

RESTART  
ENERGY

BRINGING YOU  
RED

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If you decide to contribute to MWAT development, please note that your contribution to MWAT does not involve the exchange of cryptocurrencies for any form of securities, investment units and/or form of ordinary shares in MWAT or any other company, MWAT token holder does not receive any form of dividend or other revenue right that is guaranteed or it participates in profit sharing scheme.

Due to legal and regulatory uncertainty in the United States of America, the citizens and green card holders of and persons residing in the United States of America are not allowed to provide contributions and obtain MWAT tokens. Citizens and green card holders of and persons residing in the United States of America that participate in the fundraiser by providing false information about their citizenship, residency place and nationality will breach Restart Energy Democracy SRL terms and conditions and would entitle Restart Energy Democracy SRL to request such persons to compensate any damages and/or losses suffered due to this violation. The whitepaper, information provided on Restart Energy Democracy SRL web page and any Restart Energy Democracy SRL terms and conditions published by Restart Energy Democracy SRL any part thereof and any copy thereof must not be taken or transmitted to any country where distribution or dissemination of this documents/information is prohibited or restricted.

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Please read the section of this information Whitepaper named “Disclosures & Risk factors” for a discussion of certain risks and other factors which should be considered prior to any purchase of tokens.

All recipients agree that they will use this information for the sole purpose of evaluating a possible purchase of tokens, and acknowledge and agree that this information is not a prospect that contains all information a contributor may require in order to form a contribution decision.

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# 1 EXECUTIVE SUMMARY

## 1.1 Overview

**From the same company that developed the only retail energy franchise in the European Union:  
"The first crypto token that enables users to Send and Receive Energy Worldwide"**

Restart Energy, an independent European Union electricity and gas supply company with USD 20 million in current annual revenue that developed the first energy retail franchise is building a global decentralized and delocalized electrical energy supply platform and ecosystem.

Restart Energy is the fastest growing private energy and gas provider operating in an EU country (Romania), offering an innovative online and customer-centric service with greater transparency. The current customer base (December 2017) of Restart Energy includes over 3,000 SMEs and multinational companies for energy, gas and fuel packages; and over 27,000 household customers for energy and gas. Restart Energy is the first energy supplier in Europe to accept energy invoice payments in Bitcoin (September 2017).

### Company key numbers

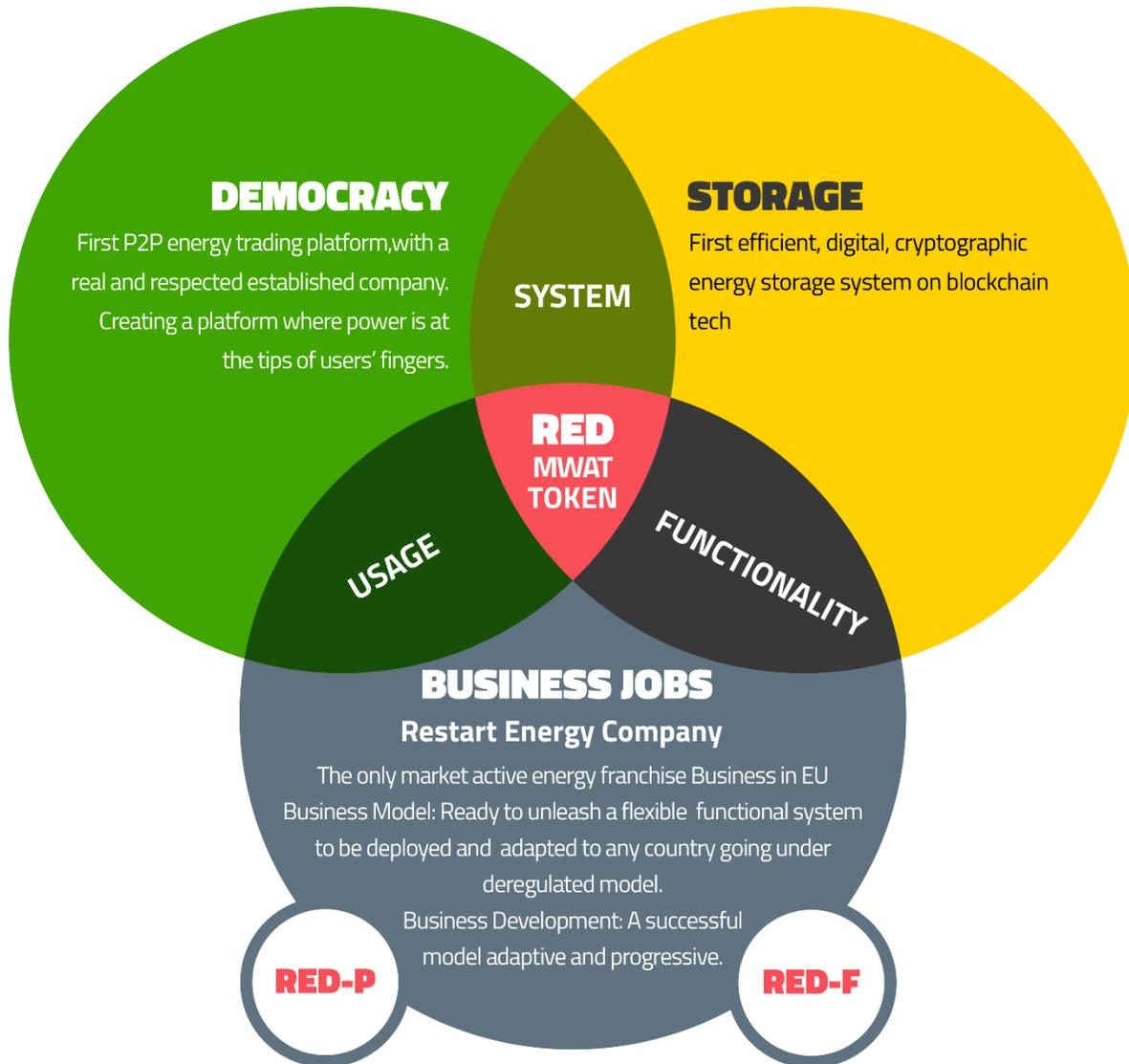
- Revenues in 2016: 5,45 million USD (>400% growth from 2015)
- Revenues estimated for 2017: 20 million USD (+425%) and revenue forecast for 2018 is 100 million USD (+500%)
- 30,000 customers (27,000 households + 3,000 companies)
- 40,000 payment locations in Romania
- +300 energy franchises sold to business partners in Romania
- Monthly growth rate is over 10%
- Strong partners: EuroGSM (Orange Telecom Dealer) + InterBroker + GRS + AMVV

