Solar Heating Systems Production and Sales

2024 (database 2023)

abrasol

associação brasileira de energia solar térmica

Editorial

We are releasing the Solar Heating Systems Production and Sales survey, 2023 edition. First of all, it is important to emphasize the importance of this document, which has served as a basis for us to present to the authorities how our market has behaved in recent years.

Once again, we registered growth, which demonstrates that the sector has entered a continuous process. Do we need to grow more? Yes, we do, but this continuity demonstrates that the sector has found the way to demonstrate the effectiveness of the use of solar thermal heaters, and based on these numbers, we will certainly show the government that there a lack of a public policies to foment the massive use this important energy.

The year 2023 recorded a production volume of solar thermal collectors of 1.83 million m^2 compared to the year 2022, with an increase in the number of new collectors installed of 2.8%. In the last 25 years, we have reached 24.6 million m^2 of installed collectors in Brazil.

The total amount of storages sold in 2023 was 226,989 units, with low pressure equivalent to 70% of the total with 158,892 units, high pressure equivalent to 30% with a total of 69,097 units sold.

We have made an estimate for the year 2024. We believe that the market should grow by 12%, in view of the increase in civil construction works and the implementation of the National Program to encourage the use of solar water heaters for use in homes, as provided for Law Project PRONASOL, with some actions as: apecifical bank line credits, support for research and innovation, and programs of anergy efficiency.

In other words, expectations are good, but it is always necessary to be attentive, due to this, ABRASOL remains very close to the legislature, working for the approval of all projects (PL) that may benefit the sector and the society.

I would like to thank everyone who participated in this work of ABRASOL. We know that Research is strategic for planning the sector's production chain and strengthening our sector with national and international agencies.

Mauro Isaac Aisemberg
President

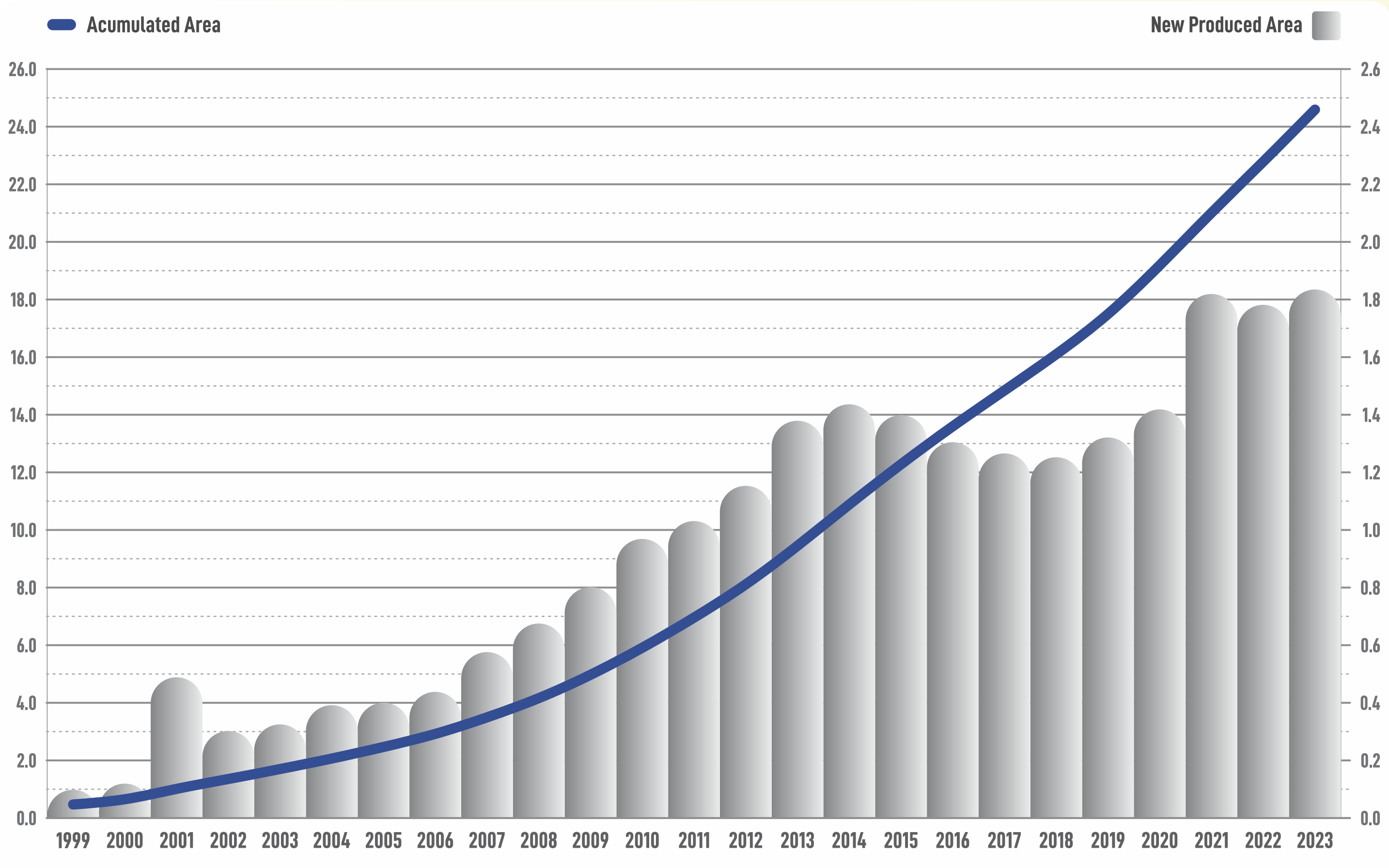
Objective

The objective of this report is to present the results of solar heater production research over the years, in addition to addressing its behavior, sales distribution in the segments and regions of Brazil, and the sector's expectations for the year 2024.

