3. IP REGULATIONS AND ENVIRONMENTAL AGREEMENTS: AN OVERVIEW OF THE BRAZILIAN GREEN PATENTS SERVICE

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ABSTRACT

The Brazilian National Institute of Industrial Property launched a fast-track procedure for Green Technology named 'Green Patents' in 2012. Since then, seven Resolutions have been published to regulate the procedure until it became a permanent service. This paper provides, as a source, a brief description of those regulations, analysing them in order to expose the global progress of the examination procedure for environmentally sound technologies in Brazil, delivered by INPI. This fast-track policy correlated Industrial Property, Trade and Environment agreements, and treaties from World Intellectual Property Organisation (WIPO), World Trade Organisation (WTO) and the United Nation Environment Programme (UNEP), to promote the examination progress and the diffusion of Environmentally Sound Technologies. The Brazilian Green Patents Service (Patentes Verdes), is not only an accelerated examination patent procedure, but is also a tool to promote Environmentally Sound Technologies in Brazil. In this way, from 2012 to 2019, this service granted more than 200 patents exclusively classified as a green technology, able to contribute to mitigate the climate change (or climate emergency) issues.

Keywords: Brazil; patent; procedure; fast-track; environmentally sound technologies; EST; climate change.

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1. INTRODUCTION

The Brazilian National Institute of Industrial Property¹ (INPI) launched a fast-track procedure for Green Technology named 'Green Patents' in 2012.² Since then, seven Resolutions have been published in Brazil to establish the project until it became a permanent service. Globally, the Brazilian Green Patent service is one of the pioneers to recognize and give consideration to the connection between patents and climate change. This paper is focused on a brief description and analysis of that National Regulation³ that could be able to explain to WIPO's Member States how INPI implemented and progressively adapted that until it turns to a permanent service.

The core of this paper⁴ is to explain the procedures and the rules created by the INPI to implement the Brazilian Green Patents (i.e. Patentes Verdes) service as a fast track procedure for green technology applications and reduce the time under examination as part of 'The Backlog Solution' Program. International Patent Classification Green (IPC Green) and Brazilian Industrial Property Law (BrIPL) limit the technology fields of those technologies, excluding nuclear power and administrative issues. The success of the service, so far, has been to grant patent applications within two years from the date of the request for entry into the service, according to the goal stipulated in its first phase. In the same way, the Green Patent Service provides a fast examination procedure for patent application capable of being classified as a green tech, a tool to improve the IP and Environmental Agreements signed by the Brazilian Government, as related to climate change.

¹ Named in Portuguese *Instituto Nacional da Propriedade Industrial* (INPI – Brazil).

² Although there are other Offices with the same abbreviation, such as France and Portugal, the trademark name 'INPI' was granted to the Brazilian Office. In this way, every time that INPI is mentioned, it refers to the Brazilian Office.

³ The complete study, of which this paper is a part, is a thesis that will be defended at the Faculty of Law of the Maastricht University

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⁴ This paper is focused only in the technical fields related to green technologies, no other field is matter in this topic.

Moreover, each phase of this pilot project implemented a special feature. The issue addressed in this paper is to explain and to present it to WIPO's Member States what Brazilian law stages implemented and have allowed Brazil to become the pioneer in the application of industrial property policies mainly aimed at finding solutions to mitigate the consequences generated by climate change.

In brief, this paper has five sections, including this introduction and the conclusion. Section 2 introduces the concepts of green technologies, the technologies inside this classification and the difference between the Brazilian Service and the WIPO GREEN program. Section 3 describes the beginning of the fast track procedure in the Brazilian Patent System, summarizing the phases of Brazilian Green Patent and the creation of the service. It is important to highlight that in 2019, INPI launched a new rule in a set of priority rights including Green Patent service and updated it on 22 June 2020 with INPI Ordinance n. 247.5, 6 This paper does not focus on these regulations which require further study. Finally, the conclusion points for further discussions.

2. CONCEPTS

Concerning the definition of green technologies⁷, the first question to understand is: are there synonyms related to environmental technologies?

There are several words or expressions in the English language which refer to green technologies:⁸ (i) patenting green, (ii) green patent, (iii) green technology, (iv) Greentech, (v) clean technology, (vi) clean tech, (vii) green innovation, (viii) environmentally sound technologies (EST), and (x) environment benign, in addition to expressions such as 'clean energy technology' (CET).⁹

All these words or expressions represent technologies with environmental characteristics, which can be submitted to expenditure, negotiation or classification policies in specific platforms to improve the fight against pollution, and mitigate the issues regarding climate change.

Faced with that, a comparison among the terms applied by WIPO and INPI is possible.

WIPO GREEN^{10,11} understands 'Green Technology' as the same concept defined in Chapter 34 under Agenda 21 of the United Nations Program of Action from Rio, 1992. Green technologies, 'protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their wastes and products, and handle residual waste in

br/servicos/patentes/legislacao/legislacao/PrioritriosIIPortariaPR2 4722.06.20RPI258230.06.20.pdf> accessed 25 July 2020.

⁵ It will be in force from 30 July 2020.

⁶ INPI Ordinance n. 247 of 22 June 2020

https://www.gov.br/inpi/pt-

⁷ 'Word of the Year 2019' (OxfordLanguages, 2020) Note that in 2019, Oxford Dictionary elected 'climate emergency' as the world of the year https://languages.oup.com/word-of-the-year/2019/ accessed 25 July 2020.

⁸ Douglas Alves Santos, Patrícia Carvalho dos Reis, Cibele Cristina Osawa e Júlio César Castelo Branco Reis Moreira, Relatório Técnico de Finalização do Programa Piloto de Patentes Verdes // Technical Report on the Finalization of the Green Patent Pilot Program (INPI, Rio de Janeiro, 2016) [hereinafter P3V].

⁹ United Nations Environmental Program, European Patent Office and International Centre for Trade and Sustainable Development,

^{&#}x27;Patents and Clean Energy: Bridging the Gap between Evidence and Policy - Final Report' (UNEP, EPO, ICTSD 2010)

http://documents.epo.org/projects/babylon/eponet.nsf/0/cc5da
4b168363477c12577ad00547289/\$FILE/patents_clean_energy_stu dy_en.pdf> accessed 8 April 2019.

