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## **Tax planning and its importance to the company's economy: a case study of a small 75-kilowatt photovoltaic power plant.**

*Tax planning and its importance to the company's economy: a case study of a small 75-kilowatt photovoltaic power plant*

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### **SUMMARY**

Given that the issue of distributed generation of electricity through photovoltaic plants is a recent topic in the accounting field, accountants still have doubts regarding the hypotheses of tax incidence, rates, and calculation basis, as well as the economic classification that should be given to these activities, especially in order to provide the taxpayer with the greatest possible tax savings in a tax planning scenario. Therefore, a comparative study was conducted to define the best income tax regime to be applied to a 75-kilowatt photovoltaic power plant and, through tax avoidance, to establish the best tax regime: actual profit, presumed profit, simplified national tax regime, or individual income tax, and to mathematically prove that the latter system is the least rational, demonstrating which regime can provide the greatest savings for the income tax payer.

**Keywords:** Income tax; photovoltaic power plant; tax planning.

### **ABSTRACT**

Because the issue of distributed generation of electricity through photovoltaic plants is a recent topic in the accounting field, accountants still have doubts regarding the hypotheses of tax incidence, rates and calculation basis, as well as the economic classification that should be given to these activities, especially in order to provide the taxpayer with the greatest possible tax savings in a tax planning scenario. Therefore, a comparative study was carried out to define the best income tax regime to be applied to a 75-kilowatt photovoltaic power plant and, through tax avoidance, to establish the best tax regime: actual profit, presumed profit, simplified national tax regime, or individual income tax, and to mathematically prove that the latter system is the least rational, demonstrating which regime can provide the greatest savings for the income tax payer.

**Keywords:** Income tax; photovoltaic power plant; tax planning.

### **INTRODUCTION**

The search for cleaner energy alternatives aimed at replacing the old energy matrix.

Energy is a current issue. This mystery, a social objective and a desire of the State, has led to the publication of several Legislative texts aimed at promoting clean energy production by encouraging practices environmentally sound in order to promote renewable energy sources, so that to prevent such a shortage of resources in the future.

As Hoffman et al (2020, p. 679) remind us, the environmental impacts of traditional energies They have become relevant, having "gained strength in the last decade with regard to the discussion about "The use of environmentally conscious energy sources."

This concern led the Brazilian Congress to enact Constitutional Amendment 85, which The main objective was to encourage innovation as a primary activity, as follows, according to... The wording of Article 23 of the Federal Constitution, which states *verbatim*: "it is the common competence of the Union, of the States, the Federal District and the Municipalities: [...] V - to provide the means of access to culture,



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to education, science, technology, research and innovation” (BRAZIL, 1988).

Therefore, the guiding principle is technological innovation, embodied as the norm.

In a programmatic manner, as outlined in the article cited above, other constitutional texts have also been altered.

and parts were included, in order to give more effectiveness to the idea of the search for innovation, being the

In the case of the sole paragraph of article 219 of the federal constitution, which follows *verbatim*:

The domestic market is an integral part of the national heritage and will be encouraged in order to enable cultural and socioeconomic development, the well-being of the population, and the technological autonomy of the country, in accordance with federal law. Sole paragraph. The State will stimulate the formation and strengthening of innovation in companies, as well as in other public or private entities, the establishment and maintenance of technology parks and centers and other environments that promote innovation, the activities of independent inventors, and the creation, absorption, dissemination, and transfer of technology (BRAZIL, 1988).

Therefore, there is no doubt that innovation, especially technological innovation, is a sought-after practice.

by the State. And to achieve the aforementioned objective of promoting such practices, the adequacy of the incidence

Tax cuts are needed to foster greater innovation.

In this sense, the following is a quote from Hoffmann et al. regarding photovoltaic energy:

The aim is to identify whether extra-fiscal measures applied through laws and political projects on environmental taxation of photovoltaic solar energy can help find a balance between environmental protection and preservation, thus encouraging a cultural shift in the use of natural resources and in the management of the common good, enabling the inclusion of photovoltaic solar energy as a more effective source of electricity in the national energy matrix (HOFFMANN, 2020, p. 679).