Methodology

A survey sent to ABRASOL members was the methodology chosen to collect data. Based on the results obtained, the information was extrapolated to represent the entire Solar Thermal Energy market in Brazil.

Evolution of the solar heating market in Brazil



Values in millions of m^2

Note: The accumulated area considers the last 25 years, following the criteria adopted by the International Energy Agency (IEA)

According to the research, the production volume of solar thermal collectors increased by 1.83 million m^2 in 2023 compared to 2022, representing a growth of 2.8%. in the number of new collectors installed. Over the last 25 years, the number of collectors installed has reached 24.6 million m^2. Next, we will present these indicators separately for the period from 2015 to 2023.

Solar thermal collectors

The table below represents the number of closed, open, and vacuum tube collectors, as well as their respective variations each year:

Year	Glazed (m²)	Variation (%)	Unglazed (m²)	Variation (%)	Evacuated Tube (m²)	Variation (%)	Total	%	Accumulated (m²)	Variation (%)
2015	610.066	-5,3%	767.311	-1,8%	25.055	57,9%	1.402.432	-2,7%	12.641.164	12,5%
2016	548.205	-10,1%	734.240	-4,3%	22.477	-10,3%	1.304.922	-7,0%	13.946.086	10,3%
2017	632.425	15,4%	602.803	-17,9%	28.546	27,0%	1.263.774	-3,2%	15.209.860	9,1%
2018	627.321	-0,8%	594.482	-1,4%	28.397	-0,5%	1.250.200	-1,1%	16.460.060	8,2%
2019	662.451	5,6%	627.773	5,6%	30.761	8,3%	1.320.985	5,7%	17.781.045	8,0%
2020	710.810	7,3%	673.600	7,3%	32.360	5,2%	1.416.771	7,3%	19.197.816	8,0%
2021	948.931	33,5%	831.223	23,4%	38.509	19,0%	1.818.663	28,4%	21.016.479	9,5%
2022	920.463	-3,0%	821.248	-1,2%	38.124	-1,0%	1.779.835	-2,1%	22.796.314	8,5%
2023	925.065	0,5%	862.311	5,0%	43.080	13,0%	1.830.456	2,8%	24.626.770	8,0%

Storages

The table below shows the number of storages between 2015 and 2023 and their respective variations over the years. The total number of reservoirs sold in 2023 was 226,989 units - 70% of the total (158,892 units) being low pressure and 30% (69,097) high pressure.

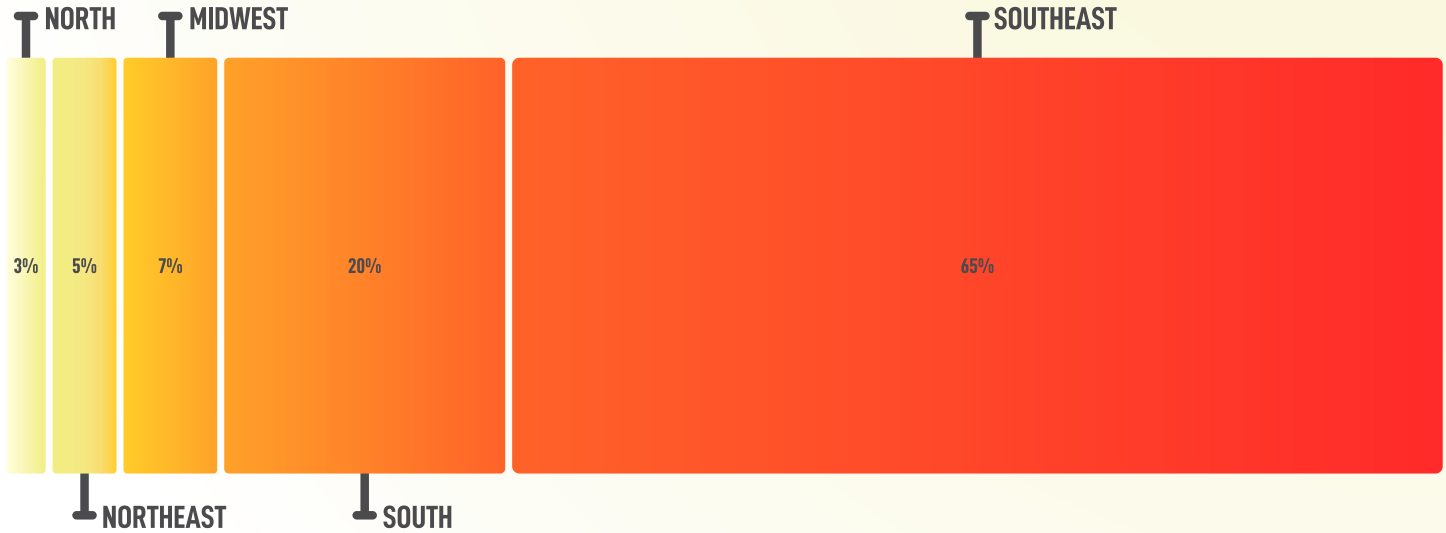
Year	Units	Variation (%)
2015	251.287	-6,7%
2016	220.553	-12,2%
2017	172.938	-21,6%
2018	168.832	-2,4%
2019	169.211	0,2%
2020	170.532	0,8%
2021	201.398	18,1%
2022	200.875	-0,3%
2023	226.989	13,0%