[&]quot;WIPO Green - The Marketplace for Sustainable Technology" (WIPO) https://www3.wipo.int/wipogreen/en/ accessed 25 July 2020.

¹¹ ibid. 'WIPO Green is an online platform for technology exchange. It supports global efforts to address climate change by connecting providers and seekers of environmentally friendly technologies. Through its database, network and acceleration projects, it brings together key players to catalyze green technology innovation and diffusion'

more acceptable ways than the technologies for which they were substitutes.'

At that time, INPI publicised its legal measures with rules, called 'Resolutions.' On 2 April 2012, Resolution n. 283 'Discipline the priority exam of green patent applications in the framework of the INPI, the procedures relating to the Pilot Program on the theme and gives other legal measures' was issued. Under this regulation, the INPI green technology concept is explaned as follows.

Green patent applications are defined as patent applications with a focus on environmentally friendly technologies or green technologies, and such technologies are arranged and presented in an inventory published by the World Intellectual Property Organization (WIPO) - excluding areas: a) administrative, regulatory or design aspects; and b) nuclear power generation. Green technologies are listed in Annex I of this resolution. 12

Such concept did not fully encompass the definition of 'Green Technologies' of WIPO GREEN in view of legal restrictions on patentability. To clarify the understanding, the following table compares ¹³ the sectors included as green technologies by INPI and WIPO GREEN.

Table 1. Green technologies according to the classification of Resolution n. 283-2012 and the IPC Green Inventory

	INPI – BR	WIPO GREEN		
	Alternative Energy Production	Alternative Energy Production		
	Transportation	Transportation		
	Energy Conservation	Energy Conservation		
	Waste Management	Waste Management		
Green Technology	Agriculture	Agriculture and forestry		
	-	Administrative, Regulatory Aspects or Designs		
	-	Nuclear Power Generation		

Source: INPI, 2012 and WIPO, 2015 (IPC Classification)

The WIPO GREEN program and the Brazilian service have three specific aspects that differentiate them:

- (a) Legal nature: an International Organization *versus* a National Industrial Property Office;
- (b) Examination Procedure: naturally linked to the first concern, secondly is the fact that the international organisation does not grant or revokes patent applications¹⁴, while examining and granting are the basic obligation of a patent office.
- (c) Technology fields: the Brazilian project differs from WIPO GREEN by excluding two specific sectors: (a) Administrative, Regulatory or Design Aspects' and; (b) Nuclear Power Generation.' These fields are excluded due to the prohibitions expressed by the Brazilian Industrial

 $^{^{12}}$ INPI Resolution n. 283 of 02 April 2012 [hereinafter Resolution n. 283 of 2012], art 2

http://www.inpi.gov.br/images/stories/downloads/patentes/pdf/ Resolucao_283_Patentes_Verdes.pdf> accessed 13 April 2019.

¹³ Classification issue is a complex topic. It requires further studies, developed by the Thesis author.

¹⁴ Although all the PCT procedures are provided by WIPO, the examination procedure to grant or refuse a patent application is provided by National or Regional Offices, *per se*. Also the procedures related to PCT is not matter of study in this paper. PCT procedures are available: PCT. The International Patent System https://www.wipo.int/pct/en/ accessed 25 July 2020.

Property Law - $\mathrm{BrIPL^{15}}$ and the $\mathrm{Brazilian}$ Federal Constitution. 16

(d) The first exclusion results from the comparison among technology fields described on the International Patent Classification - IPC and BrIPL. BrIPL prohibited those fields to be protected, according to Articles 10 and 18:

Art. 10 The following are not considered to be inventions or utility models:

[...]

III. commercial, accounting, financial, educational, advertising, raffling, and inspection schemes, plans, principles or methods;

Art.18 The following are not patentable:

[...]

II. substances, materials, mixtures, elements or products of any kind, as well as the modification of their physical-chemical properties and the respective processes for obtainment or modification, when resulting from the transformation of the atomic nucleus; and [...]. ¹⁷

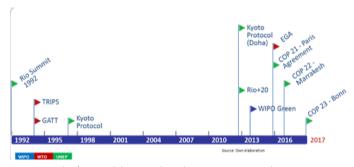
(e) The Brazilian Federal Constitution mentions the second reason: the matters involving nuclear power generation always must be within the exclusive competence of the Federal Government. 18

These differences and similarities between WIPO GREEN and Resolution n. 283-2012 determine which type of technology shall be considered as green technology. Mainly due to WIPO GREEN being focused on the post-grant procedure, while the Brazilian Service focuses on the procedure *per se*.

Globally, WIPO, WTO and UNEP, via United Nation Framework Convention on Climate Change (UNFCCC), have environmental concerns within their treaties, agreements

and conventions that need to be mentioned in order to promote the green technology. This is not a simple correlation to be made. The researcher needs to know the legal instruments (see Figure 1) interconnected to trade, intellectual property and environmental issues in order to study and apply other measures inside them to provide technology transfer to mitigate the issues of climate change.

Figure 1. Timeline on WIPO, WTO and UNFCCC treaties and agreements correlated to green technologies



Source: Author's own elaboration based on WTO, WIPO and UNFCCC Agreements and Treaties

Following the United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil on 20-22 June 2012 (Rio+20) and international regulations, Resolution n. 283-2012 launched the Brazilian Green Patent Project as a tool to understand what kind of patent applications the INPI receives, whether this kind of project would be useful to the applicant, and if it would work. This includes determining if it is effective for, the Brazilian Office (reducing pending applications); for industrial development (providing new clean technologies to the market); and for environmental protection (promoting technologies able to reduce the climate emergency).

Moreover, this is the first executive legal measure that combines ideas under the treaties and conventions from WIPO, WTO and UNFCCC. The following section briefly

 $^{^{\}rm 15}$ Brazilian Industrial Property Law (Law n. 9.279) of 14 May 1996 [hereinafter BrIPL]

http://www.wipo.int/wipolex/en/details.jsp?id=515 accessed 8

October 2018.

 $^{^{16}}$ The IPC comparative study related to green technologies is under construction on the PhD Thesis at Faculty of Law of Maastricht University.

