

Solar DAO

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ABSTRACT

Solar DAO is a blockchain project aimed at building a community of users who have decided to finance the construction of PV solar plants (PVS) by utilizing a crowdfunding model to capitalize on their work.

Solar DAO establishes a community dedicated for crowdfunding PV solar plants (PVS) worldwide: to construct, launch and manage them to get profit.

Solar DAO will allow the users to finance and own PV solar plants across the globe with minimal risks involved and bypass the technical barriers associated with the implementation of PVS.

Solar DAO offers the newest financial tool which empowers users to easily, anonymously and safely subsidize the construction of PV solar plants (PVS) on a global scale, circumventing the costs of intermediaries, arranging deals and eradicating technical and other barriers.

Solar DAO will operate as an investment fund, continuously expanding the total capacity of the PV solar plants under the management of DAO (Decentralized Autonomous Organization). This will be accomplished through selling constructed PVS plants and refinancing the construction of new ones with larger capacity.

Solar DAO utilizes the Ethereum blockchain, which:

1. Provides its users with the opportunity to buy DAO shares (tokens), own and trade them anonymously, and acquire dividends dependent on the results of their work.
2. Secures the transparency of all processes related to the PVS construction.

For the purpose of the project, we will create smart contracts and issue tokens, which will facilitate dividend payment, without disclosing the identity of the token owner.

Solar DAO will raise funds by means of Initial Coin Offer (ICO).

www.SolarDAO.me

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1. Introduction

Solar DAO develops a new financial tool that empowers users to easily, anonymously and safely subsidize the construction of PV solar plants on a global scale, circumventing the costs of intermediaries, arranging deals and eradicating technical and other barriers.

Solar DAO will aid users in maintaining maximum profitability from the PVS in development, comparable to the profits and receivables by large investors, due to the economies of scale and the possibility of acquiring favorable loan financing.

Given that the project is set up to run as an investment fund, only perspective and safe projects with the highest potential will be chosen for financing. The **Solar DAO** team will thus ensure that both technical and legal audits are conducted while following widely accepted global practices and standards and utilizing professional software.

Solar DAO allows users to oversee and control the PVS construction projects by developing a web-interface (Sirius), which grants access to all the latest construction information. Users are also provided with the opportunity to communicate within an integrated information environment and vote for certain initiatives, as well as the overall direction of DAO's development.

As the project develops, the total capacity of the PVS managed by **Solar DAO** will grow exponentially. It is assumed that this will contribute to:

- Steady increase in the value of distributed tokens, and
- Steady increase in the amount of dividends paid to users.

Moreover, we plan to implement and test various technical solutions in a bid to minimize the operational costs of PVS, as well as experiment with intermediary energy storage systems to stabilize output power.

Solar DAO will help spread technologies and solutions discovered during the ongoing research and experiment process to other sites, realized outside the **DAO**.

The project will raise funds through Initial Coin Offering. ICO is an alternative IPO, which uses cryptographic tokens, released within the blockchain Ethereum.

The ICO will be held in two stages: Pre-ICO and ICO.

Following the end of the ICO, all unallocated tokens will be destroyed. New tokens will not be released.

2. Project aims and objectives

The main aim of **Solar DAO** is to continuously increase the total capacity of the solar power plants managed by the DAO.

It is worth emphasizing that the following should occur naturally:

- Growth of DAO's capitalization and consequently, increase in the price of the tokens.
- Increase in the volume of dividend payouts, which will also contribute to a raise in the price of the tokens.

Solar DAO has set three main objectives:

1. Develop and implement a scheme for owning PV solar plants by a pool of remote anonymous users through a blockchain distribution registry, as well as a system for organizing payments and distributing dividends through smart contracts without disclosing the identity of the beneficiaries of such payments.
2. Develop methods for the industrial use of the Ethereum blockchain for the implementation and operation of PVS construction projects and for ensuring transparency for **Solar DAO** members, including supply, operating activities and construction management.
3. Test and implement new technologies and solutions to boost the profitability of constructed PVS by increasing energy production and minimizing operating costs.

3. Structure

This document will cover:

Technical matters:

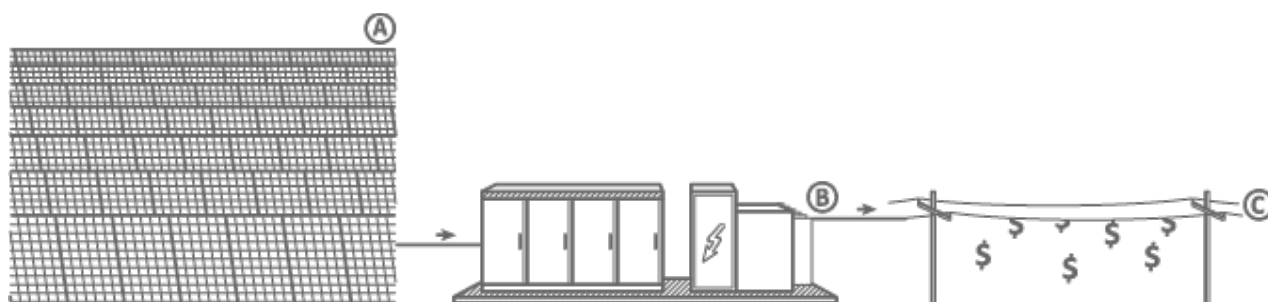
- The general working principal of PV solar plants
- Different types of PVS construction projects and their specificities
- Evaluation of the solar energy (photovoltaic) market
- Methodology for auditing and selecting projects to be realized

Organizational matters:

- Plan for the implementation and realization of PVS construction projects
- Ways to increase the total capacity of the PVS within the DAO
- Methodology for auditing and selecting projects to be realized

We will also describe the mechanism of conducting a crowdfunding campaign utilizing the Initial Coin Offering.