**Restart Energy has been ranked as the number one independent supplier in the deregulated household gas market and number two in the deregulated energy household market in Romania.**

### Restart Energy Democracy (RED):

1) RED MegaWatt Tokens	2) RED Platform	3) RED Franchise
<ul style="list-style-type: none"> <li>✓ Restart Energy Democracy (RED) will issue its own digital cryptocurrency called RED MWAT in a token crowdsale of USD 30 Million.</li> <li>✓ Each MWAT will cost equivalent of 0.10 USD in ETH</li> <li>✓ The RED MegaWatt (MWAT) Tokens are ERC20 utility tokens that give access to the RED Platform Software and to the RED Franchise.</li> </ul>	<ul style="list-style-type: none"> <li>✓ The RED Platform Software is a blockchain based decentralized energy trading platform</li> <li>✓ Peer to Peer direct energy trading between consumers and energy producers</li> <li>✓ Awards green certificates to consumers using renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>✓ The RED Franchise is the first power retail franchise that makes it simple and easy to start and operate your own power utility company.</li> <li>✓ Allows token holders to develop its own power retail business and earn revenues by selling energy to retail households and business consumers</li> </ul>

This summary is and should be read as an introduction to the Whitepaper; any decision to perform any transaction should be based on consideration of the Whitepaper as a whole; no liability shall attach to any person, on the basis of the summary, including any translation thereof.

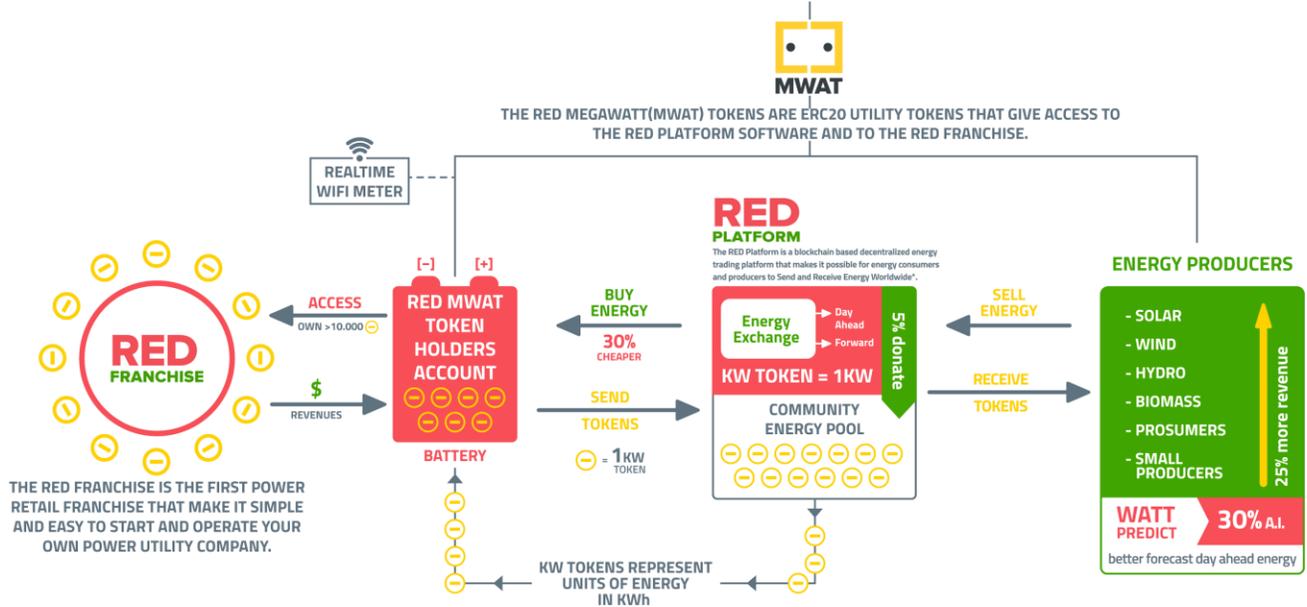


Restart Energy is building a global energy supply platform using blockchain protocol to democratize a sector burdened by bureaucracy and transaction costs, freeing up capital, saving consumers money, helping local small producers earn more and allowing real peer to peer direct energy trading using existing infrastructure.

Energy demand globally is expected to nearly double by 2030. With finite resources and the commitment to the UN SDGs, nations must innovate to generate power in a socially, economically, and environmentally sustainable manner. The European Union Member States and the United States have begun piloting reforms through energy market deregulation, allowing private companies to operate in the power retail sector. Countries across Asia such as Japan, South Korea, Taiwan, Malaysia, Thailand, Philippines and Singapore have opted for market deregulation in a bid to create sustainability while China and India are slated to follow from 2018.

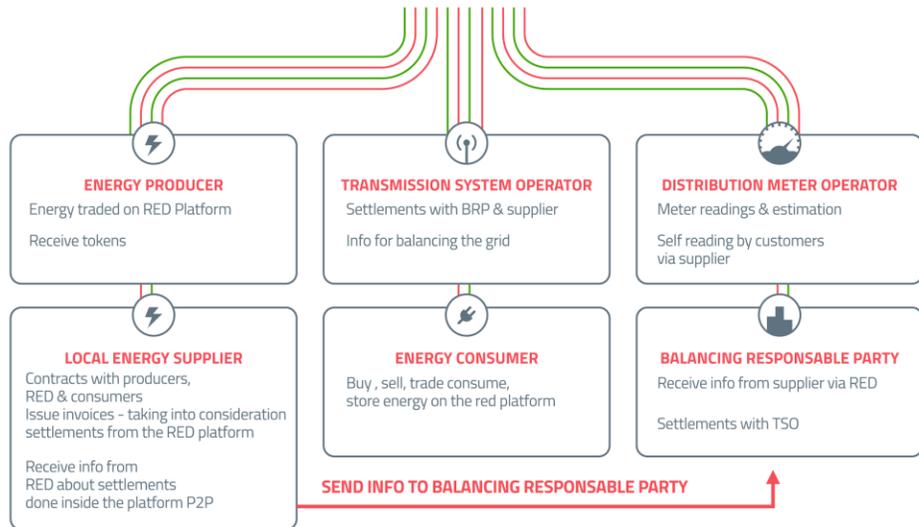
# RED ECOSYSTEM

## SEND AND RECEIVE ENERGY WORLDWIDE\* USING MWAT TOKEN



\*The tokenized energy traded on the RED Platform can be physically delivered at local rates in countries with deregulated energy markets where Restart Energy will be present directly or through franchise.