¹⁷ BrIPL (n 15).

¹⁸ Brazilian Federal Constitution, art 21, 22 item XXIII, XXVI
http://www.stf.jus.br/repositorio/cms/portalStfInternacional/portalStfSobreCorte_en_us/anexo/Constitution_2013.pdf accessed 8 October 2018.

analyses the period from 2012 to 2016, i.e. from the beginning until it became a service, in 2016. This paper does not focus on the preliminary results of the Resolution n. 239 of 4 June 2019 and INPI Ordinance n. 247 of 22 June 2020 that only entry into force on 30 July 2020.¹⁹

3. THE GREEN PATENT PRIORITY EXAMINATION PROCEDURE

The fast-track procedure for green patents began in Brazil as a pilot project in 2012, restarted in 2016 as a permanent service, and was updated in 2020. Objectively, this paper describes and analyses the Brazilian Resolutions, and explains their phases and results from 2012 to 2016. In addition, it focuses on the compilation of the main features and results available, in a unique source.²⁰

The origin of this service is associated with internal and external facts related to the Brazilian Office. Externally, Brazil is a signatory to several international rules concerning the environment²¹ and intellectual property.²² Furthermore, the Brazilian set of environmental national laws have provisions to support climate change mitigation. It creates obligations for the country to promote the validity of those regulations.

Internally, the INPI decision is seeking solutions to internal needs, by combating backlog. In 2011, INPI structured the 'Backlog Solution Program'^{23, 24} in order to diminish the time of examination of a patent application.²⁵ At that time, the Green Patents Project was negotiated internally as part of that program.

The Brazilian project was released on 17 April 2012, followed by three phases and one extension, resulting in a service. ²⁶ The results of this fast-track procedure contribute to reduce the time and number of patent applications under examination. Technologies classified as environmentally friendly were identified under this system. More importantly, it started to contribute to the fight against climate change as an industrial property tool.

A. PHASES OF THE BRAZILIAN GREEN PATENT PROJECT

The INPI is a Brazilian autarchy, established by Law n. 5648 of 11 December 1970²⁷ and linked to the Ministry of Economy. The INPI is competent to conduct examination procedures for industrial property rights. As a patent office, it is responsible for patent examination procedures, and has backlog issues.

¹⁹ Studies related to these rules are under development.

²⁰ From 16 November 2016, this information was no longer available. Nowadays, the data is compiled in a different manner including all the set of priority rights. See 'Priority Procedure' (INPI, Brazil, 17 April 2015) https://www.gov.br/inpi/pt-br/servicos/patentes/tramite-prioritario/acelere-seu-exame accessed 25 July 2020.

²¹ Such as those adopted during the 1992 United Nations Conference on Environment and Development - Rio de Janeiro Earth Summit (ECO92), the 2012 UN Conference on Sustainable Development (RIO+20) and the 2015 United Nations Climate Change Conference 2015 (COP 21).

²² Since 1809, Brazilian laws have regulated the IP system. WIPO provides the list of Treaties and Conventions to which Brazil is a Contracting Party.

https://www.wipo.int/treaties/en/ShowResults.jsp?country_id=2 3C> accessed 23 July 2020.

²³ 'Plano de combate ao Backlog de Patentes' // 'The Fight of patent backlog Plan' (INPI) [hereinafter 'Backlog Plan'] https://www.gov.br/inpi/pt-br/servicos/patentes/plano-de-combate-ao-backlog-1/plano-de-combate-ao-backlog-accessed
25 July 2020.

 $^{^{24}}$ INPI Resolution n. 241 of 3 July 2019 [hereinafter Resolution n. 241 of 2019]

https://www.wipo.int/news/en/wipolex/2019/article_0011.html accessed 25 July 2020.

²⁵ Published by means of Resolution n. 262-2011, which after internal auditing in 2013 became Resolution PR No. 10 of 18 March 2013, Whose purpose is to 'Define the strategic priority projects of the INPI and its structure basic management?'

²⁶ Patrícia Carvalho dos Reis, Cibele Cristina Osawa, Júlio César Castelo Branco Reis Moreira e Douglas Alves Santos, 'Programa das Patentes Verdes no Brasil: Aliança Verde entre o Desenvolvimento Tecnológico, Crescimento Econômico e a Degradação Ambiental' // 'Green Patents Program in Brazil: Green Alliance between Technological Development, Economic Growth and Environmental Degradation' (2013) J. L. Innovation, IP & Competition http://www.altec2013.org/programme_pdf/1518.pdf accessed 20 October 2017.

²⁷ Brazilian Law 5.678 of 11 December 1970. Creates the National Institute of Industrial Property and makes other provisions. http://www.planalto.gov.br/ccivil_03/Leis/L5648.htm accessed 25 July 2020.

The evolution of the Green Patent pilot project was described by the resolutions listed below. It was divided into three phases and in a service. The table below presents the phases and the number of the resolutions, which are only provided in the Portuguese Language.²⁸

Table 2. Resolutions governing Brazilian Green Patent Policy

Phase	Resolution
First Phase	Resolution PR n. 283 of 2 April 2012
	Resolution PR n. 75 of 18 March 2013
Second Phase	Resolution PR n. 83 of 4 April 2013
	Resolution PR n. 122 of 29 November 2013
Third Phase	Resolution PR n. 131 of 15 April 2014
	Resolution PR n. 145 of 17 March 2015
	Resolution PR n. 175 of 5 November 2016
Service	Resolution PR n. 239 of 4 June 2019
	INPI Ordinance n. 247 of 22 June 2020

Source: Author's own elaboration based on INPI rules.

The INPI Patent Board, DIRPA, developed this project. ²⁹ They had considerable problems to solve. One is a national issue, related to the internal and administrative solution to decrease ³⁰ the time patents are under examination. At the same time, they analysed the process as a global trend to promote the technology transfer of ESTs. Following subsections constitute a legal analysis of the rules.

