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**INTERNATIONAL STANDARDS AND SUSTAINABLE
DEVELOPMENT GOAL 7 – AFFORDABLE AND CLEAN ENERGY**

Dissertation for Master's Degree

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**INTERNATIONAL STANDARDS AND SUSTAINABLE
DEVELOPMENT GOAL 7 – AFFORDABLE AND CLEAN ENERGY**

Dissertation presented to the Post Graduate Program in Law, Faculty of Law of the University of São Paulo as a partial requirement to obtain the title of Master of Law, in the area of concentration of International Law, under the guidance of Professor Doctor Alberto do Amaral Junior.

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It was also at the Ministry of Mines and Energy that I came to have greater contact with international law and the relations established between developed and developing countries, an issue that prompted me to seek the title of Master of Law in this area of concentration.

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ABSTRACT

BRANDÃO, Gabriela da Silva. *International Standards and Sustainable Development Goal 7 – Affordable and Clean Energy*. 2020. 124 p. Master of Law. Faculty of Law, University of São Paulo, São Paulo, 2020.

The main purpose of this research is to analyze the relationship between international standards with Sustainable Development Goal 7 - ensure access to affordable, sustainable and modern energy for all, especially investigating if the compliance with elements of plural participation and legitimacy, such as engagement, transparency and accessibility, in the process of international standards' issuance can contribute to the achievement of the SDG 7 and to the dissemination of renewable energies in developing countries. It addresses the evolution of the concept of sustainable development at international level and the implications of sustainable development on international trade, as well as the emergence of the Sustainable Development Goals and specifically the interrelationship between SDG 7 and SDG 17 – partnerships for the goals, which considers the necessary engagement of both public and private actors towards Sustainable Development. Therefore, seeing energy is an important vector for Sustainable Development and taking into account the context of fragmentation of international law and of growing international standardization, the essay discusses the pursuit of international regulatory coherence and analyzes the legitimacy of international standards, focusing primarily in the following elements: engagement, transparency and accessibility. Examining the role of international standards particularly in renewable energy, the research addresses IEC procedures for the development of such standards, providing practical examples of technical committees and standards issued, with a view to analyze to what extent the greater legitimacy of these standards can contribute for the achievement of the SDG 7.

Keywords: Law. International Economic Law. International Trade. International Standards. Legitimacy of International Standards. Sustainable Development. Sustainable Development Goals. SDG 7. SDG 17. Access to Energy. Renewable Energy. ISO. IEC.

RESUMO

BRANDÃO, Gabriela da Silva. *International Standards and Sustainable Development Goal 7 – Affordable and Clean Energy*. 2020. 124p. Mestrado. Faculdade de Direito, Universidade de São Paulo, São Paulo, 2020.

O objeto da presente pesquisa é o relacionamento entre padrões internacionais e o Objetivo de Desenvolvimento Sustentável (ODS) 7 – energia limpa e acessível, investigando se a adoção de elementos de legitimidade no processo de elaboração de tais padrões, tais como participação efetiva, transparência e acessibilidade, pode contribuir para atingir o ODS 7 e para a disseminação de energias renováveis em países em desenvolvimento. Para tanto, aborda-se a evolução do conceito de Desenvolvimento Sustentável na esfera internacional e sua relação com o comércio internacional, bem como o surgimento dos ODS, especialmente a relação entre o ODS 7 e o ODS 17 – parcerias para os objetivos, que considera necessária a ação de agentes públicos e privados para alcançar o Desenvolvimento Sustentável. Assim, partindo da premissa de que energia é um importante fator para o Desenvolvimento Sustentável e considerando o contexto de fragmentação do Direito Internacional e de constante padronização internacional, a dissertação discute a busca por coerência regulatória internacional e analisa a legitimidade dos padrões privados, focando primordialmente nos elementos de participação efetiva, transparência e acessibilidade. Ao examinar o papel dos padrões internacionais particularmente em energias renováveis, a pesquisa aborda os procedimentos da IEC para o desenvolvimento de tais padrões, apresentando exemplos práticos de comitês técnicos e padrões editados, com vistas a analisar em que medida a maior legitimidade desses padrões pode contribuir para atingir o ODS 7.