## PLATFORM USES BLOCKCHAIN FOR SETTLEMENTS AND ASSIGNING BALANCING RESPONSIBILITY



## Our vision

We envision a vibrant, sustainable world where affordable energy is created and consumed by anyone anywhere.

## Our mission

Our mission is to become the leading global energy supplier, innovating and democratizing the sector.

## Our goals

Restart Energy is committed to achieving the following goals:

- Raise 30 million USD, in order to finish RED development and expand globally
- Expand energy retail business by franchising to +45 countries with deregulated markets, representing 70 percent of the world's energy consumption through 2022

## Restart Energy Democracy Platform (RED-P)

RED-P is a software for a global decentralized energy supply.

Consumers and producers register to use the RED-P to gain access to 1) global energy supply, 2) intelligent wifi meters, 3) watt prediction software and 4) peer-to-peer (P2P) energy exchange 5) Users earn green certificates.

### Innovative features of RED-P include:

- Any registered user can buy or sell from any other registered user
- Some consumers are also generators (e.g. wind/solar) as large power stations (gas, coal, nuclear) are being replaced with thousands of consumer-generators.
- P2P: All parties in our ecosystem are able to trade with each other.
- Consumers will be awarded with Restart Energy standard green certificates for using renewable energy.

With the new platform, we anticipate energy companies to adapt to the new economy. Energy companies will start to take payment of energy bills in tokens as there will be a market for those tokens.

Finally, RED-P will increase competition in the electricity market. For instance, with our model, consumers will be able to "auto-switch" their energy supplier every 30 days. The system will tender consumer contracts every 30 days seamlessly, ensuring a more competitive marketplace and truly market-reflective prices.

## RED MegaWatt Token's Utility (MWAT)

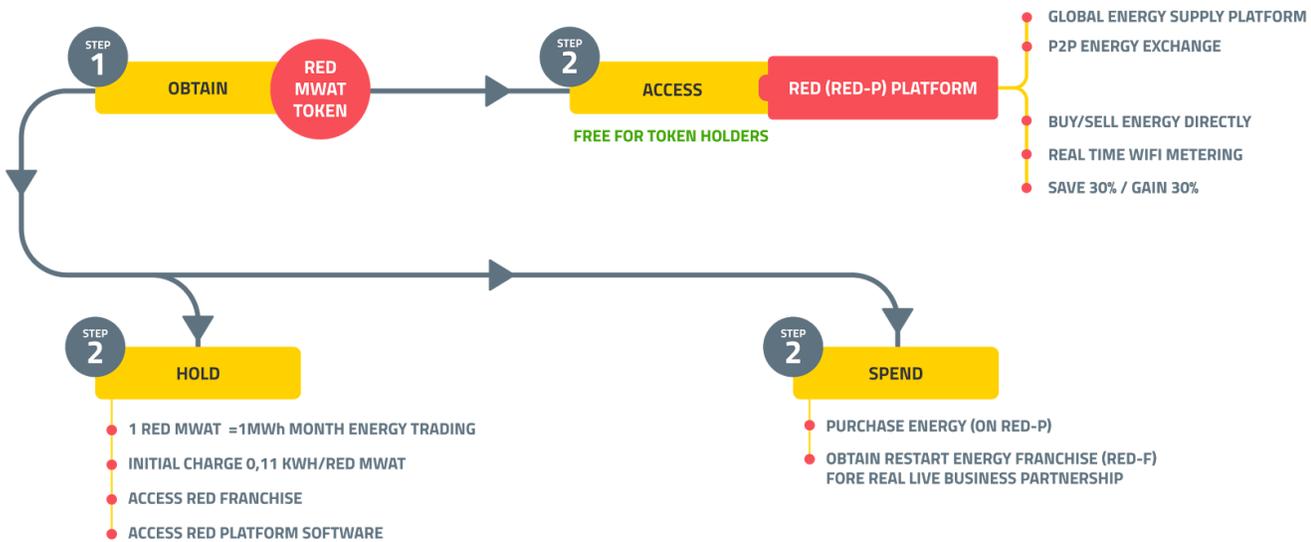
The RED MegaWatt (MWAT) Tokens are ERC20 utility tokens that give access to the RED Platform Software and to the RED Franchise. The RED Platform is a blockchain based decentralized energy trading platform that makes it possible for energy consumers and producers to Send and Receive Energy Worldwide. The tokenized energy traded on the RED Platform can be physically delivered at local rates in countries with deregulated energy markets where Restart Energy will be present directly or through franchise. The RED Franchise is the first power retail franchise that makes it simple and easy to start and operate your own power utility company. The RED MegaWatt Tokens are the first tokens backed by real opportunity. Each RED MegaWatt Token gives access to trade up to 1 MWh of energy per month on the RED Platform Software. Restart Energy will allocate an initial charge of 0.11 KW Tokens per RED MegaWatt Token. The RED MegaWatt Token is similar to a "virtual energy battery".

## Token acquisition/usage

How to obtain RED MegaWatt Tokens	How to spend RED MegaWatt Tokens
<ul style="list-style-type: none"> <li>Purchasing at the Token Generation Event (TGE)</li> <li>Purchasing from an exchange after the TGE</li> </ul>	<ul style="list-style-type: none"> <li>Accessing the RED platform</li> <li>Buying energy from producers on the RED platform</li> <li>Selling on exchanges</li> <li>Obtain Restart Energy Franchise</li> </ul>

The RED MegaWatt Token holders may trade the tokens on exchanges or access the platform and consume or sell that energy to other users. Access to the RED platform will be granted with RED MegaWatt Tokens.

## RESTART ENERGY - RED KW - RED-P - REDF DECENTRALIZED CRYPTOGRAPHIC SYSTEM



## 1.2 Restart Energy Franchise (RED-F)

Restart Energy developed the first franchise in the European Union energy industry that easily allows any person to have its own power retail business and earn revenues by selling energy & gas to retail consumers.