(i) The First Phase of the Brazilian Green Patent Project

The first phase of the project was composed of two Resolutions: (a) Resolution n. 283 of 02 April 2012; and (b) Resolution n. 75 of 18 March 2013. The core of this subsection

is the content of Resolution n. 283-2012. This was drafted as an internal INPI Rule with seventeen (17) Articles and an Annex. As previously mentioned, the first concept of green technology was described by Article 2 of the Resolution n. 283-2012, following the concepts of WIPO, UNFCCC and limitations within the BrIPL and Brazilian Federal Constitution.

In addition, the Resolution n. 283-2012 defined the criteria for 'Eligibility' (Articles 3 to 10) and 'Participation' (Articles 11 to 16) of the requests. This standard remains the same today, as a positive result of the project.

As regards the eligibility criteria, it is necessary to highlight the following points. Article 3 provides the responsibility of DIRPA for the pilot project, as previously defined by Resolution n. 10-2013, which was referring to INPI's strategies. In addition, this regulation creates 'a Technical Commission from Working Group of Green Patent Project,' to analyse every application requiring the entrance to the project. They decide which patent applications are capable of being granted as a green technology, avoiding 'free riders' into the procedures.

In the same way, the Technical Commission needed to follow the rules³¹ that defined the criteria for admission to the priority examination. The wording of that article answers some questions: 'What kind of technologies may be protected?', 'For whom this will be protected?' In the end, to respond to all those answers, the project was maintained, considering it was a pilot.

'What kind of technologies may be protected?' The answer defined that the technology fields would be analysed at the time of the pilot project. Article 4 mentioned 'invention', and excluded 'utility model' and the 'certificate of addition.' Thus, only those applications that fulfil the concept and patent requirements (according to Article 8 of the BrIPL - for holders;

²⁸ Probably, this is the first study published in English, which correlates all the Brazilian Resolutions about Green Patents procedures.

²⁹ Brazil Decree n. 8.854 of 2016, art 12. 'Patent Office, Computer Programs and Topographies of Integrated Circuits.'

³⁰ See Backlog Plan (n 23). Since 2018, the plan has been in progress.

³¹ Resolution n. 283 of 2012 (n 12) art 4. The Pilot Program will be conducted with the patent applications for invention, filed by residents or non-residents, by means of the Paris Convention and having a technology listed in Annex I of this Resolution. In addition, applications submitted to this pilot program should contain a maximum of 15 (fifteen) claims, of which up to 3 (three) independent claims.

and Article 27.1 of TRIPS Agreement - for WTO Members). Additionally, it mentioned that the request must 'contain a maximum of 15 (fifteen) claims, of which up to 3 (three) are independent claims.' 32

'For whom this will be protected?' It is directed to applicants, resident or non-residents, through the Paris Convention, whose technologies were described in one of five categories, mentioned which Brazil accepted as green technology.

The sole paragraph of Article 4 was the first rule to list the possibility of denying the priority examination if the request is not classified as green technology, the same as described in Annex I of Resolution n. 283-2012. Further, the requirement must use the form described in Annex I, named 'Request for green patents program.' Consequently, Articles 6 to 9 brought additional requirements for the patent application to be adequate in the pilot 'Green Patent.'

These articles stated that 'for an application for the patent may be made to the Green Patent Pilot Program and found to participate':

- (a) Article 6: Applicant must prove the publication by Brazilian Official Journal named, 'Revista de Propriedade Industrial' (RPI), pursuant to Article 30 of the BrIPL, or the publication of the application should be anticipated at the request of the applicant, pursuant to paragraph 1 of Article 30 of the BrIPL.
- (b) Article 7: The examination of the patent application must be requested by the applicant or any interested party, as provided in Article 33 of BrIPL.
- (c) Article 8: Applicants need to request a specific participation on the priority examination procedure.

Both Articles 7 and 8 deal with the applicant reaction. Article 7 highlighted the rule that the examination should be requested in a timely manner (36 months) in order to avoid dismissal of the application. Likewise, Article 8 referred to

how applicants conduct themselves to express their interest to join the Project. Both indicated a proactive behaviour of the applicant to get their application fast-tracked. Otherwise, the delay or passive conduct of the applicant would not contribute to the diffusion of their technology, unless, the waiting -occurred or provoked - is a strategic option of the applicant.

The INPI remains inert in both cases (request for examination and application for admission), until the expiration of the deadline for examination requirement (36 months), or the end of the conditions for the priority request (1 year or 500 orders) as green. The similarity between both conditions is evident, but they are two different procedures regarding the entrance in the Project and the examination procedure. Furthermore, both applicants should express interest in the priority examination, and in their entrance into the project. If there were no interest from the patent applicant, the examination would take place in the traditional way without the priority request.

- (d) Article 9: The 'technical examination itself' may not have been published in the RPI. The question is; which phase of the examination procedure is considered as a technical examination *per se*, since the Patent Examination Guidelines of 2002³³ divided it into four basic steps? To clarify this issue, the wording of the article was changed in the subsequent phases of the pilot project, and written in a technical way, in order to identify the code of the specific order of the administrative procedure.³⁴
- (e) Only applications filed after 2 January 2011 could apply for participation (Article 10). This defined the time lapse for requests under examination. Thus, this provision ends the first section of Chapter I of Resolution n. 283-2012. The points mentioned above add formal conditions to the traditional patentability requirements contained in Article 27.1 of TRIPS

However, both have been changed in 2017 to Resolutions n. 124-2013 and n. 169-2016.

³² In 2012, the manner in which the claims should be described were defined by the Patent Examination Guidelines (December 2002) in items 1.10.5.1 and 1.10.5.2 and, in items 15.1.3.2.1 Independent Claims and 15.1.3.2.2 Dependent Claims, of Normative Act n. 127 of 1997. This standard has been revoked and replaced by Resolution no. 64 of 18 March 2013 and Normative Instruction n. 17 of 2013.

³³ The legal parameter at that time.

 $^{^{\}rm 34}$ This research did not verify whether this determination generated any administrative appeal in the INPI.

and in Article 8 of BrIPL. *Patentes Verdes* required the five criteria mentioned in Resolution n.283-2012 in order to consider applications eligible for the priority examination.