Extrafiscality is a tax principle used by the legislator in the sense of not

Not to raise funds, but to encourage a social practice that he deems necessary or beneficial to society.

In this sense, Eduardo Sabbag (2009, p. 990) explains: “extrafiscality – powerful

a financial instrument used by the State to encourage or discourage conduct, considering

"The achievement of goals that are not merely revenue-raising."

Therefore, the collection of taxes on the sale of photovoltaic energy does not have the primary objective.

not to replenish public coffers, but rather to encourage the increasing use of this type of energy.

In order to assist in determining the best tax framework to adopt, the following will be done.

a case study of a 75 kilowatt (kW) photovoltaic power plant established in a company

classified under the MEI (Individual Microentrepreneur) regime and operating in the city of Medianeira, Paraná.

Therefore, the company's average monthly revenue is R\$ 6,000.00 (six thousand reais).

Considering that energy production never stops, it is constant, varying daily.

according to the incidence of solar rays, and each kW generated is sold at 0.54 cents.

It produces approximately 11,200 kWh monthly, and the total annual revenue is...



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house worth R\$ 72,000.00 (seventy-two thousand reais).

These figures are in line with the average monthly production of these plants, which have an average monthly generation of around 10,000 to 14,000 kWh/month (LINO, 2025).

Given that one of the main objectives of tax and fiscal accounting is to determine with Accuracy presenting the economic result of the fiscal year, demonstrating it in a clear and concise manner, in order to the correct formation of a provision for the payment of the tax due, as well as determining the best allocation of net profit to the shareholders, partners or owners of a firm, (CREPALDI, 2019, p. 22) we will carry out a detailed tax assessment of said generation firm. energy in order to determine which one is best suited, tending towards paying the lowest price. possible.

## THEORETICAL FRAMEWORK.

### 2.1 How the Sale of Photovoltaic Energy is Permitted in Brazil.

Investors interested in entering the electricity generation market should...

Pay attention to how the legislation allows this commercialization, as it limits the...

Basically, there are only three forms of commerce.

One of them is through auctions regulated by ANEEL, where large quantities of energy are traded in bidding processes. This method is most commonly used by large energy producers in small hydroelectric plants or large photovoltaic plants. It is regulated in accordance with Article 24 of Law 14.300/22, as follows:

The electricity distribution concessionaire or licensee must promote public calls for the accreditation of those interested in commercializing surplus energy generation from distributed microgenerator and minigenerator projects in their concession areas, for subsequent purchase of this surplus energy, as regulated by Aneel. (BRAZIL, 2022).

Since most distributed generation photovoltaic plants have installed capacity Smaller models, between 75 and 300 MW, have more limited use in photovoltaic energy generation. However, The system described above can be used by large companies that purchase energy from small producers.

Conversely, if small photovoltaic energy producers do not opt for this... In the sales method (in auctions), there is the Free Contracting Environment (ACL) and the Environment of Regulated contracting, according to ANEEL resolution 1059, art. 655-D, § 4º, II (ANEEL, 2023) where the generator with surplus energy supplies power to a buyer who has a need. From the same. We will delve into this modality in more detail below.

There is also a third option, which is the transfer of solar energy generated by your system. photovoltaic energy is fed into the distribution grid, receiving energy credits, but since there is no... In economic terms, this form should not be considered a sale, but rather a system of...



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Compensation, and therefore, will not be part of this study.

It should be made clear, therefore, in accordance with Article 655-G., § 3, I of ANEEL Resolution No. 1,059 from 2023 (ANEEL, 2023) that the energy companies of the states do not buy the energy generated, the The most they do is generate credits for consumption at times when the photovoltaic system...

It is not in operation (at night, for example), or it generates credits to be used in units.

consumers who share the same CPF/CNPJ (Brazilian tax identification numbers).

Since our study focuses on the production of small distributed generation plants, from 75 to 300 MW, there is an interest in converting this energy into money, so the easiest way is...

The marketing of this energy is directly to consumers interested in the Environment of Free contracting.

This method of selling energy is provided for in Article 2, XXII of the regulatory resolution.