4. PV solar plant principle

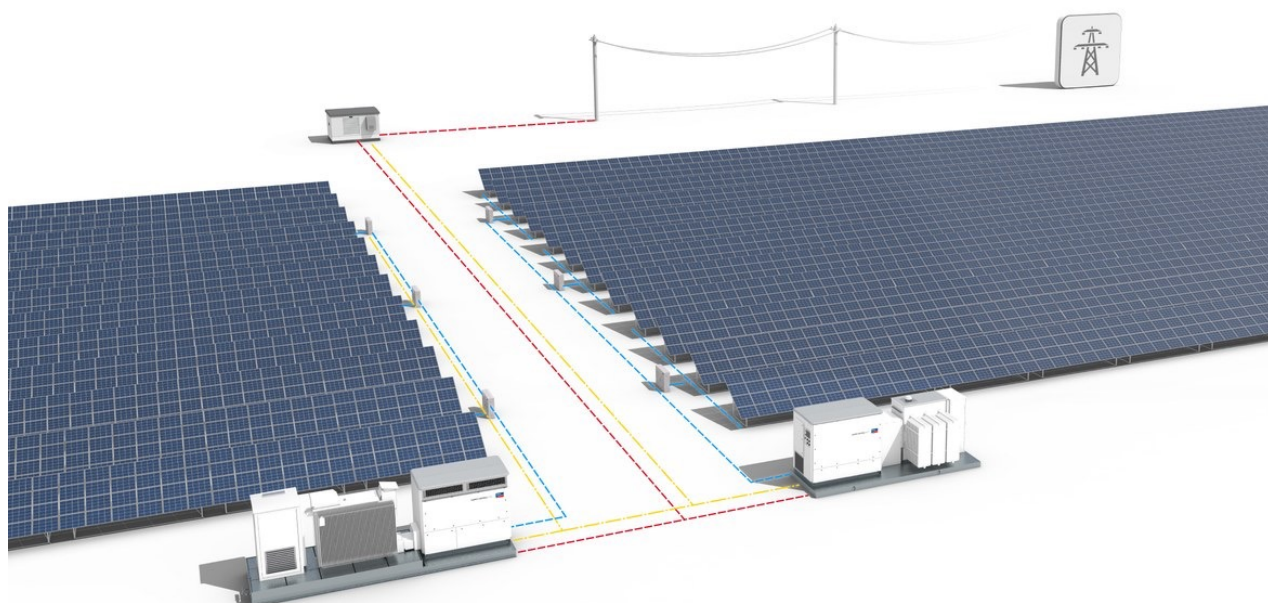


The solar panels **(A)** convert sunlight into electrical energy – direct current (DC) with voltage up to 1500 V. Solar panels are mounted on supporting structures and connected to successive chains. The chains of the solar panels are connected in groups to the on-grid inverters **(B)**.

The inverters **(B)** transform DC (direct current) to AC (alternating current). Power systems with a power of 500 kW are usually supplemented with step-up transformers for further connection to a centralized public grid. **(C)**.

Electricity from solar panels is sold to a centralized network at a special tariff. Alternatively, it is consumed directly, replacing electricity from the grid..

The electricity tariff is called Feed-in-Tariff (FiT) and constitutes means for return on investment and profit generation for solar plants. The duration of the Power Purchase Agreement (PPA) is up to 25 years.



5. Main components of a PV solar plant

Support mounting structure

This is a structure made from aluminum profiles and stainless steel fasteners. The most commonly used type is a fixed structure with fixed solar panel installation angle.

Using fixed structures helps reduce construction and operating costs.

Standard warranty period: 10 years. Service life: over 25 years.

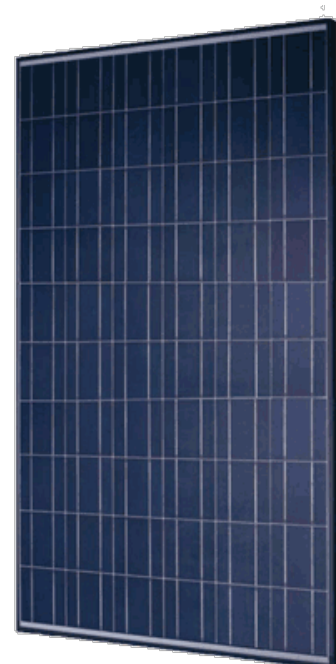


Solar panels

Solar panels convert solar energy into electrical energy. The most commonly used solar panels are based on crystalline silicon. They have the highest key performance indicator and the optimum ratio of price and quality. Moreover, they are reputable for their longevity of use.

The construction of solar panels makes use of lead-free, optically transparent, anti-reflective glass, which can withstand the tested shot of an ice ball with 35mm diameter at a speed of 30 m/s.

Standard warranty period: 10 years. Service life: over 25 years.



Inverter system

This is the "brain" and the operating center of the entire PV plant. Inverters convert voltage and cause the solar panels to operate to their maximum efficiency.

The inverter system is supplemented by a monitoring system, which stores and sends snapshots, containing information about all nodes of the PV plant, every 15 seconds.

PVS with a capacity of 15 MW or more are further supplemented by weather stations that helps predict the system's energy production and possible emergence of contingencies.

Standard warranty: 10 years.
Service life: over 25 years



Monitoring system

The monitoring system controls the working parameters of the entire PV solar plant and its individual components. It helps to identify malfunctions and prevent abnormalities.

The monitoring system supplements the inverter system. It collects and stores all operating data from the solar plant's main components.