Article 11 to 16 of Resolution n. 283- 2012 defined the 'Participation' of patent applicants. In that sense, Articles 11 and 12 described how the project pilot dealt with the notification to the applicant through by RPI. If the notification was positive or negative for participation, the patent applicant would be notified by the RPI.³⁵

The time of the request for admission to *Patentes Verdes* was another essential formality. It is considered as one of the filing requests described by Article 5 of Resolution n. 283-2012. The relevance of this formality is also linked to the assessment of the anteriority.

Following this, Articles 14³⁶ and 15³⁷ dealt with two possibilities to close the first phase: (a) the number of applications accepted; or (b) the time limit to submit the application to the priority examination. INPI decided to establish the number of 500 applications or one year after the rules' publication based on the methodology described in the process of prospecting the number of green technologies observed by previous research carried out by the Project Coordinators.³⁸ In the end, Article 15 answers the question of, 'how long it will be examined under the Green Patent Procedure?' Only one year (as a pilot project).

The surplus applications³⁹ predicted by Article 16 were not applied since the number of applications has not reached 500

requests. For example, when the USPTO implemented its priority examination for green technologies and allowed the entry of 3,500 patents, all vacancies were filled.⁴⁰

Other formalities are affirmed: The obligation of powers of attorney for acts not committed by applicant (Article 17), with reference to BrIPL (Article 216, paragraph 1) was included as 'General Provisions' of procedural nature. In the end, Article 18 determines the validity of the Resolution from the publication in the RPI.

From 18 March 2013, the Resolution PR n. 01-2013, published in the RPI n. 2202, revoked all normative acts published until 31 December 2012, becoming Resolution n. 283-2012 to Resolution n. 75- 2013, published in the same RPI on 19 March 2013. ⁴¹ That information needs to be highlighted due to its availability only in the Portuguese language. The result of the first phase of the priority examination granted three patents, with an average of 304 days under examination.

(ii) The Second Phase of Brazilian Green Patent Pilot

The study of the second phase of the program is similar to the first one. This is a legal analysis of the rules that regularized the first results. The debate in this subsection will emphasize on differences and changes that allowed the project to expand. Moreover, the topics not mentioned in the following paragraphs means that it was maintained by INPI as a result of the success from the first phase. The second phase was composed of two Resolutions: (a) Resolution n. 83 of 04 April

³⁵ Through codes 27.2 Application Granted: The application is eligible to participate in the Green Patent Program and 27.3 Request

³⁶ Resolution n. 283 of 2012 (n 12) art 14. The number of requests considered able to participate in the Pilot Program, under the scope of this Resolution, is limited to the maximum number of 500 (five hundred) requests granted, subject to the provisions of Article 15. (Free translation)

³⁷ Resolution n. 283 of 2012 (n 12) art 15. The application for entry into the Pilot Patent Program Greens to the INPI must be presented within a period of up to 1 (one) year from 17 April 2012, observing the provisions of Article 14. (*Free translation*)

³⁸ Carvalho dos Reis, et al (n 26).

³⁹ See *Revista da Propriedade Industrial n. 2408* (INPI, Brazil, 1 March 2017) Represented by Code 27.4, Surplus request. The application exceeded the limit of the applications granted in the Green Patent Program (INPI, 2017, RPI 2403, page 14), which was not applied. http://revistas.inpi.gov.br/pdf/Comunicados2408.pdf accessed 18 June 2019.

^{40 &#}x27;Green Technology Pilot Program – CLOSED' (USPTO, 15 December 2009)

https://www.uspto.gov/patent/initiatives/green-technology-pilot-program-closed accessed 9 October 2018.

⁴¹ INPI Resolution n. 75 of 19 March 2013 [hereinafter Resolution n. 75 of 2013] https://www.gov.br/inpi/pt-br/backup/legislacao-arquivo/docs/resolucao_7F5-2013_-_patentes_verdes_1.pdf accessed 23 July 2020.

2013, ⁴² implementing the new phase of the project; and (b) Resolution n. 122 of 29 November 2013, expanding it to allow utility models and certificate of addition to be included in the priority examination policy. Thus, the discussion will set out chronologically, the legal norms.

INPI elaborated new rules based on the previous ones after their term expired. As a consequence, Resolution n. 83-2013, which became effective since 17 April 2013, extended and expanded the pilot project. It is considered the time frame for the beginning of the second phase of the project. Moreover, it had the same legal structure of the previous one, which represents one positive point: patent applicants were suited to the information requested on the form, and they were able to supply the necessary information for examiners.

In this way, the Preamble and Articles 1 to 8 maintained the provisions described in the first phase. Only eight months after the second phase had begun, inventions, as utility models and as certificate of addition, were included in the project by Resolution n. 122-2013. During the first phase, the reading of Article 4 was limited only for inventions.

Furthermore, some significant differences are seen in Article 9 of Resolution n. 83-2013. 43 Item I replaced 'exam itself' by 'regular technical examination.' The use of that specific expression defined the timeframe to join request in the project at the administrative level. There are several stages to fulfil administrative requirements, especially during the examination procedure. This is why the Item II does not allow

patent applications in a pending solution (already in the exam) and in that case, the applicant wants to take this opportunity to enter into the procedure, to join the exam without additional requirements.

This point could be regarded as a negative externality for the patent system. A patent applicant could take its advantage to join with some kind of opposition, or simply fail to comply with documentary formalities intentionally, only to join the project, even with the examination already started. At first glance, this rule prevents the inclusion of free riders in the system.⁴⁴

In the same way, Item III avoids bad faith, with the recurrence of requests already appreciated in other priority programs. At the end of the Resolution, Section IV deals with a formality: the payment of annual fees from the beginning of the third year of the filing date. ⁴⁵ This provision leads to the conclusion that there are applications with payment in arrears who applied for participation in the first phase. Time limits, the payment of annual fees and the request for examination remained as in the first phase.

However, Article 10 of Resolution n. 83-2013 is different from the previous phase, due to two different characteristic changes: (a) temporal, and (b) in relation to access to genetic patrimony.

The first change had a temporary nature: the pilot project no longer limits interested applications to only those filed after 2 January 2011, extending it to all kind of applications that fulfil

accordance with the annuities payment obligations referred to in Article 84 of the BrIPL.' (Free Translation)

⁴² INPI Resolution n. 83 of 4 April 2013 [hereinafter Resolution n. 83 of 2013] https://www.gov.br/inpi/pt-br/backup/legislacao-arquivo/docs/resolucao 83-2013 _-

_prorrogacao_patentes_verdes.pdf> accessed 23 July 2020.