ANEEL Resolution No. 1,059, of February 7, 2023, as follows, verbatim:

A - Shared generation: a form of participation in the SCEE characterized by the gathering of consumers, through a consortium, cooperative, voluntary or building civil condominium, or any other form of civil association established for this purpose, composed of individuals or legal entities that own a consumer unit with distributed microgeneration or minigeneration; (ANEEL, 2023).

Given everything that has been said so far, it is now clear that the regulations of The commercialization of energy has presented several obstacles to its development. surplus energy generated.

For the sale of energy to occur, there is still an ancillary obligation established by Law No. 10.848/2004 (BRAZIL, 2004) which is the celebration of the so-called Purchase and Sale Agreement of Electrical Energy (CCVE), where contracts are established, are executive titles that establish the terms of purchase and sale, modality, parameters (power, price) and period of supply.

These contracts must be registered with the Chamber of Electric Energy Commercialization – CCEE, pursuant to Article 2, § 11 of the aforementioned law.

To facilitate this negotiation and the fulfillment of legal requirements, which would be difficult For small producers, two business models have emerged in the market to assist them. producers having their production sold, in a way copying the system that already existed. previously involved in the sale of agricultural production.

One of them is the association of several producers in cooperatives, or producer consortia. so that together they can negotiate the best sales conditions, and for that they must both buyers and sellers within the same distributor's area.

Since cooperatives do not have profit as their primary objective, according to Law No. 5.764/71 Article 3: They are therefore created to serve the interests of power plant owners.



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photovoltaic and sell the energy at the lowest possible price (prices per kW below those practiced).

(by the energy distributors), but with the highest possible profit for the cooperative members, and not for the cooperative itself.

It should be made clear, therefore, that in this purchase and sale operation of electricity to  
The cooperative will act as an intermediary in what we call a triangular operation, which involves a  
energy producer, the cooperative, and the end user of energy.

This triangular sale occurs as follows: the energy producer provides credits of  
Electrical energy is fed into the distribution grid, and these credits are purchased by an end user.  
previously indicated by the cooperative

In other words, the cooperative brings together the largest number of people interested in buying energy.  
for a lower price than that charged by distributors, and connects these people directly to  
producers.

Therefore, it should be clear that the energy sales cooperative does not buy energy; it...  
It simply connects multiple power generators and multiple energy consumers.  
In what the law defines as a cooperative act, there is no sale between the member and the cooperative, and  
Therefore, the sale occurs directly between them, the producer and the consumer of energy; therefore, there is...  
This is a single purchase and sale transaction between the generator and the  
consumer. This is stipulated in Article 79 of Law 5.764/71.

Cooperative acts are defined as those carried out between cooperatives and their members, between  
members and cooperatives, and by cooperatives among themselves when associated, for the  
achievement of social objectives.  
Sole paragraph. The cooperative act does not imply a market operation, nor a contract for the purchase  
and sale of a product or merchandise. (BRAZIL, 1971).

Another way to trade energy is through leasing the power plant directly.  
to a consumer who needs electricity but is unable to implement it.  
a private photovoltaic power plant, with the plant owner being compensated through payment of  
a monthly rate expressed in kWh.

The process is carried out through a solar energy company, or integrator, that sells  
the equipment needed for an interested investor who is able to install a  
photovoltaic power plant, and the integrating company that sold the equipment is responsible for  
to maintain and perform maintenance on the installed system, paying a variable monthly rent that  
It depends on the amount of monthly energy production, with payment based on kWh generated.  
delivering this energy to an end consumer who is unable to install their own.  
plant.

This modality can be regulated by analogy by Law 12.744/2012, (BRAZIL, 2012)  
In other words, in the *built-to-suit model*, facilities are constructed by an investor.  
to meet the specific needs of the client, following established design parameters.



by the tenant.

This contract differs from the cooperative system because here the owner of the leased plant loses the right to... Direct ownership of your power plant to a company that becomes responsible for maintaining the plant. from the client's perspective, thus resulting in less investor autonomy and restrictions on their property ownership. However, it is advantageous for the energy buyer because the investment will be lower, and they will obtain energy. for a price below market value.

