**Chapter N 035**

**PATENT BOX AS A TAX RELIEF TOOL FOR COMPANIES OPERATING IN CIRCULAR ECONOMY CONTEXT**

**Abstract:** Patent box is a tool for tax relief for companies that own trademarks and industrial patents, but also Apps and software, and that allow third parties the economic exploitation. It is, therefore, an optional scheme that facilitates, by partially discounting them, income from the exploitation of assets, known as "intangible assets".

The aim of this model is to encourage investment in Research and Development, which, in line with the Recovery and Resilience Plan, will focus on the creation of tools and intangible assets, aimed at reducing the environmental impact both during and at the end of the operating processes of Italian companies. Fiscal Decree 146/2021, linked to the budget law 2022, contains important innovations in the field of patent boxes; the rule has established the elimination of the eligibility of know-how to the scheme. The case study presented applies this innovative tool in a company, located in Gela, Sicily, which produces everyday items designed with a particular attention to quality, functionality, durability and aesthetics; these materials use plastics derived from recycling with a view to the circular economy. In addition to the significant economic advantages, there are several indirect advantages linked to the introduction of R&D projects, such as efficiency of production processes, reduction of environmental impacts and waste.

**Keywords:** Patent box1, Tax Facilitations2, Circular Economy3, Ecodesign4

* 1. **Introduction**

More than 2.5 billion tons of waste are produced annually in the European Union, which is why, in March 2020, the European Commission presented, through the European Green Deal, the Action Plan for a New Circular Economy including different proposals on the design of more sustainable products, waste reduction and empowering citizens, such as through the "right to redress". The transition to a resource-efficient, low-carbon and climate-resilient economy is the renewed global challenge to achieve sustainable and inclusive growth (Astarita, 2017). The circular economy, in fact, is nothing more than a model of production and consumption involving sharing, lending, re-use, repair, reconditioning and recycling of existing materials and products for as long as possible (Kirchherr et al., 2017). This extends the life cycle of products, helping to minimize waste (Horbach et al.,2015). Once the product has finished its function, the materials it is made of are in fact reintroduced, where possible, in the economic cycle. In this way, they can be continuously reused within the production cycle, generating additional value. The principles of the circular economy contrast with the traditional linear economic model, based instead on the typical scheme "extract, produce, use and throw".

Diagram

Description automatically generated**Figure 1**: Circular Economy principles

**Source**: pbl 2016

The issue of the circular economy has been addressed numerous times in national and international forums and to date it is one of the main priorities of the European Union (Finkbeiner et a., 2010). The objective is environmental protection, with an average annual reduction in emissions of 617 million tons of CO2 equivalent, with a positive impact on employment, through the creation of 500 thousand jobs, and on the economy of the euro area encouraging, according to estimates by the European Parliament, GDP growth up to 7% more by 2035. There are three models for making circular systems. The first refers to the development of industrial symbiosis districts and follows a line from below, as it does not derive from a previous project but develops through agreements between companies. The second concerns industrial parks, industrial networks that require state intervention because of their complexity. The third model is related to the creation of networks that connect operators and experts for the realization of symbiotic systems. The paradigm shift and the beginning of the transition will surely lead to high costs (Chertow, 2012).

Nevertheless, at the same time, at European level it is an opportunity to stimulate growth, investment and employment in the light of the ambitious objectives set out in the Europe 2020 Strategy. In this framework, Patent Box which allows for an effective reduction in taxable income, could be a useful tool for economic exploitation of intangible assets, reducing significantly too environmental impact.

.

* 1. **Review of the literature**

Nowadays, companies need more liquidity and, in front of the increasing importance of intangible assets in the creation of added value, it has been necessary for the Italian state to set up tax incentives. In particular, the Patent Box plays a major role, as well as a system of preferential taxation, which protects intellectual property. The application of this scheme has the objective of encouraging the placement of such goods on Italian territory and their maintenance in the Country in question, avoiding the relocation abroad, which occurred very frequently in the past. In addition, this scheme aims to encourage investment in the research and development activities of Italian companies. The scheme is in continuity with the models gradually introduced in other Member States of the European Community (Belgium, France, Great Britain, Luxembourg, the Netherlands, and Spain) and is in accordance with the principles developed within the OECD with regard to fiscal discipline for the taxation of income from the use of intangible assets. The decree "Patent Box" of 28 November 2017 issued in agreement with the Minister of Economy and Finance, containing the provisions of revision of the previous decree of 30 July 2015, was adopted in implementation of art. 1, paragraphs 37 - 43, of the Law of 23 December 2014, n. 190 (Stability Law 2015), as amended by Decree-Law 24 January 2015, n. 3 (Investment Compact, 2015), converted, with amendments, by Law 24 March 2015, n. 33, and by Decree-Law 24 April 2017, n. 50, converted, with amendments, by Law no. 96 of 21 June 2017 (Decrete Low, 2017). Further provisions on the subject are provided for in Article 4 of Decree-Law 30 April 2019 n.34 (Growth), converted into law, with amendments, by art. 1, paragraph 1, L. 28 June 2019, n. 58. The patent box regime covers:

* Income from the use of these intangible assets to third parties through indirect use;
* The hypothesis of direct use of the same.