⁴³ ibid art 9. 'Patents applications invention are able to participate in this pilot program, in addition to comply with the provisions in all previous articles in this section: (I) may not have suffered regular technical examination duly published in the RPI; (II) may not refer to the patent application which examination is suspended for compliance with technical requirements previously formulated by DIRPA; (III) may not refer to the patent application, which has been the subject of an earlier application of prioritization that the examination is granted and already published in the RPI; and (IV) may only refer to the patent application, if applicable, which is in

⁴⁴ Guido Calabresi, A. Douglas Melamed, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral' (1972) Harvard L. Rev. 1089-1128.

⁴⁵ Resolution n. 83 of 2013 (n 42) art 84. 'The applicant and the patent holder are subject to payment of annual fee since the beginning of the third year after the filing date. (1) Anticipated payment of the annual fee shall be regulated by the INPI. (2) Payment shall be made within the first 3 (three) months of each annual period, but it may also be made within the following 6 (six) months, independently from any notification, upon payment of an additional fee.'

the previous criteria. This provision reduced the chances of creating new lawsuits against the INPI once patent applicants, with a patent application pending longer than those eligible in the first phase, were also able to choose the priority examination. The second characteristic — the access to genetic patrimony and traditional knowledge — are obtained through the request at Genetic Heritage Management Council⁴⁶ under the Ministry of Environment in Brazil, regulated by Resolution n. 69 of 18 March 2013.⁴⁷

In a comparison of previous Resolution n. 75-2013, Article 11 of Resolution n. 83-2013 regulated the number of claims that an application should have. It relates to the quantity of independent and dependent claims described in Article 4. That proviso has been made in correlation to Article 32 of the BrIPL. 48 Such a determination enabled applicants to tailor their claims to the number of claims required, without expanding the content already filed. This article is a positive point of the project because it increased the credibility of the project among applicants, avoiding strictly technical issues submitted to judicial decisions.

In the same way, Articles 12-15 of Resolution n. 83-2013⁴⁹ are the same as in the first phase (Resolution 75-2013). The main difference is the provision of Article 16, which started the new phase of the project on 17 April 2013 and remained in force until 15 April 2014. Similar to what happened before, this phase did not reach the maximum number of applications permitted to enter into the project.

Thus, the second phase of the Brazilian Green Patent closed due to the deadline. The Resolutions ended with a reference to the use of an instrument of power of attorney and a repeal of the Resolution n. 75-2013, the updated numbering of the Resolution which created the 'Green Patent' in Brazil.

In order to take this into account, INPI extended the project through the Resolution n. 122-2013. This occurred with the inclusion of utility models and certificate of addition of invention, incorporated in Article 4. The replacement of the term 'invention' for 'patent applications' allows for that inclusion.

This resolution permitted all types of patents described in Article 2, Item I;⁵⁰ Article 6;⁵¹ and Article 55 of BrIPL.⁵² On the other hand, INPI maintained that applicants should submit their requests until 16 April 2014 (Article 16), and Resolution n. 83-2013 was revoked. The second phase resulted in 16 'Green Patents' being granted, with an average of 400 days under examination, between a minimum of 131 days and a maximum of 627 days.

(iii) The Third Phase of Green Patents Project and their Extension

The third phase of the Green Patents pilot project remained in force from 15 April 2014 to 15 April 2015, through Resolution n. 131 of 15 April 2014.⁵³ The project maintained the same format and legal structure as the previous ones. Some changes were made and others aspects were retained. The highlights are the analysis of regulatory changes and their results.

^{46 &#}x27;Conselho de Gestão do Patrimônio Genético' // 'Genetic Heritage Management Council' (Ministry of Environment, Brazil) http://www.mma.gov.br/patrimonio-genetico/conselho-degestao-do-patrimonio-genetico accessed 10 October 2018.

⁴⁷ Subject: Regulates the procedures for the patent applications for an invention whose object has been obtained as a result of an access to the national genetic heritage components of the sample.

⁴⁸ BrIPL (n 15) art 32. 'In order to better clarify or define a patent application, the applicant may make changes until the time of the request for examination, provided these are limited to the subject matter initially disclosed in the application.'

⁴⁹ Resolution n. 83 of 2013 (n 42).

⁵⁰ BrIPL (n 15) art 2 'The protection of industrial property rights, considering the social interest and the technological and economic development of this country, is afforded by means of I. the granting of invention and utility model patents.'

 $^{^{51}}$ BrIPL (n 15) art 6. 'It shall be assured to the author of an invention or a utility model the right to obtain a patent that guarantees his property, under the conditions established in this Law. (...)'

⁵² BrIPL (n 15) art 55. 'The provisions of this Section apply, where applicable, to certificates of addition.'

⁵³ See *Revista da Propriedade Industrial n. 2260* (INPI, Brazil, 29 April 2014) 9-17 http://revistas.inpi.gov.br/pdf/patentes2260.pdf accessed 18 June 2019.

As in previous phases, the project has been expanded and extended. The format of Resolution n. 131-2014 is similar to the previous ones.

However, a formality needs to be mentioned. There is a caveat to the Preamble to Resolution 131-2014. On the date of publication of the third phase of the project, its preamble still referred to Normative Instruction n. 17-2013, which had been revoked on 4 December 2013, by Normative Instruction n. 30-2013, of the same date.

On the normative text, the changes began in Article 4 of Resolution n. 131-2013, where INPI replaced the expression 'patents' to inform that 'the Pilot Project shall be conducted on a national application having the technology listed in Annex I.'54 This amendment maintained patents, utility models and certificates of addition of residents and non-residents through the Paris Convention and added, through paragraph 1, applications which came through the PCT, since the technology was classifiable as 'green' or 'EST.'

Articles 5 to 12 and 14 to 19 retained wording from the second phase, described by Resolution n. 122-2013. However, Article 13 determined the date of the beginning of the project and its duration, until 16 April 2015; and Article 20 determined the revocation of Resolution n. 122-13. In December 2014, INPI listed 203 applications, with 500 spots for filed green application requests. 71 green patents were granted, with a minimum of 193 days and a maximum of 1010 days under examination.