## 2.2 The Taxable Event in the Commercialization of Electrical Energy.

In this section, we can mention the two scopes of taxation, the main and most common being:

The fiscal function, where the objective of revenue collection is to replenish public coffers to maintain the machinery of government. state-run, therefore with an essentially revenue-collecting function, and the other scope, the so-called scope Extrafiscal, where the State seeks, through tax incentives, to encourage practices that benefit the... public entity in ways other than the mere function of collecting revenue for the public treasury.

Therefore, when the government has an interest in encouraging a practice that... He deems it beneficial and in accordance with his interests, so he forgoes collecting a portion. of the taxes that would be due to them in order to encourage taxpayers to engage in such practices.

Such practices aimed at reducing the tax burden are lawful means, which depend on... interpretation of current legislation and implementation of strategies and tools that enable a a decrease in the incidence of taxes, in what we call tax avoidance (ROCHA, 2013, p. 447).

Therefore, according to Rocha (2013, p. 447), unlike tax evasion, it is an illicit practice where Tax avoidance occurs when the taxable event is omitted and, therefore, taxes are suppressed; tax evasion is a practice where... seeks a lower incidence of taxes, but in a manner permitted by law, embodying the extra-fiscality already discussed.

Based on the principles of tax avoidance, tax legislation allows that... Taxpayers can pay their taxes in several ways, including Through what's called tax planning, choose the method that best suits the size of your company. activity.

And to comply with the legislation, accounting is essential, and among its various aspects... branches, in the words of Crepaldi (2019, p. 23): it is easy to understand why one of the most important Currently in Brazil, due to its high tax burden, tax accounting is the most important field – it aims to... to better control tax obligations, avoiding, whenever possible, the payment of taxes, Unnecessary fines and interest.

In this sense, tax planning comes into play, as Souza et al. point out:

Tax planning is a set of legal systems aimed at reducing tax payments. Taxpayers have the right to structure their business in the way that best suits them, seeking to reduce the costs of their enterprise, including taxes. If the chosen method is legal and lawful, the tax authorities must respect it.





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(SOUZA, 2018, p.211).

Therefore, with regard to income tax, there are 4 possible ways to file it.

collection of taxes due, including collection by individuals, collection by persons

Legal entity and in the form of the simplified national tax regime, or classification under the actual profit or presumed profit regimes.

Although these four possibilities exist in the law, specifically regarding collection...

Regarding the simplified national tax regime, there is an express prohibition in Complementary Law 123/06 concerning...

Power generating companies, in this case distributed generation plants, are included, in what

he follows:

Article 17. The following may not collect taxes and contributions under the Simples Nacional regime:  
micro-enterprise or small business,  
VII - that is a generator, transmitter, distributor or marketer of energy  
electrical;(BRAZIL, 2006).

For this specific activity, there is the CNAE code 3511-5/01 – Energy Generation.

Electrical, and it is also worth mentioning that the aforementioned CNAE code is included in the list of codes.

impediments to the simplified national tax regime, as per Annex VI of CGSN Resolution No. 140 of 2018.

Therefore, due to the prohibition of collection under the simplified national tax regime, companies  
constituted as cooperatives whose main activity is non-recyclable energy generation.

They may be included in the simplified national tax regime and, therefore, the income tax will be collected

As a legal entity, you must choose between two options: actual profit or presumed profit.

Let's look at each method of tax collection below.

## **MATERIALS AND METHODS.**

The methodological approach of this article comprises a study, beginning with data collection.  
of billing data from a 75-kilowatt photovoltaic solar power plant installed in the city of  
Medianeira in Paraná. The values were provided by the integrating company directly to the account.  
Bank account details from the owner and were used in the study.

After collecting the present values, a monthly table of the deposited values was prepared.  
current account and the amount of income tax due is calculated month by month to finally carry out  
an annual comparison of the four methods of tax collection permitted by law, being  
They are individuals, legal entities under the simplified tax regime (Simples Nacional), and under the actual profit and profit tax systems.  
presumed.

The tax rates, tax base, and taxable event were removed from the current legislation.  
at the time the article was written and the calculations were performed based on these parameters.

To provide further support, bibliographic research was also conducted in the libraries of



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universities UNIOESTE and UNILA, as well as the subject of sugar mill taxation.