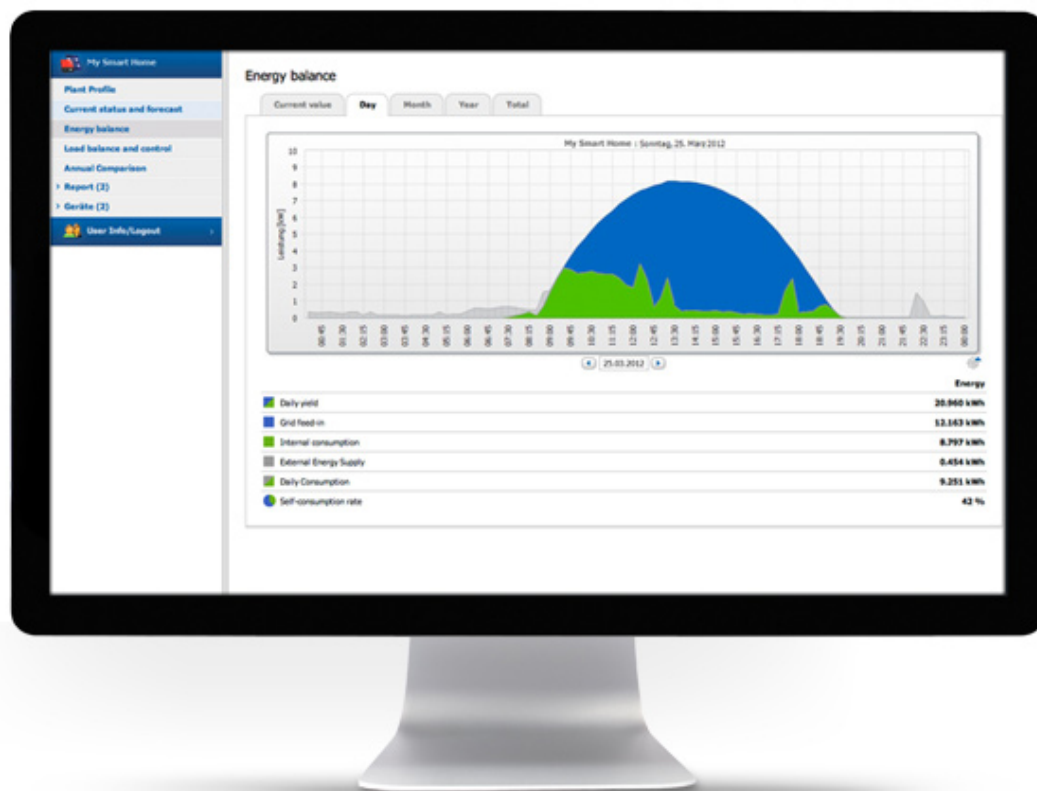
Main features:

- Real-time monitoring of equipment's operation
- Preparation of graphic-based reports
- Analysis and comparison of individual power system units' operation
- Emergency signaling for deviations from the norm and other extreme conditions
- Interactive diagram display of PVS, including detailed information about component location and enabling navigation and localization of any technical failures
- Export of monitoring results, publishing of data on a web-server, and printing

Access to the monitoring system is usually granted via web browser or mobile app.

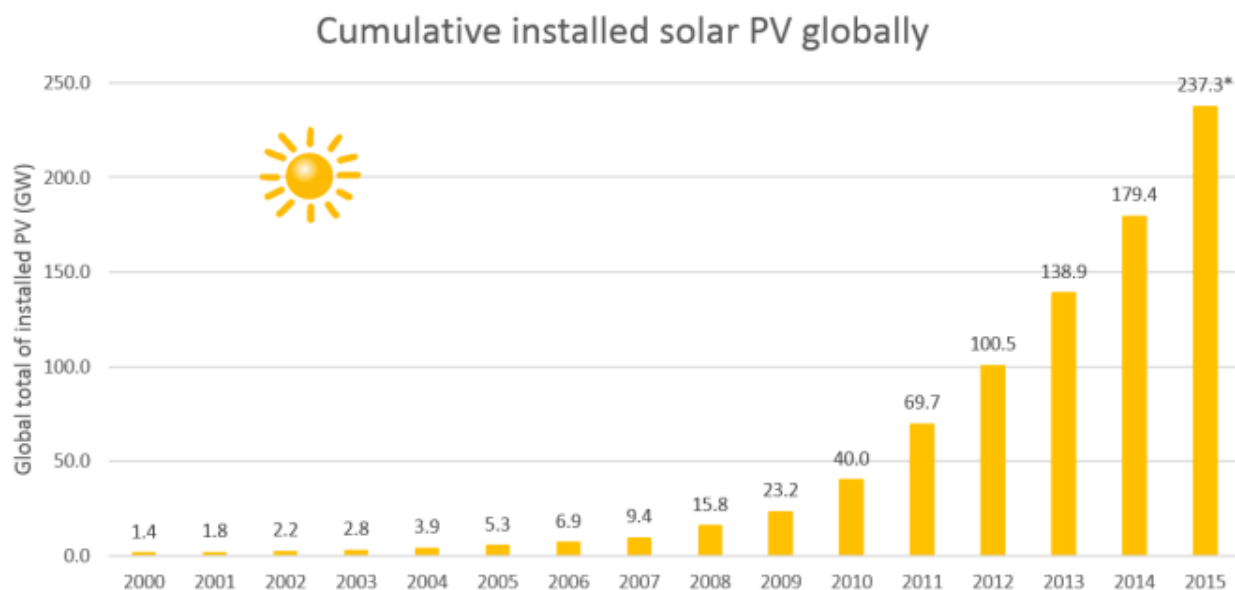
The monitoring system helps:

- To keep records of the produced and consumed energy
- To identify malfunctions and forecast any technical failures
- To plan the maintenance, repair and replacement of equipment



6. Solar market review

The solar energy (Photovoltaic) is a power industry whereby solar energy is converted into electrical energy as a result of the internal photoelectric effect. This white paper considers only photovoltaic (PV) power plants. That being said, we assume that the simultaneous development of the DAO and our competencies will prompt us to examine other types of renewable energy generators.



Source: <http://www.ren21.net/status-of-renewables/global-status-report/>

In 2000, Germany launched the first renewable energy support program (RES). By 2016, more than 127 countries across the world have followed suit and implemented similar programs.

The diagram above illustrates the exponential growth in the total installed capacity of PV plants on a global scale - from 1.4 GW in 2000, up to 237.3 GW in 2015 – an increase of 170 times in 16 years.

The growth in solar plants capacity has also led to a construction cost decrease from \$5,000 per kW installed to less than \$700 per kW (i.e. almost 4.5 times). Nevertheless, the industry continues to expand, reaching new records on a yearly basis.

We are excited to apply our knowledge and over 25 years of experience in the Photovoltaics industry in order to provide our users with straightforward and realistic access to this market.

According to the preliminary assessment, we plan on reaching the total installed capacity of all PVS in **Solar DAO** of up to 1.8 GW (1800 MW) by 2024. In this case, the total capitalization will reach about \$3.4Bn (\$3.4 billion).

7. Solar market issues and how we deal with them

The main issue, which we can solve, is that the PV solar plant construction, being a lucrative financial instrument, remains largely inaccessible to people who want to invest between \$100 and \$10,000.