Owning RED MegaWatt Tokens grants the holder's access to the RED Franchises and to incomes from selling energy contracts as follows:

- 10.000 Tokens** - **RED City Franchise** - allows the token holder to broker energy sales in their city of residence
- 100.000 Tokens** - **RED Regional Franchise** - allows the token holder to broker energy sales in an entire region of their country of residence
- 1.000.000 Tokens** - **Red Country Franchise** - allows the token holder to broker energy sales in their entire country of residence
- +10.000.000 Tokens** - **RED Master Franchise** - gives the token holder country exclusivity and the option to create sub-franchises inside their country of residence (starting from 10,000,000 Tokens up, dependent on population)

FRANCHISE MODEL

**RESTART ENERGY**

**FRANCHISE MODEL IN DETAIL**

**BRINGING YOU RED**

**RESTART  
FRANCHISE**

**DEVELOP YOUR OWN BUSINESS, WITH 0%  
RISKS AND 100% CHANCES OF WINNING**

Your own energy and gas supply company to  
household clients and legal persons

**NATURAL PERSONS**      **LEGAL PERSONS**

Would you buy a McDonald's franchise now if you had the chance?

## Introducing the RED Franchise

**Be the first to secure** your retail energy franchise in your country and resell it to other private suppliers or companies after the Token Generation Event (TGE).

As we move forward, and as we have already successfully done in the past, we will focus our efforts on growing our franchise network - this time on a global scale. *Every franchise* needs to own a certain number of **MWAT** tokens to operate

If you're interested in entering the energy sector, then Restart Energy's franchise program is a unique opportunity to become personally involved in our mission to re-invent the way energy is bought, sold, and traded globally – through the RED ecosystem – a global, privatized, decentralized energy supply platform.

## What is the RED Franchise?

The RED Franchise (RED-F) is an *exclusive business opportunity available to MWAT Token holders*. It is an innovative, tested, and working idea that is already being used within the European Union. By allowing MWAT token holders to create and run their own energy retail business, we are merging decentralization blockchain technology with free market principles.

## RED Franchise Types & Tiers

There are two proposed franchise models to work with the RED ecosystem.

## Type A - Franchise Owner of a Power Retail Company

In a Type A franchise, Restart Energy would work together with the Master-Franchisee to help set-up his own power retail company, and the Master-Franchisee would be the one to enter into a new market and establish his business. The Master-Franchisee would take on all risk and expenses to create a market, and Restart Energy would provide technical, infrastructural, process automation, marketing and sales support. The Master-Franchisee would need to provide the financial and management capacity for setting up a power retail company.

Master Franchise owner would receive a full power retail business in a shell:

**Assistance** for creation & operation of own power retail company

**Right to use Restart Energy's brand and business model** including software and franchise infrastructure  
**Control** over revenues

**Technical Training** for all staff and employees

**Marketing and Branding package**

**Country Promotion** for the months leading up to and after launch, paid for by Restart Energy, in order to promote the RED ecosystem and franchise business

**Access to Complete Energy Supply CRM Software with 100% process automation**

**Access to Restart Energy specialized personnel and management** to assist and fully support the franchise and its owners

**Energy & gas trading, balancing and forecasting technical support**

**Pros:** Higher profits ; ownership of power retail company ; cross selling to existing customer database ; high process automation to deal with large numbers of low volume consumers with high margins ; unique selling points and ecosystem ; flexible products and services

**Cons:** Higher capital requirements ; Franchisee takes the risk of expansion to new markets

## Type B – Reselling / Brokering

Restart Energy would be the one to enter into a new market and establish the company. The company would take on all risks and expenses to create a market, and the franchise owner would simply act as a retailer or broker with our full support.

Master Franchise owner would receive:

**Right to create and sell sub-franchises**

**Part of revenues from all sub-franchises**

**A comprehensive franchise kit**, detailing all relevant information for the target market, modelled after our already successful franchise kits provided to European partners.

**Training** for all staff and employees

**Marketing and Branding**

**Local Promotion** for the months leading up to and after the launch, paid for by Restart Energy to promote the RED ecosystem and franchise business

**Access to the Agent Module**, offering the ability to add new franchises, see energy consumption and manage clients

**Access to the Front Desk Module of RED CRM**

**Access to Restart Energy management**, from where we can assist and fully support the franchise and its owners

As a reseller/broker, you would be entitled to a percentage of all revenues made by all other franchises in the target country (**typically 10%**), plus the revenues generated from direct sales, in the form of signing premium plus passive consumption commission.

**Pros:** Very low risk, Restart Energy takes on cost of expansion

**Cons:** Lower margin compared to full franchise ownership

## RED Franchise Tiers

Owning a certain number of RED MWAT tokens grants holders free access to one of four RED Franchise tiers and to the income from selling those energy contracts. It is important to note that it is only required that a franchise owner *holds* a certain amount of tokens. It is **not** a form of payment to Restart Energy.

### Type A - Master Franchise Token Tiers/Country:

Please check exhibit A for country minimum token tiers. Besides holding a minimum amount of MWAT tokens, Type A - Franchise owners have to meet Restart Energy minimum capital requirements and pass business conduct and reputation due diligence.

### Type B - Franchise Token Tiers :

**10,000 Tokens - RED City Franchise** - allows token holders to sell energy in their city of residence

**100,000 Tokens - RED Regional Franchise** - allows token holders to sell energy in an entire region of their country of residence

**1,000,000 Tokens - Red Country Franchise** - allows token holders to sell energy in their entire country of residence

**10,000,000+ Tokens - RED Master Franchise** - gives the token holder exclusive rights in his/her country of resident and the option to create sub-franchises inside that country.

## Existing Franchise Partners

As mentioned above, Restart Energy is *already* using the Franchise model proposed in our Whitepaper. A big part of the company's success to date has been based on its ability to successfully develop a multi-channel sales strategy, by quickly identifying market opportunities and leveraging local resources, such as micro-entrepreneurs, through the first retail energy franchise in the European Union.