Palavras-chave: Direito. Direito Econômico Internacional. Comércio Internacional. Padrões Internacionais. Legitimidade de Padrões Internacionais. Desenvolvimento Sustentável. Objetivos de Desenvolvimento Sustentável. ODS 7. ODS 17. Acesso à Energia. Energias Renováveis. ISO. IEC.

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ABBREVIATIONS

ABNT – Brazilian National Standards Organization (Associação Brasileira de Normas Técnicas)

ACAS – Affiliate Conformity Assessment Status

ACEA – Advisory Committee on Environmental Aspects

AhG – Ad Hoc Group

CA – Conformity Assessment

CEU – Council of The European Union

CHF – Swiss Franc

CTE – Committee on Trade and Environment

DEVCO – ISO's Developing Countries Committee

EMIT Group – Working Group on Environmental Measures and International Trade

EC – European Commission

EU – European Union

FAO – Food and Agriculture Organization for the United Nations

FGV – Getúlio Vargas Foundation (Fundação Getúlio Vargas)

FIESP – São Paulo's Industrial Federation (Federação das Indústrias do Estado de São Paulo)

GATT – General Agreement on Tariffs and Trade

IBRD – International Bank for Reconstruction and Development

IEA – International Energy Agency

IEC – International Electrotechnical Commission

IECEE – IEC System for Conformity Testing and Certification of Electrotechnical Equipment and Components

IECEX – Certification of Equipment operated in explosive atmospheres

IECQ – IEC System of quality of electronic components, materials and processes

IECRE – IEC System for Certification to Standards Relating to Equipment for Use in Renewable Energy Systems

IISD – International Institute for Sustainable Development

ILA – International Law Association

ILO – International Labor Organization

IRENA – International Renewable Energy Agency

ISEAL – International Social and Environmental Accreditation and Labelling

ISO – International Organization for Standardization

ITC – International Trade Centre

ITU – International Telecommunication Union

IUCN – International Union for Conservation of Nature and Natural Resources

JWG – Joint Working Group(s)

MDG – Millennium Development Goals

NAFTA – North American Free Trade Agreement

NEC – National Electrotechnical Committee

NGOs – Non-governmental Organizations

NSMD – Non-state market driven

ODA – Official Development Assistance

OECD – Organization for Economic Cooperation and Development

O-members – National Committees which follow IEC's TC/SC as observer

PIC Convention – 1998's Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

P-members – National Committees which participate actively in the work of IEC's TC/SC

PAS – Publicly Available Specifications

POP Convention – 2001's Persistent Organic Pollutants

PPM – Process or production method

PROCEL – Brazilian National Program for Conservation of Electric Energy (Programa Nacional de Conservação de Energia Elétrica)

PV – Photovoltaic

Rio+20 – United Nations Conference on Sustainable Development

SC – Subcommittee(s)

SDG – Sustainable Development Goals

SEforAll – Sustainable Energy for All

SMB – Standardization Management Board

SPS – Sanitary and Phytosanitary Measures

SRI – Socially Responsible Investment

TC – Technical Committee(s)

TBT – Technical Barriers to Trade Agreement

TPP – Trans-Pacific Partnership

UK – United Kingdom

UN – United Nations

UNCED – United Nations Conference on Environment and Development

UNCTAD – United Nations Conference on Trade and Development

UN DESA – United Nations Department of Economic and Social Affairs

UN ECE – United Nations Economic Commission for Europe

UN ECOSOC – United Nations Economic and Social Council

UNEP – United Nations Environment Program

UN ESCAP – United Nations Economic and Social Commission for Asia and the Pacific

UNESCO – United Nations Educational, Scientific and Cultural Organization

UNFSS – United Nations Forum on Sustainability Standards

UNIDO – United Nations Industrial Development Organization

UN ILC – United Nations International Law Commission

UNITAR – United Nations Institute for Training and Research

UNSD – United Nations Statistics Division

UNSDG – United Nations Sustainable Development Group

UNSSC – United Nations System Staff College

US – United States of America

VSS – Voluntary Sustainability Standards

WB – The World Bank Group

WECD – World Commission on Environment and Development

WEHAB Agenda – Water and Sanitation, Energy, Health, Agricultural Productivity and Biodiversity