Photovoltaics is a relatively recent topic, and internet research was conducted to gather information.

A relevant topic in specialized articles.

Finally, the research is structured in an introduction, where the approach to the topic begins. problem, a theoretical framework, and a development section where the problem is presented and the data are... confronted with a comparison of values obtained month by month and year by year with the different forms of taxation and ultimately a conclusion that highlights the best way to pay taxes. due in order to achieve the greatest possible savings.

## **4. RESULTS AND DISCUSSION.**

### **4.1 Collection from Individuals.**

As will be seen, individual collection is not advantageous for small central offices. Distributed energy only has advantages when the system is installed in homes. for personal use.

According to Tax Ruling Cosit No. 180, dated August 16, 2023, (REVENUE FEDERAL, 2023) the cost of implementing a photovoltaic energy system in properties Residential properties may be included in the purchase price of the property, provided that the photovoltaic system does not It can be removed without destroying the property.

Therefore, once the aforementioned useful improvement is made to the property, its initial purchase price will increase. This will increase, and therefore decrease the profit in a future sale of the property, resulting in a... Lower profit for the seller and, therefore, less tax to be collected by the public treasury.

The tax authorities require two additional obligations in order to pay less tax, according to... The aforementioned consultation solution requires that expenses be proven through appropriate documentation and suitable, and the expenses must be itemized in the Annual Income Tax Return. of the individual.

Therefore, there is a slight advantage to individual collection if it is a system. residential.

However, when we talk about a 75kW system intended for commercial purposes, although the Although the law allows for collection as an individual, this is not the most appropriate method to follow.

In the form shown in the table below, a photovoltaic plant that has its tax collected as For an individual, the tax payment would be around R\$ 7,451.87, considering the tax table. of constant income from Law 14.848 of 2024, in effect in 2025, where income above 4,664.68 Monthly payments have a tax rate of 27.5% and a deductible amount of 896.





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**Income tax withholding table for individuals, expressed in reais (Brazilian currency):**

	REVENUE	Taxable base	Tax rate	7560.12	6995.32	Tax due
January	7240.19	6675.39	7124	22	27.50	1,027.71
FEBRUARY	6559.42	6423.57	5858	77	27.50	939.73
MARCH	5827.48	5262.68	4818	56	27.50	907.83
APRIL	4253.76	4523.74	3958	94	27.50	715.16
MAY	3623.58	3058.78	4318	45	27.50	551.23
JUNE	3753.65	5826.25	5261	45	22.50	294.32
JULY	7257.27	6692.47	7580	89	7016.09	227.99
AUGUST	72124.16				15	77.37
SEPTEMBER					22.50	181.80
OCTOBER					27.50	550.89
NOVEMBER					27.50	944.42
DECEMBER					27.50	1,033.42
ANNUAL TOTAL						7,451.87

Source: prepared by the author

**4.2 Collection under the Simples Nacional regime – Company classified as MEI (Individual Microentrepreneur).**

As Crepaldi points out, the Simples Nacional is a unified system for tax collection and enforcement.

and tax auditing, applicable to micro-enterprises and small businesses, as provided for in Law

Complementary Law No. 123/2006 (CREPALDI, 2019, p. 349), which establishes differentiated treatment and

Favorable for micro-enterprises and small businesses, in addition to establishing a regime

single source of tax and contribution collection for these companies (CREPALDI, 2019, p. 350).

For the collection to occur under the simplified national tax regime, for a company that qualifies...

In the case of MEI (Individual Microentrepreneur), we are dealing with a power plant of at most 75kw that will generate something around 6,000 reais.

per month on average.

In this case, the energy must be sold in the form of a facility lease.

for a third party, through an integrating company, wherein this company performs

a bridge between the owner of the photovoltaic plant and a third party interested in acquiring it directly.

The energy generated, as reported in the chapter above, must be classified under the CNAE code.

7739-0/99 in Annex III of the economic classifications (Federal Revenue Service, 2014) which identifies the

The activity of renting commercial and industrial machinery and equipment, without an operator.