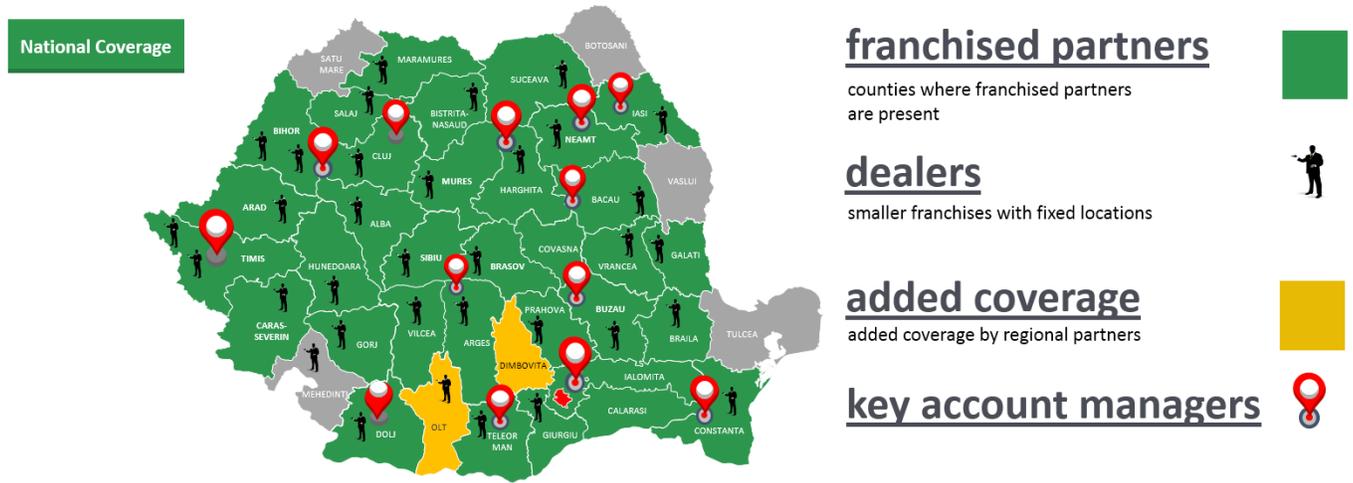
## Current non-blockchain model

The success of a franchise owner is our success as well. We work hard to ensure all franchises are fully supported via multiple sales channels for energy retail. As an example, in Romania, we are leveraging multiple sales channels for the supply of energy and gas with the following efforts:

1. **Local distribution partners** who acquire a franchise and sell energy to their longstanding customers. This strategy has proven very successful so far and will be a major contribution to our global expansion plans.
2. **Formation of local D2D teams** around our best local franchise partners.( +200 D2D agents employed by franchisee's)
3. **Our own sales force** that currently includes: 1 National Sales Manager, 1 Logistics Manager, 8-person Contracting Department, 7 Regional Sales Managers, 70 D2D sales agents (commission-based).
4. **Partnerships with national companies** like EuroGSM (largest ORANGE telecom dealer), InterBroker (3rd largest insurance broker), GRS (largest auto insurance broker), Lyoness (largest cash-back shopping network), Romanian Post (5000+ country locations), TVSat (largest regional media & telecom company), Romanian War Veterans Organization, etc.

Fig.: Romanian franchise coverage

R•START EN•RGY Up to date + 200 commercial points RESTART ENERGY



## Becoming a Franchise Owner

With a successful franchise model already in place, Restart Energy is well equipped to help all individuals and companies transition to the retail energy sector.

## RESTART ENERGY SUPPORTS YOU 100%

By providing marketing and brand identity materials, courses designed to train specialized personnel for our franchise partners, local promotion on media channels, access to Franchise/Agent and Front Desk modules, the My Restart portal, the marketing, social media and web platforms, and the option of installing smart wireless meters for clients contracted by the franchised entity, based on their contractual terms.

**Note: The franchised entities** must agree to meet energy retail targets for the first year of operation. Restart Energy will work with clients to ensure targets are manageable and reasonable.

### Key benefits:

#### Power retail business in a shell

**Cheaper renewable energy & gas to households**

**Cheaper renewable energy & gas to businesses**

**Access to RED ecosystem and franchisee's**

**Access to Complete Energy Supply CRM Software with 100% process automation**

**Access to Restart Energy specialized personnel and management** to assist and fully support the franchise and its owners

**Energy & gas trading, balancing and forecasting technical support**

**Marketing and Branding packages**

**Energy efficiency products and services**

**Renewable energy products and services**

**Mobile app's access**

**Access to P2P Energy Exchange** on the RED Platform

**Exhibit A - Type A Franchise Tiers by Country**

Region	No.	Country	Population	Franchise	Deregulated Market
				Type A	
				Min Tokens	
Europe	1	Austria	8,690,076	2,172,519	Y
	2	Belgium	11,311,117	2,827,779	Y
	3	Bulgaria	7,153,784	1,788,446	Y
	4	Croatia	4,190,669	1,047,667	Y
	5	Cyprus	848,319	212,080	Y
	6	Czech Republic	10,553,843	2,638,461	Y
	7	Denmark	5,707,251	1,426,813	Y
	8	Estonia	1,315,944	328,986	Y
	9	Finland	5,487,308	1,371,827	Y
	10	France	66,759,950	16,689,988	Y
	11	Germany	82,175,684	20,543,921	Y
	12	Greece	10,783,748	2,695,937	Y
	13	Hungary	9,830,485	2,457,621	YN
	14	Ireland	4,724,720	1,181,180	Y
	15	Italy	60,665,551	15,166,388	Y
	16	Latvia	1,968,957	492,239	Y
	17	Lithuania	2,888,558	722,14	Y
	18	Luxembourg	576,249	144,062	Y
	19	Malta	434,403	108,601	Y
	20	Netherlands	16,979,120	4,244,780	Y
	21	Poland	37,967,209	9,491,802	Y
	22	Portugal	10,341,330	2,585,333	Y
	23	Romania	19,760,314	4,940,079	Y
	24	Slovakia	5,426,252	1,356,563	Y
	25	Slovenia	2,064,188	516,047	Y
	26	Spain	46,440,099	11,610,025	Y
	27	Sweden	9,851,017	2,462,754	Y
	28	United Kingdom	65,382,556	16,345,639	Y