The discounted income is equal to the income attributable to the exploitation of the intangible asset multiplied by a coefficient equal to the ratio between (Art. 9 of DM 30.7.2015):

• Research and development costs incurred for the maintenance, enhancement and development of the intangible asset (numerator); and

• The total costs incurred to produce and develop this asset (denominator).

This method of calculation responds to the need to comply with the so-called nexus approach required by the OECD Guidelines, which allows to facilitate only income derived from expenditure incurred in the territory of the State (Rotondaro and Sabbatini ,2021).

The explanatory report to DM 30.7.2015 clarifies that the costs to be included in the numerator and denominator are those incurred during the reference period, regardless of the tax regime and the accounting treatment. The DM specifies that the calculation of the percentage must be made by reference to the data of the previous year and three years. In particular, for the calculation of the percentage for 2020, the costs to be considered are those incurred in the years 2018 to 2020.

The costs to be included in the numerator include:

• Those supported by beneficiaries;

•Those charged to beneficiaries by universities, research organizations, equivalent bodies and companies. Also, innovative start-ups, which are not part of the group of enterprises to which the taxpayer belongs;

•The costs incurred by companies’ part of the same group in relation to research and development activities outsourced to third parties. Alternatively, the costs incurred by the taxpayer himself under a cost sharing agreement with other companies in the group (Gaiani , 2018).

The costs to the numerator can finally be increased for an amount equal to the difference between numerator and denominator, for a maximum value equal to 30% of the same numerator.

For example, if the costs to the numerator are equal to 100 and the denominator is equal to 150, to the numerator can be added an additional 30 and that is the lesser of:

• 30% of 100 = 30

• 150-100 = 50

At the denominator, instead, will be inserted:

• All costs entered in the numerator;

• Costs related to outsourcing data research and development services to companies that are part of the same group;

• The costs related to the acquisition of the intangible asset subject to the facility (or part thereof), including by means of a concession license in use.

After determining the subsidized income, it is necessary to determine the portion of it on which the exemption will be applied.

Qualified costs are research and development expenditure and expenditure on the improvement and enhancement of the value of intellectual property.

The total costs are represented by the sum of the qualified costs and the cost to acquire the intellectual property.

(Share of subsidized income = qualified costs/total costs \* subsidised income)

The calculation of the subsidized share of income, therefore, depends largely on the weight (that is, the percentage) of research and development expenditure incurred to create the intellectual property in relation to which the exemption is sought.

* 1. **Material and methods**

As for the waste sector, in 2015 production amounted to 159 (29 urban and 130 special) million tons. Compared to the aggregate figure, which remains constant over the past 5 years, the fraction suitable for recycling processes grows, thus increasing the potential to make the Italian economy increasingly circular. The start of a transition towards the circular economy represents a strategic input of great importance with the transition from a "necessity" (efficiency in the use of resources, rational waste management) to an "opportunity" or designing products in such a way as to use what is now destined to be waste as a resource for a new production cycle.

Ecoplast company is operating in the field of the manufacture of plastic products and being specialized in the production of plastic household items offers a catalogue of products that, over time, has been refined not only from the point of view of quality, but also with a focus on quality, functionality, durability and aesthetics.

Ecoplast products stand out on the market for their excellent value for money, design and eco-sustainability. Each line and collection has been designed to meet the needs of customers with excellent quality products. Plastic is a "plural material" with multiple applications, here are the ones chosen by Ecoplast so far. As part of its activities, the Company is committed to adopt constantly updated methodologies and technologies that have allowed the Company to develop over the years a know-how, hitherto characterized by the lack of awareness and lack of accessibility of the whole and the precise combination of the elements that constitute it. The know-how owned by the Company is a managerial, organizational and technical know-how, contributing on a part of the activity carried out by the Company, both with regard to the products manufactured by the Company and with regard to the activity of purchase and resale of products manufactured by other suppliers (c.d. realized on a third party account), as specified below. Eco sustainability is pursued by Ecoplast through the use of recycled plastic; the recovery of post-production waste; the generation of renewable energy; the use of machinery and electric vehicles; the minimization of water use. These are strategic actions aimed at significantly reducing carbon emissions and the release of non-biodegradable substances on the planet.