The extension of the pilot project 'Green Patents' in 2015 started with a peculiarity. There was no publication of a Resolution as the previous ones, but only a Resolution that extended the previous phase under the conditions already determined, meaning one-year or 500 application requests. In this context, the extension of the project occurred by Resolution n. 145 of 17 March 2015, where under, Article 1 determined the amendment of the term provided by Article

13 of Resolution n. 131-2014 and extended it for a further 12 months.

Faced with this fact, the statistics of the Third Phase began after the publication, starting from 16 April 2014 and ending on 16 April 2016. Thus, all other determinations contained in Resolution n. 131-2014 were maintained. In the same way, the temporary suspension of the project to evaluate the results occurred.

Over two years of experience, only 293 of the 500 vacancies were determined filled by interested parties. Up to 12 April 2016, 238 applications were filed, and 99 patents were granted, with examination durations ranging between 169 and 1097 days.

B. THE CREATION OF THE SERVICE

After seven months of analysing results of the pilot project, Resolution n. 175 of 5 November 2016, converted the pilot project into a service, through consolidation of its previous phases. The results of this time contributed to its consolidation.

The pilot project was suspended from 17 April 2016 to 5 November 2016 in order to evaluate the previous results. The study about this time created the document entitled 'Technical Report on the Completion of the Green Patent Pilot Program' (P3V) which reports on the evolution of the project during the four years during which it was in force. ⁵⁵

This document, prepared by the coordinators of the project, contextualized and described the results between 17 April 2012 and 12 April 2016, among which stand out the number of requests; the overall order status in April 2016; and critical points in the administrative procedure and the project per se.

Regarding statistical indices, these data were no longer available on the INPI website from November 2016. This

⁵⁴ INPI Resolution n. 131 of 15 April 2014 [hereinafter Resolution n. 131 of 2014], art 4. 'The Pilot Program will be conducted with a national application that has the technology listed in Annex I of this Resolution. In addition, applications submitted to this Pilot Program

must contain a maximum of 15 (fifteen) claims, of which up to 03 (three) independent claims.'

⁵⁵ See P3V (n 8).

limited the access to publicly disclosed official data. This is a negative point⁵⁶ after the pilot project became a service.

Likewise, the Technical Report listed the critical points observed in the administrative procedure that were compiled into two tables. First, it described the critical points broadly in the Brazilian patent system, especially in relation to other sectors of the office also linked to the Patent Board.

Table 3. Critical points observed and solutions adopted, referring to the administrative process

Critical points observed	Solution proposed by P3V		
Code 2.10 ⁵⁷ - Delay in	Reduction of publication deadline		
registration at INPI	for the next open RPI		
system and long waiting			
time for automatic			
publication of the code			
(time of 3 INPI			
Publication – RPI)			
Delay into a formal	Routine proposed using		
examination	SISCAP ⁵⁸ with a green marker.		
Classification - Delay of	Use of a marker of the SISCAP and		
Technical Divisions to	request to the Patent Board for		
classify the priority	prioritization of the classifications		
applications			
Code 3.2 ⁵⁹ - Delay in	Routine proposed using SISCAP		
publication	with a green marker		
The necessity to modify	Make new training necessary.		
technical committees.	Orientation to the bosses at the		
Until October-2012, they	time of the convocation.		
were composed by			
volunteer examiners and			

Critical points observed	Solution proposed by P3V
then by the heads of the	
technical divisions	

Source: P3V (INPI, 2016) p. 34 – Translation from Portuguese.

The second table summarises critical points and solutions within the *Patentes Verdes* scenario and it describes the general lack of common knowledge about the patent system that involved time-consuming correction of common user information.⁶⁰

Table 4. Observed critical points and proposed solutions for the Patentes Verdes

Critical points observed	Solution Proposed by P3V
Lack of information on	Creation of the email:
'Brazilian Green Patents'	patenteverdes@inpi.gov.br;
by applicants	• Training of the regional;
	Submission of doubts from
	applicants to the examiners by
	SAESP ⁶¹ ;
	• Information inclusion at INPI website;
	Participation in the WIPO stand
	in RIO + 20;
	• Lectures.
Many general doubts	Standard email response / basic
about patents	patent guide

assisting the public servants in generating the opinions of the Patent Office, as well as the registration of the technical production of each servant.

⁵⁶ In 2019, the data restarted to be published together with other priority rights, only in Portuguese.

⁵⁷ P3V (n 8) Code 2.10. 'Request of a patent application or Certificate of Addition of Invention application. This is the notification of the patent application requirement or certificate of addition of invention. The formal examination will be carried out in order to verify Art. 19 of the BIPL and NI 031-2013.'

⁵⁸ In general, the Production Registration System (named Sistema de Cadastramento de Produção - SISCAP), is the system responsible for

⁵⁹ P3V (n 8) Code 3.2 Anticipated Publication. 'Publication of the application filed, at the request of the applicant. The provisions of sub-item 3.1shall apply.'

⁶⁰ This is one more general lack of industrial property system, not only the patent nor ESTs.

⁶¹ SAESP is the special information service of Patent Board.

Critical points observed	Solution Proposed by P3V			
Search for applicants	Guidance to await the			
requesting after the	possibility of a new pilot			
deadline				
PCT: doubts about the	A search of PCT Division to			
possibility of requesting	guide the filing ISA application			
priority examination of				
green patents and ISA				
The green patent	Agreement with the PCT			
application which is also	Division: the examiner who			
a priority in the ISA	analysed ISA will analyse the			
	green patent or the contrary.			

Source: P3V (INPI, 2016) p. 34 – Translation from Portuguese.

Moreover, the Technical Report describes that even in a promising sector of the industrial property system; dealing with internal and external issues required the attention of researchers. Thus, the service to be implemented would overcome such barriers and produce an ideal scenario in relation to the externalities of the system. In addition, the Technical Report analysed the data in detail to conclude the project. 62 Some of the data were relevant to this study as an indication of positive results.