	29	Iceland	332,529	83,132	Y
	30	Liechtenstein	37,622	9,406	Y
	31	Norway	5,210,721	1,302,680	Y
	32	Switzerland	8,327,126	2,081,782	Y
	33	Montenegro	622,218	155,555	Y
	34	Macedonia	2,071,278	517,82	N
	35	Albania	2,886,026	721,507	Y
	36	Serbia	7,076,372	1,769,093	Y
	37	Turkey	78,741,053	19,685,263	N
	38	Bosnia and Herzegovina	3,839,265	959,816	N
	39	Kosovo	1,771,604	442,901	N
	40	Moldova	3,555,159	888,79	N
	41	Ukraine	42,590,879	10,647,720	N
	42	Armenia	2,998,577	749,644	N
	43	Azerbaijan	9,705,643	2,426,411	N
	44	Georgia	3,720,400	930,110	N
N America	45	US	323,127,513	80,781,878	Y
	46	Canada	36,290,000	9,072,500	Y
Asia-Pacific	47	Australia	24,130,000	6,032,500	Y
	48	New Zealand	4,693,000	1,173,250	Y
	49	Japan	127,000,000	25,750,000	Y
	50	South Korea	51,250,000	12,812,500	N
	51	Singapore	5,607,000	1,401,750	Y
	52	Thailand	68,860,000	17,215,000	N
	53	Vietnam	92,700,000	23,175,000	YN
	54	Mongolia	3,027,000	756,75	N
	55	Russia	144,300,000	36,075,000	N
	56	India	1,324,000,000	-	N
	57	Indonesia	264,882,526	20,125,000	YN
	58	Taiwan	23,647,920	5,911,980	Y
	59	Brazil	200,361,925	50,090,481	N

	60	China	1,411,278,927	-	N
	61	Philippines	105,424,010	26,356,003	YN
Africa	62	South Africa	48,810,427	12,202,607	Y
		<b>Total</b>	<b>4,894,344,994</b>	<b>499,873,492</b>	

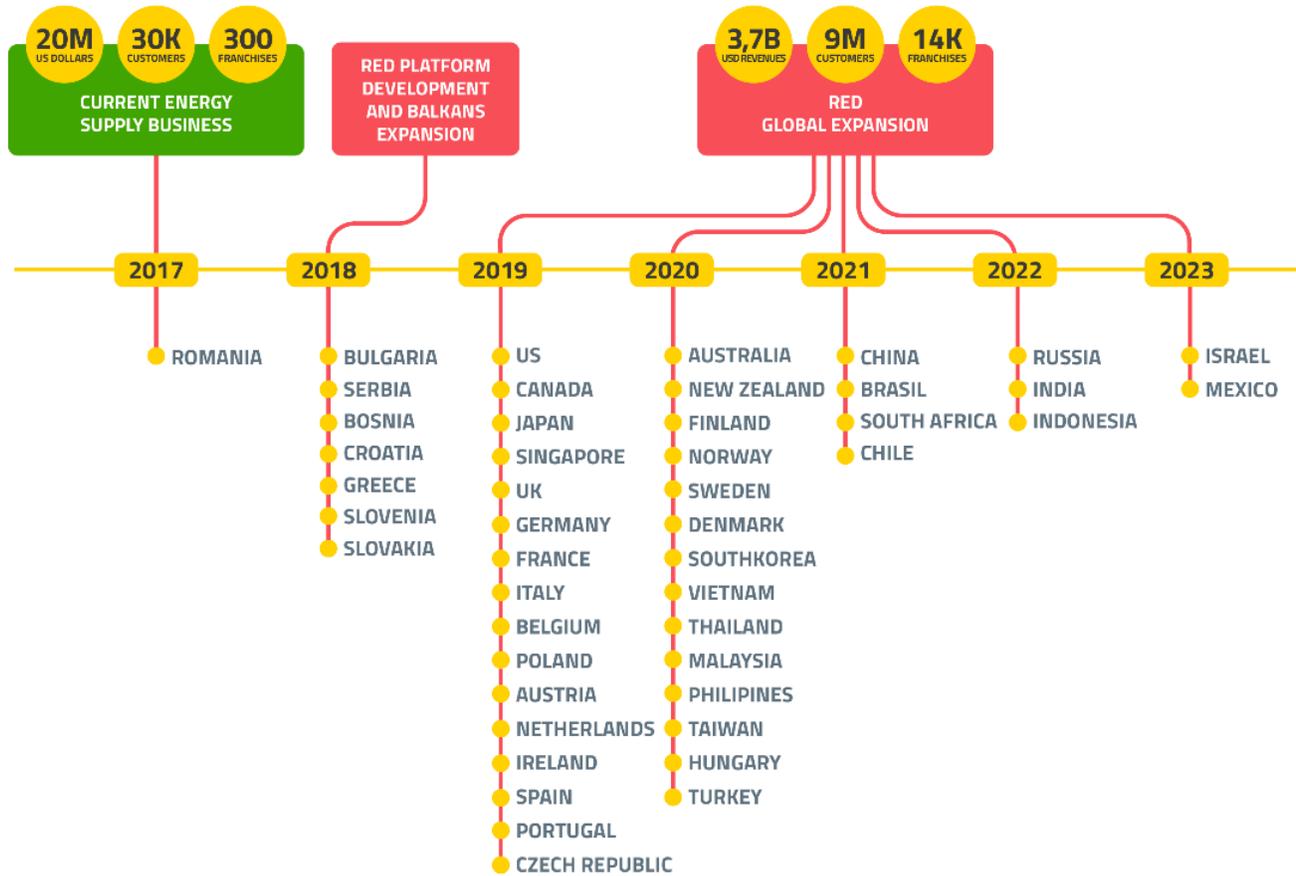
Source: Eurostat, OECD, World Energy Council

Y = deregulated energy market

N = monopolistic energy market (not deregulated)

YN = partially deregulated energy market or advanced in the process of completing deregulation

## ROADMAP



## Message to contributors from Restart Energy founder



Restart Energy is my legacy to the world, it's my dream of creating a transparent energy eco system that allows and encourages free and direct energy transfers between people that have the possibility to choose renewable energy without limitations from sources they can trust.

We became the fastest growing independent energy company in an European Country by tapping into the vast potential of micro entrepreneurship and creating new jobs with the Restart Energy franchise. Restart Energy token generative event is a black swan event for energy monopolies, it's history in the making. By buying RED MegaWatt Tokens, you get an opportunity to participate in a great business success story while making money in the process.

## Team



**Armand Doru Domuta**  
Founder & CEO,  
Serial Entrepreneur



**Renato Doicaru**  
COO, Co-founder,  
Energy Trading Expert



**Andrei Avram**  
IT Entrepreneur &  
European Commission Expert



**Ayako Miyaguchi**  
Advisor



**Lina Constantinovici**  
Head of Business Development



**Vlad Trifa,**  
IoT & Blockchain Expert

## Detailed company overview

Restart Energy is the fastest growing energy and gas provider operating in an EU regulated environment in Romania, offering an innovative and customer-centric service with greater transparency.