In other words, power generators fall into this category, and they can perform the following:

Collection through the Simples Nacional (Simplified National Tax System), with the company classified as MEI (Individual Microentrepreneur) and in the case of a sugar mill.

75mw given that there is no express impediment in law.

By 2026, the MEI (Individual Microentrepreneur) revenue limit may be increased to R\$ 144,913.41.

as per PLP 60/2025 (SENATE, 2025) which has already been approved by the Social Affairs Committee of

Senate. For now, the income limit for registration as a MEI (Individual Microentrepreneur) under the Simples Nacional (Simplified National Tax System) is R\$ 81,000.

This limit is not exceeded by the 75kW photovoltaic plant.

To calculate the tax due under the simplified national tax regime, according to article 18 § 1 = The law of

For the simplified national tax regime (BRASIL, 2006), the formula  $RBT12 \times Aliq-PD / RBT12$  should be used, where RBT12

It is the total gross revenue of the last 12 months, multiplied by the constant rate of the annex, reduced



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the amount to be deducted, also shown in the annex, and again divided by the total gross revenue.

Since the average monthly revenue of a 75kW power plant is R\$6,000.00, the which generates an annual income of R\$ 72,000.00, classified under the MEI regime and CNAE 7739-0/99, which It is in Annex III (Federal Revenue Service, 2014), the formula is as follows:

$$72,000 \times 6 - 0 / 72,000 = 6\%$$

The effective rate to be paid monthly on the Simples Tax Collection Document.

The National Tax (DAS) is 6% of monthly revenue, given that the formula's rate is 6% and not...

There are installments to be deducted in this income bracket, which, when applied to the average revenue of approximately... R\$ 360.00 reais per month or R\$ 4,320 reais per year.

The exact values found month after month for tax deductions under the simplified national tax regime are... as shown in the table below:

**Simplified National Tax System Billing Table.**

MONTH	REVENUE (in R\$)	TAX DUE (in R\$)
OF JANUARY	7560.12	453.61
FEBRUARY	7240.19	434.41
MARCH	7124.22	427.45
APRIL	6423.57	385.41
MAY	5827.48	349.65
JUNE	4818.56	289.11
JULY	4523.74	271.42
AUGUST	3623.58	217.41
SEPTEMBER	4318.45	259.11
OCTOBER	5826.25	349.59
NOVEMBER	7257.27	435.44
DECEMBER	7580.89	454.85
TOTAL	72,124.16	4,327.46

Source: Prepared by the Author.

The values obtained, taking into account the annual average value, were very similar, indicating The calculation of tax due based on the average value can be used for other 75kW power plants.

#### 4.3 Collection in the form of Presumed Profit.

If the energy is sold through a cooperative, where each power plant owner... Own a share and sell your energy in a shared manner, using CNAE 3511-5/01.

– Electricity Generation, one of the ways to collect tax is through Presumed Profit which

It is a tax regime that can be adopted by companies that have a revenue of up to R\$78 million per year.

as per article 59 of Normative Instruction RFB 1.700/17, (FEDERAL REVENUE, 2017) and encompasses

Activities not permitted under the Simples Nacional tax regime.

In Crepaldi's words:

The Presumed Profit regime is widely used because it is considered simpler and requires less documentation. It is called "Presumed" precisely because, under this regime, Income Tax is not calculated on actual profit. Both Corporate Income Tax (IRPJ) and Social Contribution on Net Profit (CSLL) are calculated on a presumed profit base, which is a certain percentage of gross revenue. The calculation is done in quarterly periods, ending on March 31st, December 30th, and December 31st.



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June, September 30th, and December 31st. (CREPALDI, 2019, p. 329).

In this type of transaction, since it is a commercial activity, the Corporate Income Tax (IRPJ) will be calculated based on 8%.

Regarding the quarterly gross revenue to which the 15% tax rate applies, as per Law 9.249/1995, Article 15 (BRAZIL, 1995) and Law 9.430/1996, articles 1 and 25, item I (BRAZIL, 1996).

CSLL (Social Contribution on Net Profit) still applies, calculated based on 12% of gross revenue. quarterly on which the 9.0% rate applies, according to Law No. 11,727 of 2008, art. 17 (BRAZIL, 2008).