Market behavior

The research also identified market behavior regarding regional sales by market segments in 2023 and market expectations for 2024.

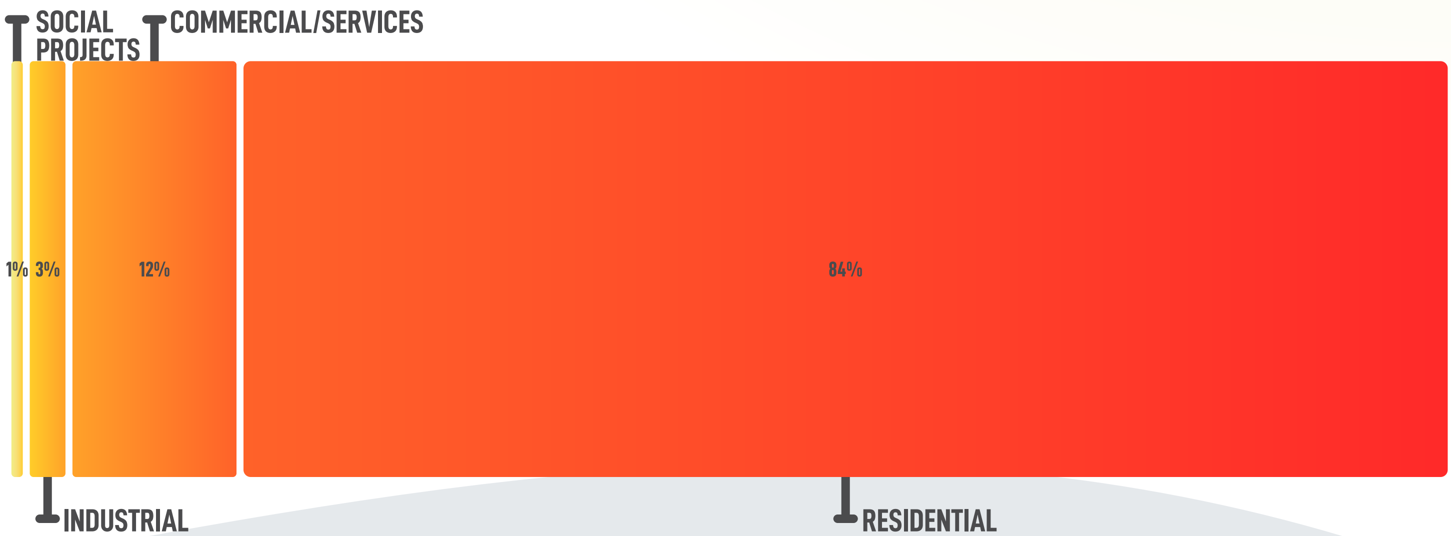
Percentage distribution (%) of sales in brazilian regions (2023)

The distribution of sales by region in Brazil is shown in the graph below. The southeast continues to increase its share with 65% of sales, followed by the south region with 20%, the central-west region with 7%, and, finally, the northeast and north (5% and 3%, respectively).



Percentage distribution (%) of sales to market segments (2023)

Regarding the distribution of sales separated by market segments, it is possible to observe that the Residential sector, which was already the most significant, had an even greater share than in 2023, reaching 84%. Next come the commercial/services sectors with 12%, the industrial sector with 3% and social projects with just 1%.



The discreet increase in 2023 and expectations for 2024

In 2023 there was an increase of 2.8% in sales of solar heaters, slightly resuming the use of solar heaters with expectations previously predicted in the order of 16. The main factors that contributed to this result were:

- Retracted market with many economic uncertainties.
- Lack of financing and credit lines.
- Lack of public incentives, including in large projects such as "Minha Casa, Minha Vida", which has already started but in which we are still requesting the inclusion of solar heaters.

For the year 2024, the expectation is for an increase of 12%, mainly due to the following factors:

- Increase in civil construction works.
- Institution of the National Program to encourage the use of solar water heaters for use in homes (PL 3492/2023);
- Encouragement of trade agreements, especially with Latin American countries.

Associates