Investors who are prepared to invest around \$10,000 face additional costs, such as:

- Technical audit and legislation research
- Legal entity registration and costs related to the ownership
- Deal execution and intermediaries' charges

These processes can take up to 3 months and their cost is usually about \$50,000. Thus, if a person wants to invest \$100,000, the real investment amount, which generates profit, will be halved. Therefore, the above considerations pose a significant obstacle.

Any potential investor who does not possess a capital of \$1,000,000 or more is not able to become a full-fledged participant in the PV market and cannot generate a profit on an equal footing with large investors. Our goal is to eliminate this barrier to entry.

Solar DAO solves the problem of small capital investment (less than \$1,000,000) in the construction of PV solar plants worldwide and offers unique opportunities, such as the ability to:

- Generate a profit on equal footing as large professional investors by spending as low as \$1
- Anonymously own, transfer and sell shares (tokens) on cryptocurrency exchange markets
- Receive a continuously growing amount of dividends, hassle-free
- Safely and anonymously own these assets without disclosing the investors' identities
- Receive dividends automatically, due to the smart contract

Solar DAO token ownership will allow users to:

1. Invest in solar plants worldwide efficiently by circumventing issues related to ownership, audits and selection of contractors
2. Take part in PV plant construction, starting from as low as \$1
3. Own assets (tokens) safely and anonymously
4. Receive dividends from the investments made and profit from the value increase of tokens
5. Sell tokens on the exchange market as needed

Solar DAO — a new financial instrument format, which allows users to easily, anonymously and safely finance the construction of PV solar plants around the world, circumventing the costs of intermediaries and arranging transactions, as well as bypassing any technical and other barriers.

Solar DAO will help reduce costs, as well as risks involved in investment.

8. Types of PVS projects

There are three major types of PV solar plant construction projects. They differ in the degree of readiness, level of risk and profitability. We plan to combine all of them to achieve high profitability with minimal risks.

1. **Solar plants in operation** — plants that have already been built are:
 - Connected to a centralized grid
 - Commissioned and already in acquisition
 - Receiving payments in accordance to the PPA (power purchase agreement)
 - Have a history of actual energy production, earnings and revenue

Average profitability: 7 - 12%.

Average cost: \$1800 - \$2200 per kW

Time of implementation: the purchase of such a plant takes between 1 and 2 months

2. **Projects in RTB (ready to build) stage** — plants that are ready for construction:
 - Power Purchase Agreement (PPA) signed; Feed-in-Tariff (FiT) and its terms set: periodicity, indexation, currency, validity period, etc.
 - Grid connection contract signed
 - Land lease signed
 - All necessary construction permits obtained
 - Design solutions and equipment (can be replaced) selected
 - "Turnkey" plant construction contract drawn

Average profitability: 12 - 25%.

Average project company cost: \$100 - \$150 per kW

Construction cost: \$600 - \$800 per kW

Cost of sale of the operational PVS: \$1200 - \$2000 per kW

Period of implementation: 3 to 6 months

3. **Green Field projects (from scratch)** — projects developed from scratch:
 - Legislation- covering payments for selling electricity to each grid existing in the country where the plant is to be built
 - Local energy market rules have been researched
 - Steps to connect the RES generators to the grid have been investigated
 - Feasibility study has been developed and plant design has been chosen
 - There is a possibility in place to obtain land for project realization
 - There is a memorandum in place with subsidiaries for "turnkey" plant construction

Average profitability: 25 - 35% (does not include the sale of PVS)

Project development costs: \$20,000 - \$50,000 for the entire project, regardless of the capacity

Construction cost: \$600 - \$650 per kW

Average sale price of operational PVS: \$1200 - \$2000 per kW

Period of implementation: 3 to 9 months

9. Project implementation

We will review ways of implementing a PV solar plant project.

1. Purchase of ready-to-build projects and their further realization

There is a pre-existing market for ready-to-build projects. We plan on purchasing from project agencies in the ready-to-build stage – such projects are usually published on specialized websites, such as [MilkTheSun](#), [GreenDealFlow](#), closed LinkedIn groups, as well as websites of companies that develop RES projects for sale.

We plan on carefully selecting such projects, further optimizing and implementing them by:

- Reducing the cost of purchasing a project agency via reasonable bargaining
- Reduce the cost of essential equipment by signing contracts directly with manufactures in China, since the project agencies often surcharge, expecting that the investors are unfamiliar with the actual equipment price
- Reduce the "turnkey" cost of construction by conducting competition research amongst the leading EPC contractors and obtaining financial guarantees from them to provide operational facilities within the agreed parameters. Similarly, project developers would often suggest contracting specific EPCs, whereby they have already included their "agency fee" in the total sum of the contract

2. Project development for further implementation

A number of countries already support the development of renewable energy programs. Such countries offer return on investment by means of special tariffs (FiT), which are fixed for 15-25 years.

There are also markets and counties where high solar activity exists on par with high electricity prices (from \$0.1 per kWh and above). We can take advantage of such settings by signing contracts with end users directly or supplying solar power to the grid.

We plan on developing PVS construction projects in such countries, bringing them to the ready-to-build stage (see point 9.1), initially planning economically viable solutions and construction methods.

This way, we can further increase the project profitability by reducing costs. For example, the development of a 10 MW PVS from scratch costs \$30,000 – \$50,000, compared to the cost of a project company in RTB stage (about \$1,000,000).

In countries where such opportunities exist, we plan to develop several projects simultaneously to increase savings.

10. PV plants capacity scale

The main aim of **Solar DAO** is to continuously scale the total capacity of our solar plants. Naturally, this will result in an increase of token prices due to the DAO capitalization growth and rise of dividend amount paid to token owners.

The following chapter will discuss the SPV total capacity growth methodology, which is concerned with making use of bank refinancing and trade of constructed plants.

Method 1. Trade of constructed SPV plants.

An acceptable rate of return (ROI) for major investors is 7% per annum. This means that when we built a PV plant, we can sell it to such an investor for a price that could ensure the following profitability level:

Profitability 7% == ROI (recoupment period): 14 years. Profitability 10% == ROI 10 years.