WG – Working Group(s)

WHO – World Health Organization

WTO – World Trade Organization

WWF – World Wildlife Fund

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INTRODUCTION

Even though sustainable development does not constitute a recent concept on international agreements and the international community's concern about environmental protection is not new, United Nations (UN) set 17 Sustainable Development Goals (SDGs), better detailed in 169 specific targets, that might be achieved until 2030 with the purpose of eradicating extreme poverty and promoting sustainable development of the countries.

Among those 17 SDGs is the objective number 7, which aims to ensure access to affordable, reliable, sustainable and modern energy for all, considering that energy plays an important role in the achievement of sustainable development globally. Indeed, the pursuit of universal access to energy is very relevant in the fight against extreme poverty, as well as renewable energy and energy efficiency are able to contribute to the achievement of sustainable development.

Energy is a very relevant issue, since it can be considered an exportable commodity, and, also, an important input for the most diverse means of production – from agribusiness to complex industrial activities. It also provides essential services to satisfy basic human needs, as conserving food, cooking meals, heating and cooling and providing means of transportation. Besides, since information is a very valuable asset nowadays and considering that network connections and databases depend on electricity, this is a relevant question for the development of countries and businesses.

That is why lack of electricity affects health, education and businesses, as it will be demonstrated through this research, and it affects around 840 million people who still do not have access to energy. Moreover, almost 3 billion people lack access to clean cooking fuels, resulting in nearly 4 million premature deaths each year, according to UN reports.

Considering the challenge of ending energy poverty, the need of engagement of both public and private actors towards sustainable development, as well as the interlinkage among the goals, the SDG 17 aims to foster global partnerships towards the SDGs' achievement.

That is why this research discusses the increasing relevance of private actors in global governance and of international standards in the energy sector and, particularly, in the renewable energies deployment, focusing on the relationship between international standards and the achievement of SDG 7.

With that in mind, the main purpose of this research is to investigate if the compliance with elements of plural participation and legitimacy, such as engagement, transparency and accessibility, in the process of international standards' issuance can contribute to the achievement of the SDG 7 and to the dissemination of renewable energies in developing countries.

Thus, in Chapter 1, the evolution of the concept of sustainable development in international law is briefly mentioned, in order to address, in Chapter 2, the emergence of the 17 Sustainable Development Goals and the specific targets of SDG 7, considering energy as a vector of development, as well as its connection with SDG 17 – Partnerships for the Goals, which calls private actors and civil society to contribute to the achievement of the SDGs.

Chapter 3 addresses the pursuit for international regulatory coherence and the vast doctrinal discussion about private governance and international standardization, presenting to the readers the concepts used in this research.

Legitimacy of international standards is also an object of the third Chapter, where it is possible to identify that three elements of legitimacy are particularly relevant for international standard setting procedures: engagement, transparency and accessibility. These are the main elements that guide this research.

International standardization on energy and its role in renewable energy and the specific International Electrotechnical Commission (IEC) procedures for the development of international standards on renewable energy are object of Chapter 4, especially considering if developing countries are adequately considered.

Among the findings of this research are several initiatives with the objective to increase the legitimacy and the participation of developing countries in the standards-setting process, such as (i) TBT's Code of Good Practice for the Preparation, Adoption and Application of Standards, (ii) ISEAL Code of Good Practice and Credibility Principles, (iii)

ISO's Developing Countries Committee – DEVCO and (iv) IEC Affiliate Country Programme.

Nevertheless, while ensuring greater participation and transparency to the international standard-setting procedures, as well as the access to them, are measures that can enable the achievement of SDG 7 targets, there are several obstacles for developing countries to effectively participate, contribute and adopt international standards, that will be addressed in this research.