### Facts:

- Operated in an EU-regulated environment in the fastest growing economy in Europe
- 30,000 Customers Base (27,000 Households and 3,000 Companies)
- USD 20 MM revenues in 2017
- 200+ commercial locations
- 300+ franchise business partners
- 40,000+ payment points
- Customized technology unique in the energy sector
- Offering up to 100% renewable energy supply
- A job-creating, micro-entrepreneurship sales model
- Restart Energy has the highest customer satisfaction rate among energy providers and was voted the supplier with the most responsive customer care in 2016 by the users of the Energy Platform.
- Restart Energy is the first energy supplier in Europe to accept energy invoice payments in Bitcoin.

Since its inception in 2015, Restart Energy has had remarkable market traction coupled with exponential growth. It achieved a 400% sales growth in 2016 as compared to 2015, reached revenues of 5.45 million USD in 2016 in an EU-regulated environment, and estimates revenues of 20 million USD in 2017.

**Restart Energy offers 24-hour support** through telephone and multiple online platforms:

- ✓ Facebook Messenger, Mobile App, Facebook Bot and WhatsApp.
- ✓ Facebook customer rating - score 4.9/5 out of 187 evaluations - highest score among energy companies.

Restart Energy expects to reach 20 million USD in revenues this year (2017) and over 100 million USD next year with planned expansions. Because of its spectacular growth, Restart Energy was awarded the "Exponential Growth Award" from the Renewable Energy Cluster, ROSENC and was voted having the fastest response time by the users of the "Energy Platform" in Romania.



Restart Energy offers integrated energy, gas, and fuel packages to households, SMEs, and multinational companies helping them effortlessly achieve greater savings on all forms of energy consumed. It purchases renewable energy directly from solar, wind and hydro producers by providing them bankable energy and green certificates with offtake agreements.

It enables its user to switch the supplier option through its mobile app within 5 minutes. It focuses on eliminating bureaucracy in all the activities of its value chain. Customers can opt for up to 100% renewable energy consumption. Restart Energy's online portal and mobile app has helped users towards easier fuel management and savings with the highest level of transparency.

Restart Energy currently employees 70 people directly at its head offices in Timisoara and Bucharest, and over 1,000 indirectly through 300 business franchise partners in the 200+ commercial locations where it sells energy and gas subscriptions to households and SMEs.

**Company has been recognized by:**

ROSENC: Special distinction for spectacular exponential growth. (2016)

Energy Platform: Voted as the Provider with the fastest response time. (2016)

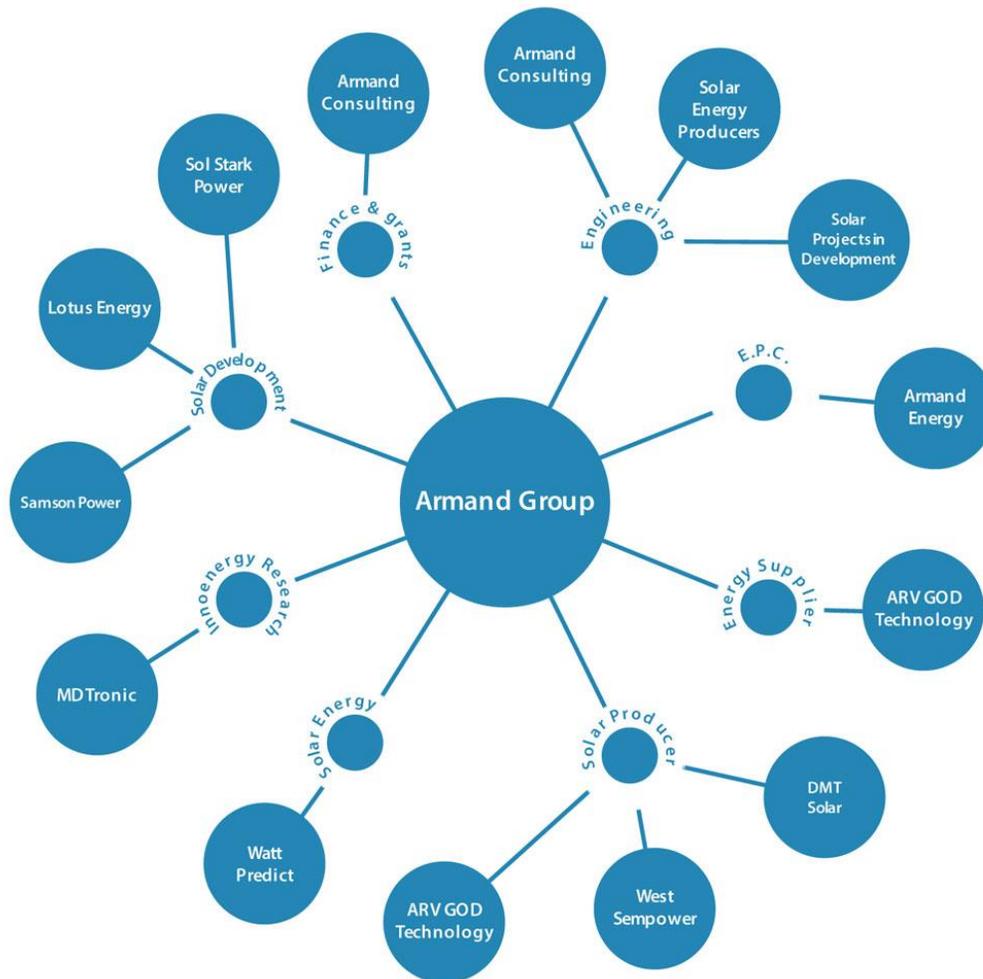
**1.3 Accomplishments to date**

2009 Founding of Armand Group



Armand Group was founded in 2009 and soon became one of the important players on the market of **renewable energy**, both in Romania and in Europe. In time we branched out and followed new paths for development but our goal remains the same – a better world and a sustainable future.

Armand Group is specialized in **renewable energy** and **constructions** and we brought the best, most dedicated professionals on board with us – having a constant growth during years.