Let's examine an existing project in Ukraine's Chernivtsi region (4 MW), which at the time of compiling this document is up for sale in RTB stage:

Parameter	Value
PV plant capacity (nominal power)	4 MW (4000 kW)
Project company cost	\$100 per kW or \$400k (\$400 000) for entire project
Turnkey construction cost (CAPEX):	\$700 per kW (not optimized)
Total project implementation cost:	$(\$100 + \$700) * 4000 \text{ kW} = \$ 3\,200\,000$
Specific energy production (annual):	1370 kWh/kWp/year (1370 kWh from 1 kWp)
Total energy production:	$1370 \text{ kWh} * 4000 \text{ kW} = 5\,480\,000 \text{ kWh per year}$
Tariff (FiT):	\$ 0,165 per kWh
Earnings:	$5\,480\,000 \text{ kWh per year} * \$0,165 = \$ 904\,200$
Operational costs (OPEX):	\$ 60 000 per year
Profit:	\$ 844 200 per year
ROI:	< 4 years
PV plant sale price if ROI equals 10 years (IRR 10%)	\$ 8 442 000
PV plant sale price if ROI equals 14 years (IRR 7%)	\$ 11 818 800

Thus, having spent \$3,200,000 for constructing the 4 MW plant, 3 to 4 months after the construction is completed and the plant is operational, it can be sold to a major investor for \$8.4M (\$8,400,000)

Following this logic, the profit can be used to build two additional 4 MW plants or one 10 MW plant. Considering that the typical construction period of a 4 MW solar plant is no more than 3 months (usually 2 months) and taking into account possible delays in commissioning the project and the time needed to sell the plant, even under pessimistic forecasts, it is possible to carry out two iterations as described per year. In practice, it is possible to do 3 to 4 iterations every year

This method allows scaling the PVS total capacity by 4 to 8 times every year.

Method 2. Refinancing PVS that are already built.

The gist of this method is that already built PVS can be used as a guarantee for obtaining bank credits. In that case, the owner of the PVS plant continues to acquire income from those plants.

Thus, receiving a credit (usually at a rate of 4-6% per annum for up to 80% of the appraised value of PVS), which in turn is estimated based on the amount of revenue over the next 5 to 10 years, and at the same time continuing to generate a profit from them, it is possible to upgrade to new capacities, while maintaining steady cash flow.

Let's examine this method using as an example the above-mentioned 4 MW project in Ukraine.

Param	Value
PV plant capacity (nominal power)	4 MW (4000 kW)
Total project implementation cost:	$(\$100 + \$700) * 4000 \text{ kW} = \$ 3\,200\,000$
Specific energy production (annual):	1370 kWh/kWp/year (1370 kWh from 1 kWp)
Total energy production:	$1370 \text{ kWh} * 4000 \text{ kW} = 5\,480\,000 \text{ kWh per year}$
Tariff (FiT):	\$ 0,165 per kWh
Earnings:	$5\,480\,000 \text{ kWh per year} * \$0,165 = \$ 904\,200$
Operational costs (OPEX):	\$ 60 000 per year
Profit:	\$ 844 200 per year
Bank evaluation for debt financing:	$\$ 844\,200 * 5 \text{ years} * 0,8 \text{ (coif.)} = \$ 3\,376\,800$

This method allows to build an additional 4MW PVS, while maintaining the cash flow from the first one.

By combining the two methods (trade and refinancing), we will continuously increase the total capacity of PV solar plants in the Solar DAO.

11. Project audit and selection process

In order to minimize the risks involved in project implementation, we conduct project audit and selection as follows:

1. Research and selection of projects of interest

We select projects by stage, country and plant capacity by consulting:

- Aggregation websites, where PVS projects are published
- Closed LinkedIn groups
- Teaser emails from companies involved in PVS project development
- Partnerships with equipment suppliers
- RES investment portals
- Official public bulletins for EU investment opportunities

2. Initial analysis stage

We verify the initial prerequisites and the possibility for their optimization by:

- Checking the availability and the rate of the established tariff, as well as its compliance with legislation of the country
- Checking the declared energy production via PVGIS and PVSYST software, along with climate data from NASA
- Analyzing opportunities to optimize the state of the given economy, reduce the cost of equipment and construction, while increasing the energy production
- Calculating profitability and analyzing possible risks

At this stage, 80% of the proposed projects are usually rejected.

3. Technical audit

In case a project passed the previous stage, we continue our research. We contact the owner, obtain documents and conduct further in-depth analysis:

- We verify the authenticity of the climate data using Meteonorm and SOLARGIS
- We simulate the work of the planned PVS using PVSYST in different scenarios and with different equipment, determining the compliance with the claimed data
- We analyze the contract for the purchase of electricity (PPA), the validity period, the value of indexation of the tariff and the risks involved
- We check the land lease documents and their validity period
- We check the building permits, validity period and the possibility of extension
- We conduct an audit of all project-related documentation and propose technical solutions
- We develop a feasibility study, including technical and financial models of the project in multiple scenarios
- We analyze the proposed project implementation conditions and evaluate third-party contractors

4. Legal due diligence

General legal due diligence: We research the legislation and normative acts, referred to by the project documentation and estimate any possible future changes.

12. The most advantageous countries for PV construction

As of the date of publication of this document, we have selected the most profitable and simultaneously reliable countries where the PV plants construction would have maximum potential. In these countries, there is a market of ready-to-build projects, as well as opportunities to develop from scratch.

Europe:

- Portugal
- Moldova
- Greece
- Hungary
- Slovenia
- Croatia
- Poland
- Bulgaria
- Cyprus

CIS:

- Ukraine
- Kazakhstan
- Belarus
- Armenia
- Russia

Middle East:

- Israel
- Turkey
- Egypt

America:

- Chile
- Mexico
- USA

Asia:

- India

Africa

- South Africa

The countries marked in red constitute our priority for the next 4 years.