* 1. **Results and discussions**

The results of the analysis carried out, show how the Company, in addition to performing high added value functions related to the development, maintenance and enhancement of know-how, is also engaged in so-called "routine" functions which do not require the performance and/or use, respectively, of high value-added assets and/or unique assets of significant value and economic impact ([Munda and Matarazzo,](https://www.iris.unict.it/preview-item/243406?queryId=mysubmissions&) 2020). Because of these considerations, the determination of the economic contribution of the Intangible Assets was carried out through the application of the Transactional Profit Split method. As a result of the above analysis, a total amount of net subsidized income of Euro 493,764 was determined for the Company. For this purpose, as required by the Patent Box legislation, the income from the use of fiscal incomes as determined above, will be facilitated on the basis of the percentages in force for the tax period in question, which for 2020 is equal to 50%. It is also added that, as provided for in the Provision, with respect to the benefit connected with the possibility of proceeding, independently, to the direct determination of the subsidized income, the decrease determined in this way should be divided into three equal annual instalments, or in the tax return and IRAP relating to the tax period in which the option is exercised and the next two.

Therefore, the following is an outline of the changes in income decreases of the considered Company with the purpose of the self-assessment of the benefit provided for by this Provision.

**Table 1:** Calculation of the tax benefit

| **Ecoplast Company** | **Year 2020** |
| --- | --- |
| **Income (loss) NET attributable to intangibles (Nexus Ratio 100%)** | € 493,764 |
| **Discounted income FY 2020 (50%)** | €**€**246,882 |
| **Decrease due to self-liquidation (1/3)** | € 82,294 |

**Fonte**: Personal processing

In the light of the foregoing considerations, Ecoplast Company, in reference to the determination of the economic contribution for the purpose of the Auto liquidation provided for by the Order, has determined, for the tax year 2020, a value of the taxable income of Euro 246,882. Consequentially, the decrease in income for the year 2020 is equal to Euro 82,294.

* 1. **Conclusions and future perspectives**

The dichotomy between production process and environmental demands is gradually being eliminated. These two needs are more connected than previously thought. Proof of this assumption is the fact that, for example, energy consumers are supported in their final costs by the European Union. The use of renewable sources, indeed, favors a series of significant funding and facilities related to the use of this type of resources. It can be said that the facility in question is aimed at all those companies that incur costs related to the research and development of intangible assets that can be economically exploited.

In this perspective, it might be interesting to accompany the accession to this tax system with a more efficient rationalization of the group structure of the entity that intends to join.

The short example presented in this study show how Patent Box allows for an effective reduction in taxable income for the Company, and actually is a useful tool for economic exploitation of intangible assets, reducing significantly the environmental impact.

**References**

Astarita S., (2017) Green Economy e simbiosi industriale: prospettive italiane ed europee, ISAG 6:122-127.

Chertow M., (2012) Self-Organizing Systems, J Ind Ecol 3:112- 116.

Decrete del Ministro dello sviluppo economico di concerto con il Ministro dell’economia e delle finanze, n. 190, 23 dicembre 2014, Patent Box, Gazzetta Ufficiale in data 23 Dicembre 2014.

Decrete Low n. 3, 24 Gennaio 2015, Investment Compact, Gazzetta Ufficiale il 20 Gennaio 2015.

Decrete Low n. 50, 24 aprile 2017, Disposizioni urgenti in materia finanziaria, iniziative a favore degli enti territoriali, ulteriori interventi per le zone colpite da eventi sismici e misure per lo sviluppo, pubblicato nella Gazzetta Ufficiale il 24 Apr.ile 2017.

Finkbeiner M., Schau E., Lehmann A. and Traverso M., (2010), Towards Life Cycle Sustainability Assessment, Sustainability, 2:109-122.

Gaiani A., (2018), Sovrascritture urbane. Strategia e strumenti per il ri-condizionamento delle città, Quodlibet studio, Macerata.

Horbach J., Rennings K. and Sommerfeld K.,(2015), Circular Economy and Employment, ISAG,3:36-38.

Kirchherr J., Reike D., Hekkert M.P.(2017), Conceptualizing the circular economy: An analysis of 114 definitions, Resour Conserv Recycl 127:221-232.

[Munda, G., Matarazzo, A.](https://www.iris.unict.it/preview-item/243406?queryId=mysubmissions&), (2020), On the Impossibility of Using “the Correct” Cost-Benefit Aggregation Rule, J Economic Studies, [47 (5): 1119-1136](https://www.iris.unict.it/preview-item/243406?queryId=mysubmissions&).

Rotondaro W., Sabbatini C. (2021),Bilancio 2021, Tra bonus fiscali e legge europea, Sole 24 Ore 4:4-5.

Stability Low 23 Dicembre 2014, n. 190, Disposizioni per la formazione del bilancio annuale e pluriennale dello Stato, Gazzetta Ufficiale il 29 dicembre 2014.