Contributions to PIS and Cofins will be calculated monthly based on the rates. between 0.65% and 3.0%, based on monthly gross revenue, as per article 31 of Law 10.833/2003. (BRAZIL, 2003).

The total amount of taxes levied based on the presumed profit calculation was R\$ 4,276.79, with the monthly and quarterly breakdown detailed in the table below:

**Revenue Table for Presumed Profit, values in Brazilian Reais (R\$).**

Month	Revenue	COFINS	PIS	7560.12	226.80	Corporate Income Tax (IRPJ)	Social Contribution on Net Profit (CSLL)	Total
January	49.14							
February	7240.19	217.20	47.06					
March	7124.22	213.72	46.30					
1st quarter	21,924.53	657.73	142	50 263.09	236	78 1,300.1		
APRIL	6423.57	192.70	41.75					
MAY	5827.48	174.82	37.87					
June	4818.56	144.55	31.32					
2nd quarter	17,069.61	512.08	110	95 204.83	184	35 1,012.21		
JULY	4523.74	135.71	29.40					
AUGUST	3623.58	108.70	23.55					
SEPTEMBER	4318.45	129.55	28.06					
3rd quarter	12,465.77	373.97	81.02	5826.25	174.78	149.58	134.53	739.1
OCTOBER	37.87							
NOVEMBER	7257.27	217.71	47.17					
December	7580.89	227.42	49.27					
4th quarter	20,664.41	619.93	134.31	247.97	223.17	1225.38		
ANNUAL TOTAL	72,124.16	2,163.71	468.78	865.47	778.83	4,276.79		

Source: prepared by the author.

#### 4.4 Collection in the Form of Actual Profit.

The Actual Profit regime is intended for institutions that cannot be classified under other regimes. such as banks, brokerage firms, and insurance companies. The tax is calculated on the company's actual profit, a fact that This leads to businesses being subject to more rigorous scrutiny.

The concept of real profit was further developed by Fabretti:

Real profit is a fiscal concept, not an economic one. In economic terms, profit is the... positive result of the algebraic sum of gross revenue (from sales or services) (-) returns and taxes (-) costs (-) operating expenses (+) non-operating revenues (-) non-operating expenses Operational. That is, the accounting result. The Income Tax Law refers to this accounting result as... (economic) net profit.



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According to Article 247 of the Brazilian Income Tax Regulations (RIR), actual profit is the net (accounting) profit of the base period adjusted by the additions, exclusions, or compensations prescribed or authorized by income tax legislation. Therefore, actual profit for purely fiscal purposes is, in practice, to say the least, inadequate. "Real" suggests "true," which in this case is a positive economic result – revenue greater than expenses. In practice, it is observed that sometimes a company has a negative economic result (loss), but income tax legislation mandates adding various non-deductible amounts to it. Thus, from an economic loss – a true economic, accounting result – a "real profit" is calculated by adding expenses to the negative result, making it positive. Nothing could be further from the truth. (FABRETTI, 2009, p.202).

It is mandatory for companies with profits exceeding 78 million per year, according to article 59 of...

Normative Instruction RFB 1.700/17 (Federal Revenue Service, 2017), therefore, because it demands more ancillary obligations that other regimes should be used by power generators

Photovoltaic systems above 1 Megawatt, however, since we are studying a 75kW plant, we will...

To detail the tax collection under this regime.

If the photovoltaic power generation company chooses CNAE 3511-5/01 – Generation of

In the case of electricity, calculating taxes based on actual profit is an option, given that in this modality...

Production costs can be discounted.

As Lyvia Sá (2023) points out, "Even though accounting fees are more expensive, the

Actual Profit is the most comprehensive form of taxation and offers the most tax benefits for solar energy.

such as the deduction of taxes paid on the purchase of raw materials and services.

As article 68 of Federal Revenue Normative Instruction 1700/2017 reminds us, the following are deductible.

From the profit, the amounts spent on acquiring essential equipment for the activity.

economic, in the form that follows *verbatim*:

Article 68. In determining taxable income, only expenses necessary for the company's activity and the maintenance of its productive source shall be deductible.