The results provided in the Technical Report contributed to the expansion of the project and the migration from a project to a service. In this sense, Resolution n. 175-2016 came to regulate the Green Patents Service. However, the normative structure was arranged in a different format from previous versions.

Some points in the writing of this normative act deserve attention. Resolution n. 175-2016, composed of 10 articles, was presented in a reduced format in comparison to the previous others. It brought in the body of its text the brief concept of green patents (Article 2) and its exceptions linked to Articles 10 and 18 of the BrIPL without expanding or including doctrinal considerations on the subject. In addition,

it remains linked to the list originally proposed by the Pilot Project based on the WIPO inventory.

Even after the restructuring of INPI, the Patent Board (DIRPA) remained with the technical responsibility for selecting, analysing and deciding the applications to be considered eligible for the priority examination (Article 3), without any other coordination or external division of the patent area being introduced in the process. 63

The Resolution confirmed the possibility for both foreign and national applications to apply (Article 4), as all of them were considered as national applications. The limit of 15 claims, with 3 independents (Article 5), proved successful in the previous stages. In the same way, the article wording remained linked with the determinations contained in Article 32 of the BrIPL. It means that it is not possible to add new matter to the subject disclosure before the descriptive report or in the abstract when the examiner requests the clarification or adjustments (Article 8).

More relevant in that context, Article 6 described the conditions for participation in the examination, linked to the BrIPL, and defined the publication criteria and the status of the application at the time of its request to join the Patentes Verdes.

From the time between the ends of the pilot phase until the institution of the service, another 20 new patent applications were granted, with a period of at least 228 and a maximum of 1567 days, between the entrance into the exam and its publication at RPI.

As a result of this brief study, the following table points, objectively, in a comparative way, the Brazilian scenario of Green Patent Technologies from 2012 to 2019.

⁶² P3V (n 8) pp 35-39.

⁶³ By means of Brazil Decree n. 8.854 of 22 September 2016. http://www.planalto.gov.br/ccivil_03/_Ato2015- 2018/2016/Decreto/D8854.htm> accessed 10 October 2018.

Table 5. Phases of the Brazilian Green Patent project

	First Pha	se	Second	Phase	Third Phase	Third Phase extension	Between Phase 3 & Service	Service
Resolution	283-2012	75-2013	83-2013	122-2014	131-2014	145-2015	-	175-2016
Duration of the Phase	17 April 2012 17 April 20 to to to 16 April 2013 16 April 20			17 April 2014 to 16 April 2015	16 April 2015 to 16 April 2016	17 April 2015 to 5 Dec 2016	05 Dec 2016 to 1 July 2019	
Applicants	Residents or non-resident: BR And Paris Convention CUP			Residents or non-resident: BR, Paris Convention and PCT				
Object	Invention Invention			n, Utility Models and Certificate of addition				
Claims	Maximum 15 with no more than 3 independents							
Patent Granted ⁶⁴	3 16			22	77	20	77	

Source: Author's own elaboration based on INPI Resolutions, 2019

In 2019, another change was established the priority projects and services at INPI. The Patent Board provided to the President a new Resolution in order to unify the procedures and the rules about the priority services in Brazil. This is the Resolution PR n. 239, of 4 June 2019, which entry into force in 1 July 2019. Also it is regulated by Normative Instruction/INPI/ DIRPA n. 01 of 14 June 2019. The Resolution and the Normative Instruction were published at RPI n.2528 of 18 June 2019⁶⁵. Currently, INPI Ordinance n. 247-2020 update the set of priority system. Indeed, at a first glance, there are some relevant changes, but further studies is necessary and future work need to be done.

At the end, patents granted under the Brazilian procedure promoted the national industry allowing patent applicants to negotiate and transfer their technologies from SME to big companies. This is part of the further necessary studies to be developed.

4. CONCLUSIONS

This paper presented a brief overview of the fast track examination procedure of Green Patents promoted by INPI. The Brazilian scenario might be a case study for other countries with similar economic standards to apply a fast track procedure on green technology patents. In this way, Section 2 described the main expressions and the concept applied by WIPO GREEN and INPI as green technologies. Also it is possible to note that the concept applied in Brazil do not include all the technology fields displayed by WIPO GREEN. However, Brazilian Green Patent was launched in attention to the regulations that evolved in WIPO, WTO and UNFCCC.

Section 3 disposed historically the evolution of the Brazilian regulation based into the stages of the program from 2012 to 2016. The Table 5 pointed the evolution of the rule and how the definitions inside the Regulations are extended and expanded during these years. From the first to the third phase of the project and in 2016, when it became a permanent service, green patent granted at least 215 patents in seven years, with maximum of two years under the examination procedure in comparison of 10 years from other fields as pharmaceutical area.

By means of these statistics it was possible to follow the evolution of each request, as well as to draw a map on the origin and which field classified as green is the predominant in the country. However, if there is interest in updating the data, the researcher must verify each request through RPI. Currently, the first conclusions in Brazil related to the Green Patents Pilot Project, transformed into Service, allows delineating that it is feasible to be applied by countries with pending applications. Currently, it is a service unified with other priority procedures applied to invention and utility models, Residents or non-resident: BR, Paris Convention and PCT applicants and nowadays, with Resolution n. 239-2019, there is no limit of claims.

In sum, Brazilian Green patent service is a case of successes to deal as a smart way to provide new environmentally sounds technology to the market. Furthermore, it is an effective way to improve the use of technological information and provide technology transfer under the WIPO GREEN

⁶⁴ This amount was extracted from the list published in the INPI regarding green patent applications granted in the time interval of the term of each phase or extension of the project. More accurate and update search at INPI database, probably, increased these numbers.

⁶⁵ Revista da Propriedade Industrial n. 2528 (INPI Brazil, 18 June 2019) http://revistas.inpi.gov.br/pdf/Comunicados2528.pdf accessed 18 June 2019.

platform. Furthermore, green technology service provides alternatives to mitigate the climate change globally.

The full study presents relevant results about the service. It is also possible to develop other issues relate to this topic. This paper is a first glance around the background of a green patents fast-track procedure implemented at INPI. Moreover, this research could be extended to other offices, which deals with the backlog problem, in order to promote the examination procedure of technologies that fulfil the conditions and requirements of green technologies.

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