13. Solar DAO development stages

Stage 1. Preliminary crowdfunding (Preliminary ICO)

Raising funds for infrastructure development and arranging the initial ICO:

- Financing the work of the team (minimum team members)
- Website development, set-up and testing of investor log-ins
- Development of smart contracts for conducting ICO
- Development of a holding structure and tax scheme
- Development of a bounty campaign (award system) for project advertising on social media and specialized cryptocurrency forums
- Preparation of advertising materials (subscription campaign, social media advertising, banners)
- Advertising the project on the Chinese market

Stage 2. Core crowdfunding (Core ICO)

Core fundraising by means of Initial Coin Offering (ICO):

- Financing the work of the team, up until the moment of entering the operational ground zero
- Creation of a distributed shareholder register on the blockchain and smart contracts for further dividends distribution and voting purposes
- Incorporation of the company in accordance with the holding scheme, finalization of statutory documents
- Programming of the smart contracts for dividend payments

Stage 3. Testing the dividend payment system

- Purchasing 2-3 operational PV plants in Europe with a total capacity of up to 200 kW
- Testing dividends payment system using smart contract

Stage 4. PV solar plant construction

- Purchasing project companies and construction of PVS with a capacity of up to 4 MW
- Dividends payment testing
- Obtaining refinancing for new projects
- Trading one of the projects for construction of new facilities

Stage 5. Scaling

Stage of increase in the total capacity of PVS in **Solar DAO**:

- Launch of project development from scratch (Green Field stage)
- Construction of PVS by refinancing
- Trade of projects and construction of new facilities
- Launch of new projects
- Active power increase
- Testing the voting system

14. Jurisdiction

For the purpose of this project, we will develop a holding scheme, which will allow **Solar DAO**:

- legally and safely own PV solar plants in a majority of the countries around the world,
- **to keep data on shareholders in a smart contract on Ethereum**, and
- to reduce the total tax burden.

We plan on utilizing:

1. **An offshore company** that will allow shareholders to register anonymously via a smart contract on the blockchain, own shares in PV solar plants and receive dividends based on the results of their work
2. **A holding company** set in a reliable jurisdiction, which will own projects abroad and will, in turn, be owned by the offshore company (point 1)
3. **Local companies** in the countries where PVS will be built. In countries where a division of regions exists, several local companies might be needed to construct and own PV solar plants in different regions

Offshore company

We are considering the option of registering a company in BVI (British Virgin Islands). The legislations in BVI allow companies to maintain an independent account of shareholders, i.e. a state register of shareholders is not required and the company is not tied to a specific accounting organization. Thus, the Charter of the company will indicate that the shareholder register is maintained in a smart contract.

Since the register of shareholders can be managed by the company itself, it will be conducted in electronic format, using a smart contract on the Ethereum blockchain. The Charter of the company will indicate that, in the event of possible disputes, such will be resolved online in an arbitration court in London and without the application of national law. The decisions of the London Arbitration court are legally recognized and enforced in most countries.

Holding company

We are considering the option of using a holding company in Cyprus, which is an EU member country. Cyprus-based companies can open bank accounts in other countries.

Non-resident owned businesses in Cyprus do not pay corporate tax on profits earned outside the island. The following are not subject to taxation:

- Dividends distributed between non-resident shareholders, license holders and creditors, irrespective of their residence
- Income received from the sale of shares, bonds, options, or shares of the business
- Income received via realization of a long-term investment

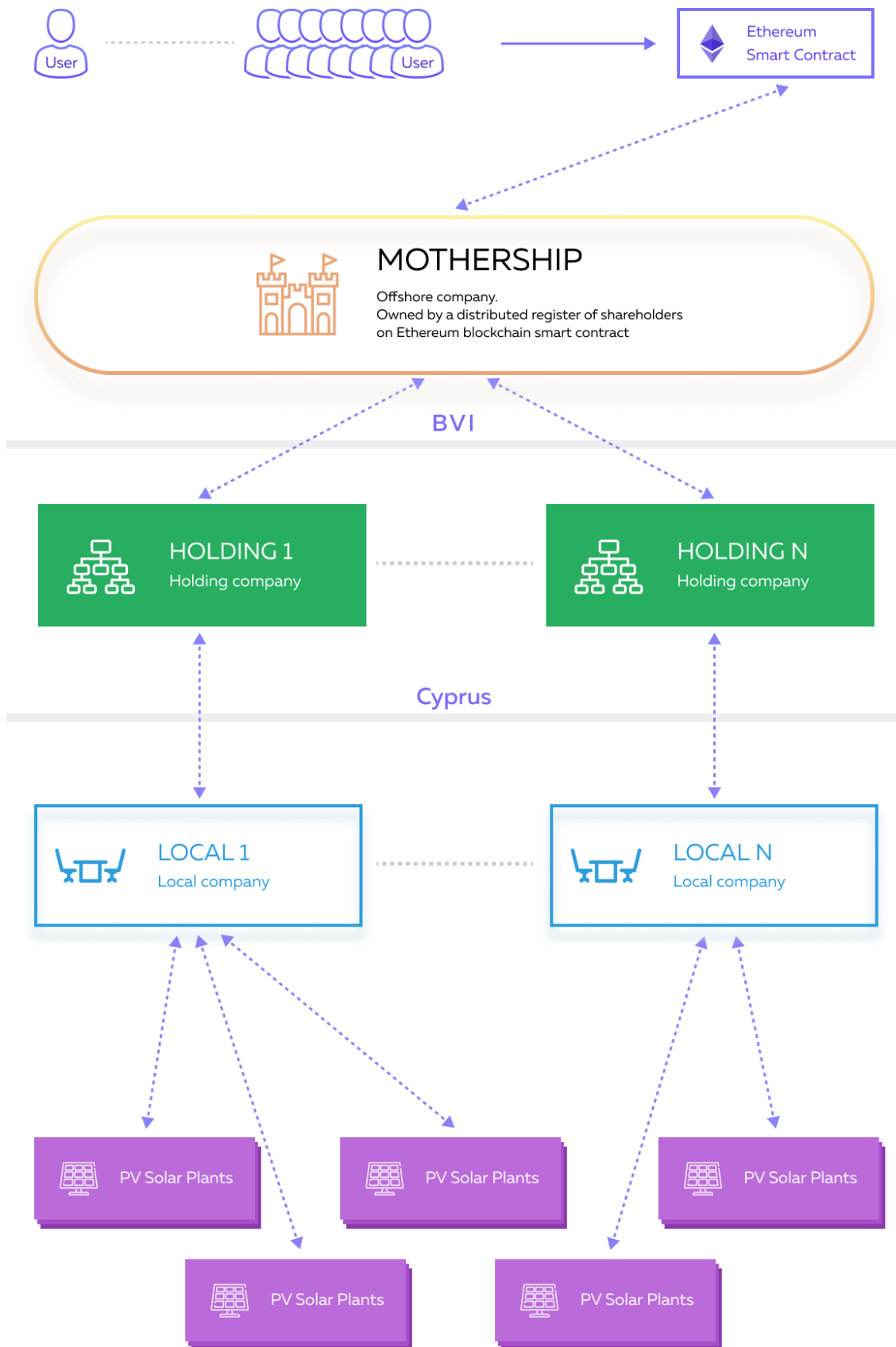
The scheme involving BVI and Cyprus is one of the most popular holding schemes.

