs as policy instruments (see Box 2). They provide information on how often a country uses NTMs, the most common NTM types, and the nature of the most regulated sectors.

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1 Indicators for Grenada, Liberia and Tajikistan were not estimated as the corresponding trade information was not available.

energy products. This does not mean that NTMs are more trade restrictive for “brown products” (fossil fuel energy products).



Figure 4: NTM indicators, by economy and sector group

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Source: Authors' illustration based on TRAINS.



Download the data:
www.wto.org/statistics

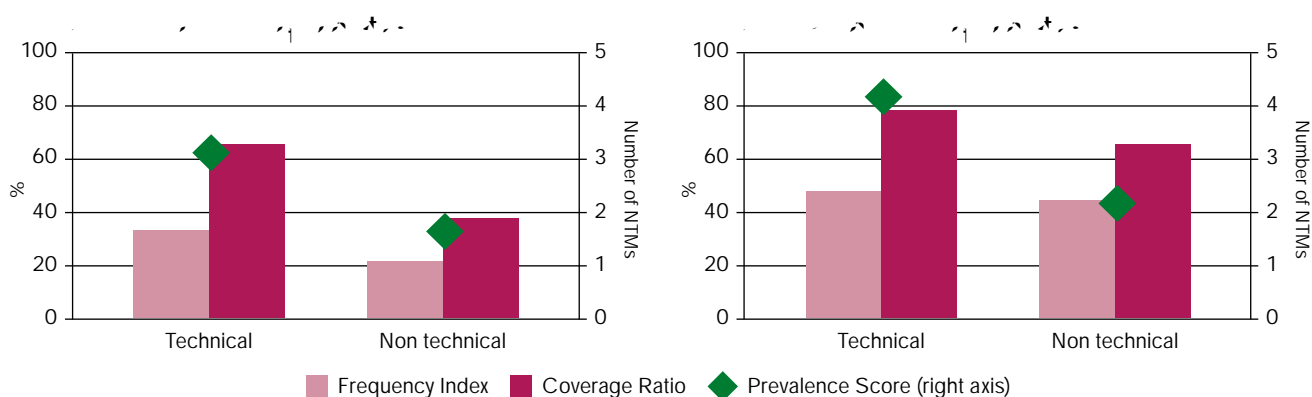
restrict these types of products. It may only relate to the fact that green products are normally innovation

The difference is clear for price control measures. While less than 10 per cent of green products need to comply with price control measures, it is about 30 per cent for brown energy products.

SPS, TBT and pre-shipment inspection constitute “technical measures” while the other NTMs are considered to be non-technical. Figure 6 shows that the use of NTMs is more

widespread for brown products, for both technical and non-technical measures, and for all three indicators.

Figure 6: NTM indicators, by sector groups and type of NTM



Source: Authors' illustration based on TRAINS.

2.4. References

UNCTAD (2002). *Measuring Trade Facilitation: A Handbook for Developing Countries*. Bijit Bora, Aki Kuwahara and Sam Laird, UNCTAD/ITCD/TAB/19. New York and Geneva.

UNCTAD (2012). *Trade Facilitation Indicators: A Handbook for Developing Countries*. United Nations publication. UNCTAD/DITC/TAB/2012/1

UNCTAD (2015). *Trade Facilitation Indicators: A Handbook for Developing Countries*. United Nations publication. UNCTAD/DITC/TAB/2012/2

UNCTAD (2016). *Trade Facilitation Indicators: A Handbook for Developing Countries*. UNCTAD/DITC/TAB/2014/4. New York and Geneva.

UNCTAD (2017). *Trade Facilitation Indicators: A Handbook for Developing Countries*. United Nations publication. UNCTAD/DITC/TAB/2017/3

UNCTAD (2019). *Trade Facilitation Indicators: A Handbook for Developing Countries*. UNCTAD Research Paper No. 41 UNCTAD/SER.RP/2019/13

UNCTAD (2019). *Trade Facilitation Indicators: A Handbook for Developing Countries*. United Nations publication. UNCTAD/DITC/TAB/2019/5

UNCTAD and World Bank (2018). *Trade Facilitation Indicators: A Handbook for Developing Countries*. United Nations and the World Bank. UNCTAD/DITC/TAB/2018/2

WTO (2012). *Trade Facilitation Indicators: A Handbook for Developing Countries*. WTO publication. 21

Annex

Frequency Index

The **Frequency Index (FI)** is a measure of the number of products-partners affected by one or more NTMs. More formally,

$$F_i = \frac{\sum_{j=1}^n I_{ij}}{n}$$

- 4 This simplified formula does not show that it also has a bilateral dimension, but the same principle applies. The products-partners affected in the numerator will equal 1, and all products-partners will count in the denominator.
- 5 This simplified formula does not show that it also has a bilateral dimension, but the same principle applies. In practical terms, it is double sum. If data are set for the triple "reporter-hs6-partner", the Prevalence Score is the simple mean of the variable that presents the number of distinct codes for each row, considering the traded lines (rows with positive import values only).