§ 1. Expenses paid or incurred for carrying out transactions or operations required by the company's activity are considered necessary. (Brazilian Federal Revenue Service, 2017).

In this sense, investments in photovoltaic equipment should be deductible from profit.

when calculating profits under the actual profit regime, given that they are a sine qua non condition of the activity.

economic issue at hand.

The total cost for installing the 75kW power plant under study is R\$ 5,000.00 per month.

with an estimated payback period of 72 months, totaling a total cost of R\$ 360,000.00.

Article 3 of Law 9.249/95 states that the tax rate under the actual profit regime is 15% on profit.

liquid (BRAZIL, 1995). For CSLL, the rate is 9% according to Law No. 11,727 of 2008, art. 17.

(BRAZIL, 2008). Contributions to PIS and Cofins will be calculated monthly based on...

tax rates of 1.65% and 7.6% as per articles 2 and 16 of law 10.833/2003 (BRAZIL, 2003).



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Table showing the calculation of deductions and losses month by month, expressed in Brazilian Reais.

MONTH	Calculation basis	REVENUE	Deductible amount	amount 7560.12	5,000
JANUARY					
FEBRUARY		7240.19		5,000	
March 1st		7124.22		5,000	
quarter		21,924.53		15,000	4,896.51
APRIL		6423.57		5,000	
MAY		5827.48		5,000	
June 2nd		4818.56		5,000	
quarter		17,069.61		15,000	2,069.61
JULY		4523.74		5,000	
AUGUST		3623.58		5,000	
SEPTEMBER		4318.45		5,000	
3rd quarter	12,465.77	OCTOBER		15000	-2534.23
5826.25	NOVEMBER	7257.27		5000	
DECEMBER	7580.89	4th quarter		5000	
20,664.41	TOTAL ANNUAL	72,124.16		5000	
Source: prepared by the author.			15000		3,130.18
			60,000		10,096.3

Table for calculating total tax due under the actual profit regime.

Quarterly PIS CSLL Total	Actuals		Corporate Income Tax		
1st Quarter	1,666.26	361.75	734.47	440.68	
2nd Quarter	1,280.22	281.64	310.44	186.26	
3rd Quarter	934.93	205.68	0.0		
4th Quarter	1,570.49	340.96	469.52	281.71	
Annual total: 3,951.9	Source:	1190.03	1514.43	908.65	7565.01

prepared by the author.

The total amount of taxes levied based on the calculation of actual profit was R\$ 7,565.01.

## FINAL CONSIDERATIONS.

After conducting a study, it became evident that, firstly, owners of power plants Photovoltaic companies must collect their income tax through a legal entity, which is... whichever it may be, Simples Nacional or Lucro Presumido

The total amount of taxes due for individuals is around R\$ 7,451.87. annual. For corporate tax collection under the Simples Nacional regime, the tax due was... calculated at R\$ 4,320.00 annually. If collected under the simplified national tax system, there are savings. Tax savings of around R\$ 3,131.77, or a net saving of 42.03%.

It was also shown that adopting the presumed profit regime will not lead to a This is a significant difference compared to the Simples Nacional (Simplified National Tax System), as the total tax calculated is based on profit. The presumed value was R\$ 4,276.79, representing a tax saving of R\$ 3,175.08, compared to... Individual tax withholding resulted in net savings of 42.61%.

In this case, if the plant is expanded to an installed capacity of 300 kW, that is, if it has a turnover four times greater than that of the study and can no longer collect taxes under the simplified tax regime. Nationally, the presumed profit system will, in practice, lead to the collection of taxes.



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very similar, and therefore the alleged increase in income tax cannot be considered a

This is a inhibiting factor for the company's growth, as it does not practice the values in both systems.

very similar,

For the adoption of the actual profit method, the value of financing in relation to net profit should...

being in the range of 95 to 98%, resulting in a real net profit of only 2% to 5% of the investment,

given that the amount, given that the presumed profit already assumes that the profit is around 8%

and that the estimated taxes under this regime are around R\$ 7,565.01, and the possibility of deducting

the company's implementation costs do not appear advantageous in this system, unless of course that

The costs are too high and the profit margin is too small.

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