It may be necessary to create holdings in other jurisdictions.

The choice of the aforementioned jurisdictions is preliminary at this stage.

The matter will be closely scrutinized during the preparation for the core ICO.

SOLAR DAO



15. Security

When creating and implementing the **Solar DAO** project, special attention is paid to the security of smart contracts and collected funds.

Smart contract security

To ensure the security of the code, its formal verification will be applied.

Securing the collected funds

During the preliminary ICO (stage one) we will use:

- Multi-signature wallets for the collection of funds, which require at least 2 team members' signatures for withdrawal of funds. Wallets balances will be publicly available.
- Hardware wallets (KeepKey/Ledger/Trezor) for "cold" storage of collected funds. Hardware wallets prevent outside access, thus increasing the security of funds.

During the core ICO (stage two) we will:

1. Utilize two well-known escrow services to control the collection and storage of investors' funds
2. Use multi-signature wallets for funds storage, which require at least 3 out of 4 signatures for withdrawal of funds
 - i. Two members of the team and two escrow members will have signature rights. To withdraw funds, 2 escrow signatures + 1 team signature or 1 escrow signature + 2 team signatures will be required. Thus, neither team members, nor escrow members will be able to withdraw funds of their own accord.
3. Plan on using hardware wallets (KeepKey/Ledger/Trezor) for "cold" storage of a portion of collected funds to finance the work of the team.
 - i. Each hardware wallet will also have a backup copy on a physical carrier (offline), such as Cryptosteel.
 - ii. The hardware wallets and their backups will be stored separately – part in a safe located in the headquarters in Tel Aviv (Israel) and part in a safe deposit box in Leumi/Hapoalim bank (Israel).

Documentation

We plan on storing all documents related to the PVS implementation using Dropbox (Business/Enterprise) and STORJ - a decentralized data storage system.

16. Our team

The **Solar DAO** team is formed by experts in the field of direct solar-to-electrical energy conversion with more than 26 years of experience. For successful implementation of the project, we involve leading experts in the field of blockchains and cryptocurrency.

TEAM

Dmitriy Solodukha – Founder and CEO

Dmitriy is an expert in the field of Photovoltaics with 14 years of experience. He started off as a solar panel collector to become a process engineer. He has both developed and modelled PV solar plants. He has collaborated with Russian, European and Asian investment funds and has also managed the development of a PVS construction with a total capacity of 270 MW in Russia (owned by MRC Energoholding LLC and KompleksIndustria LLC).

Founder and CEO of UNISOLEX. Experienced entrepreneur since 2008.

Oleg Solodukha – Expert, consultant, CTO

Oleg is a technology developer and creator of the production of solar cells and modules. He has created three production lines in Russia, Israel and Spain. He is an expert in the design and construction of PV solar plants and has supervised PVS construction projects in Russia, Spain, Czech Republic, Portugal and Germany. Oleg is a member of the Solar Power expert committee of the Ministry of Industry and Trade of the Russian Federation.

Alexander Ulanov – Lawyer, expert in international law

Alexander has supervised scientific and production enterprises in partnership with OAO Rusnano (formerly Russian Corporation of Nanotechnologies) and the Skolkovo Foundation. He has developed a project to build 270 MW PVS in Russia. He is an expert in electricity accounting systems and connecting sites to the centralized energy grid. He has previous experience in both developing and managing holding structures.

HISTORY

The team's origins lay in the research and production enterprise OOO "NPO "Musson", which was founded in 1991 in Krasnodar (Russia). The company developed and manufactured silicon solar cells and modules for spacecraft and ground applications.

In the late 90's in Germany, a renewable energy support program was launched. A mechanism has been created to sell electricity from solar power plants to a centralized grid using the "green tariff" (Feed-in-Tariff). Other European countries further supported the initiative.

Following these events, the team reoriented to production of solar modules for ground energy under the brand name Solar Wind. For this purpose, a new technology was developed and for the first time on Earth, the production of two-way solar cells and modules was organized. The uniqueness of this product has made us famous in this market.

Between 2001 and 2013, we took part in the construction of PVS in Europe (Germany, Spain, Portugal, Czech Republic, Greece). In total, we implemented more than 70 MW of projects and also delivered solar panels to Australia and Canada.

Since 2013, the team continues to operate under the name UNISOLEX. The company develops and implements investment projects for the construction of PVS in Europe (Croatia, Slovenia, Portugal, Spain, Poland, Bulgaria, Romania) and CIS countries (Russia, Ukraine, Kazakhstan, Armenia, Belarus, Moldova).

In the autumn of 2016, we decided to follow up on a long-standing dream of ours and create a platform, which will allow anyone to participate in financing large PV solar plant projects with a budget starting at \$1. Here is a service that will facilitate the PVS construction on a global scale, avoiding the costs of intermediaries and transaction arrangements, as well as bypassing technological and other barriers.

As our main tool, we have chosen the Ethereum blockchain.

17. ICO details

Symbol	SDAO (Solar DAO)
Total supply	80 000 000 SDAO tokens ("coins")
Token Sale start	February 28th, 2018
Initial rate	US \$1 per 1.0 SDAO token
What is a Solar DAO token	<p>SDAO tokens confirm membership in the Solar DAO and allow owners to receive dividends from PV solar plants owned and operated by Solar DAO.</p> <p>SDAO tokens provide access to 100% of DAO's net profit. All tokens distributed during the ICO entitle their owner to 100% profit.</p>
Regulations	All unallocated tokens will be destroyed via smart contract. New tokens will not be released
Token access	All tokens sold can be stored in the investor's personal account on the ICO website, or can be sent to the investors wallets, following the end of the ICO. SDAO token access will be possible via Ethereum wallet (Mist or MyEtherWallet).
Tokens trade	One month after the end of the ICO, users will be able to trade SDAO tokens on cryptocurrency exchange markets.