In conclusion, it is possible to assert that international standards can contribute to the development of countries, to increase the access to energy and, specifically, to renewable energies only if the standard-setting procedures observes the elements of legitimacy studied herein: engagement, transparency and access. In this sense, the result of this research presents recommendations of other effective measures that may help international standard-setting procedures to contribute to the effective achievement of the SDG 7.

CONCLUSION

In the context of the fragmentation of international law and the international standardization trend, with the increasing relevance of private actors in global governance and of international standards, this research focused on the relationship between international standards and the SDG 7 – ‘Ensure access to affordable, sustainable and modern energy for all’.

Thus, the evolution of the concept of sustainable development in international law was briefly mentioned, in order to address the emergence of the 17 SDGs and the specific targets of SDG 7, considering energy as a vector of development, as well as its connection with SDG 17 – ‘Partnerships for the goals’, which calls private actors and civil society to contribute to the achievement of the SDGs.

The pursuit for international regulatory coherence and the vast doctrinal discussion about private governance and international standardization were objects of Chapter 3 of this essay, where the concepts used in this research were presented to the readers.

Legitimacy of international standards was also an object of the third Chapter, where it was possible to identify that three elements of legitimacy are particularly relevant for international standard setting procedures: engagement/ participation, transparency and accessibility, which guided this research.

Chapter 4 was especially devoted to study international standardization on energy, considering its role in renewable energy and the specific IEC procedures for the development of international standards on renewable energy. In that Chapter, practical examples were given, such as the IEC 61400-1:2019 – ‘Wind energy generation systems – part 1: design requirements’.

The main purpose of this research was to investigate if the compliance with elements of plural participation and legitimacy, such as engagement, transparency and accessibility, in the process of international standards’ issuance could contribute to the SDG 7 achievement and to the dissemination of renewable energies in developing countries.

It is possible to conclude, from the literature review and the various technical reports presented by relevant institutions that addressed this issue, that ensure greater participation of developing countries in the international standards-setting procedures is a very positive measure. Indeed, while it permits greater harmonization in private regulation and further dissemination of established standards, it also allows specific issues related to developing countries to be considered in the standard-setting process.

In this sense, several initiatives with a view to increase the legitimacy and the participation of developing countries in the standards-setting process were cited, such as (i) TBT's Code of Good Practice for the Preparation, Adoption and Application of Standards, (ii) ISEAL Code of Good Practice and Credibility Principles, (iii) ISO – DEVCO and (iv) IEC Affiliate Country Programme.

Nevertheless, the specific examples taken into consideration in this research demonstrate that, even though there are initiatives which aim greater legitimacy to the international standard-setting process and to ensure greater participation of developing countries, much remains to be done.

In fact, while ensuring greater participation and transparency to the international standard-setting procedures, as well as the access to them, are measures that can enable the achievement of SDG 7 targets, there are several obstacles for developing countries to effectively participate, contribute and adopt international standards, such as high costs and even the lack of skilled labor.

Briefly summarizing the findings of this research, international standards can contribute to the development of countries, to increase the access to energy and, specifically, to renewable energies, with the effective achievement of the SDG 7 only if the standard-setting procedures observes the elements of legitimacy studied herein: engagement, transparency and access.

Therefore, besides measures already taken by ISO and IEC to increase the participation of developing countries in both the standard setting process and to broaden their access to already developed standards, other effective measures are proposed in this research, such as the following ones:

- To consider the different stages of economic and technological development, so that the technical specifications conveyed in standards can be effectively used by developing countries;
- To take into account different geographical – such as electrification in isolated or rural areas – and climatic conditions which greatly affect developing countries for the deployment of coherent and applicable technical specifications;
- To promote greater dissemination of activities carried out by organizations, seeking to enhance the participation from representatives of developing countries, as well as non-governmental and civil society organizations, not just industry representatives;
- To reduce costs of participation in the standards development process. In this sense, IRENA (2013) recommends providing better funding for travel to attend meetings and the use of the latest communication technologies, allowing remote and virtual meetings and events;
- To foment further training in developing countries, so that its technicians can effectively contribute to discussions in the standard-setting procedures; and
- To ensure further reduction of access costs to published standards.

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