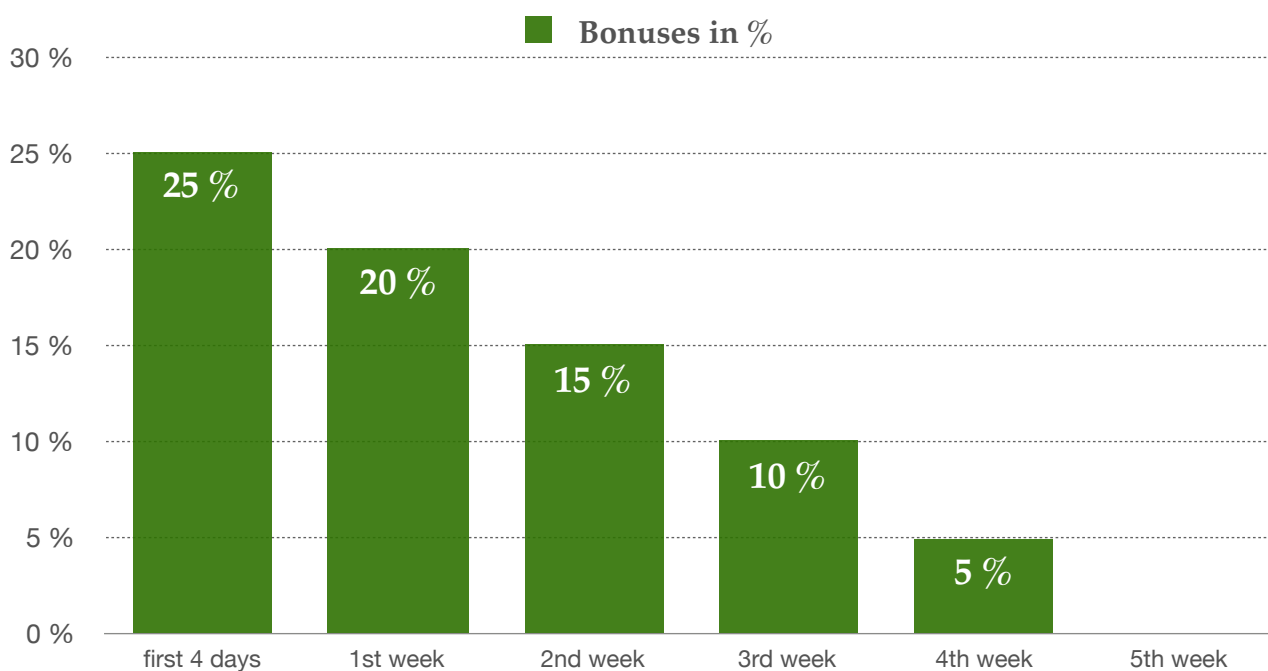
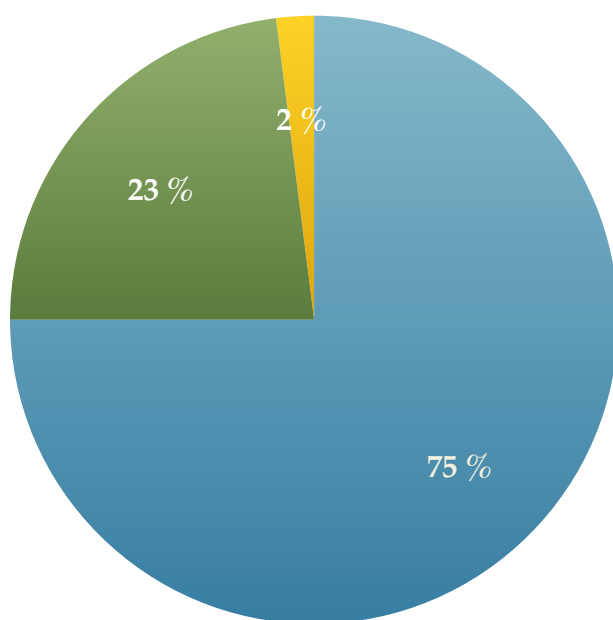
Our aim is to sell 80 million SDAO tokens at \$1 per unit. Early bird bonuses have been foreseen. The highest bonus amounts will be distributed in the course of the Pre-ICO, however a bonus scale will be included in both crowdsales.

Any user is welcome to join the project before the end of the ICO. Upon completion of the ICO, all unallocated tokens will be destroyed via smart contract.

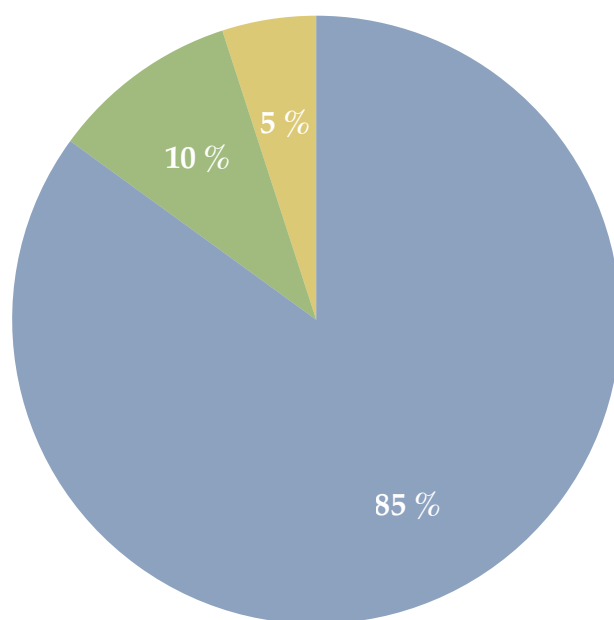
To allow the team to concentrate on achieving the best possible results and assist in carrying out operational activities, we reserve 25% of the tokens. A portion of those (2%) will be allocated to rewards as part of the bounty campaign described in chapter 13.

We intend to keep fund distribution transparency at all times. All transactions will be displayed in a smart contract.

One month after the end of the ICO, users will be able to trade SDAO tokens on cryptocurrency exchange markets.

BONUSES on ICO**TOKEN DISTRIBUTION**

- ICO users
- Team
- Bounty campaign

ICO FUNDS DISTRIBUTION

- Investments funds
- Financing the work of the team
- Other operational activities

Solar DAO

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SolarDAO.me