2015

Founding of Restart Energy Company by Armand Doru Domuta, as part of Armand Group

- Acquiring : Energy Supply License, Gas Supply License and ISO Certification, Cross Border Serbia Energy Supply License

2016

- February - Acquired its first group of customers
- Reaching 10,000 customers by the end of the year
- Revenues in 2016: USD 5,45 million (> 400% growth from 2015)

2017

- Revenues estimated for 2017: USD 20 million (+425%) and revenue forecast for 2018 is USD 100 million (+500%)
- 30,000 Customers Base (27,000 households and 3,000 companies)
- 40,000 payment locations in Romania
- Over 2000/month new customers
- Monthly growth rate is over 10%
- Strong partners: EuroGSM (Orange) + InterBroker + GRS + AMVV

**Given below is a timeline of Restart Energy’s milestones**

<b>Timeline</b>	<b>Milestone</b>
<b>2015 Aug</b>	Acquired Energy Supply License Nr.1816
<b>2015 Dec</b>	Acquired Gas Supply License Nr.2015
<b>2015 Dec</b>	Acquired Fuel Supply License : RO9103735EN01/2016
<b>2015 Dec</b>	Acquired Cross Border Serbia Energy Supply License : 168/2015
<b>2016 Feb</b>	Acquired its first group of customers
<b>2016 Dec</b>	Reached 10,000 customers
<b>2017 Apr</b>	Launched online and mobile switching app
<b>2017 May</b>	Launched fuel card system
<b>2017 Jun</b>	Reached US\$ 1 million monthly turnover
<b>2017 Jul</b>	Launched messenger bot for switching and support
<b>2017 Aug</b>	Reached 200+ commercial locations
<b>2017 Sep</b>	Launched WhatsApp Support and Home Appliance Insurance
<b>2017 Oct</b>	Planted the Restart Customer Forest of 10,000 trees
<b>2017 Nov</b>	Surpassed US\$ 2 million monthly turnover
<b>2017 Dec</b>	Reached 30,000 customers

**Restart Energy has been ranked number one independent supplier in the deregulated household gas market and number two in the deregulated energy household market in Romania.**

Fig. 3 Snapshot of Energy Supply License, Gas Supply License and ISO Certification



The Romanian Sustainable Energy Cluster ROSENC has also expressed its support for the Restart Energy Democracy Platform.

**Fig. 4** Snapshot of Letter of support Romanian Sustainable Energy Cluster ROSENC



Timișoara, September 23, 2017

**LETTER OF SUPPORT**

*To whom it may concern*

**Subject:** Expression of interest in supporting the Restart Energy Democracy Platform

The General Objective of the Restart Energy Democracy Platform (REDp) is to help build a more sustainable world where affordable renewable energy is created and consumed by anyone anywhere using blockchain technology for eliminating several layers of transaction costs.

The Restart Energy Democracy platform will allow Restart Energy to expand to more than 35 countries in the world with deregulated energy markets that represent 44 percent of the world's energy consumption.

**Restart Energy Democracy Platform is aligned with ROSENC's vision and priorities in the Climate Change Adaptation & Mitigation field, and we strongly support the project activities and look forward to disseminate the project's results.**

The Romanian Sustainable Energy Cluster – ROSENC is an NGO that works in the triple-helix model, gathering so far 63 members (49 SMEs, 3 big companies, 8 Universities/Research Institutes and 3 Public Authorities), with the common aim of promoting Romania, the West Region and Timis county as leader in the fields of renewable energy, energy efficiency and the new sustainable energy fields; to participate in international networks as partner or coordinator in projects which concern member organizations competitiveness raising through national and international cooperation. ROSENC is a Silver Labeled Cluster, ranked among the top 111 clusters in Europe, by the European Secretariat for Cluster Analysis.

**This letter is to confirm that the Romanian Sustainable Energy Cluster ROSENC is supporting the activities foreseen by RESTART ENERGY and the development of the Restart Energy Democracy Platform.**

Sincerely,

**Vlad Stanciu, CEO**  
**The Romanian Sustainable Energy Cluster – ROSENC**

Signature and stamp 

The Romanian Sustainable Energy Cluster - ROSENC  
web: [www.rosenc.ro](http://www.rosenc.ro)

tel.: 0745 055 558  
email: [contact@rosenc.ro](mailto:contact@rosenc.ro)

## 2 RESTART ENERGY TEAM

### 2.1 Contributors

Restart Energy is owned 82% by Armand Group, the most successful renewable project developer in Romania with more than 500 MW of solar and other renewable sources developed through its subsidiary Armand Consulting, and 18% by TVSat Group, which is the largest regional Media & Telecom Company in Romania.



### 2.2 Executive team

#### Armand Doru Domuta, Founder & CEO, Serial Entrepreneur



Armand has scaled Restart Energy in the last years into a diversified energy company in Romania. His achievements include developing 500 MW renewable energy projects (pv, hydro and biomass), managing 30 ANRE-licensed engineers, building an EPC over 30 projects (many of them still operational); including dispatching, balancing and trading energy from these and other assets. Further achievements: Developed a system for optimized prediction of Restart Energy's production and pioneered a smart metering system. He holds a Master's degree in Accounting and Finance, and a Bachelor's degree in Marketing Management.

#### Renato Doicaru, COO

Renato is responsible for performing all activities of procuring and trading electricity. He has worked with Armand Group from the beginning, building and operating power plants, getting licensed on all Romanian electricity platforms, including DAMAS of Transelectrica for Cross-border trading, where he exceeded 1 TWh of trading to date. He has been involved in several research projects for developing improved energy forecast models together with ESA (European Space Agency).



#### Cristian Bogdan, CFO



14 years track record in financial industry, mostly in top banks, brought Cristian a comprehensive understanding of business and people management. Experienced in corporate business and financial analysis, business strategy, credit deals structuring, credit risk and daily business operations. He acted in the corporate banking market with Raiffeisen Bank. Seven years later, became Corporate Director at ERSTE BCR Timis. After three years he was directly steering all business lines at BRD Societe Generale, Timis, with direct responsibility over both retail and corporate segments.

#### Andrei Avram, CTO

Expert Evaluator for the European Commission regarding disruptive ICT startups. With 10 years of experience in developing innovative IT businesses by always pushing the limits of the technology. Involved in the blockchain space for many years, Andrei is also the Founder & CEO of Transylvania High Tech-(THT.ro) - the main technical partner of the RED platform.





**Ovidiu Brindus, CSO**

Head of Sales, Ovidiu is responsible for building up all internal and external sales channels. After graduating with a degree in law, he collected his experience in building and managing sales departments in Romania for the telecom industry, finance, and real estate; amongst others, he had been responsible for building Vodafone in Romania to over 100 outlets.



**Lina Constantinovici, Head of business development**

With over 20 years cross-sector experience, Lina has contributed to building dozens of successful companies as CFO, CEO, COO and Advisor in Silicon Valley. Over the past 12 years, Lina has worked on fundraising strategy and building innovative business models for early-stage ventures. As Head of U.S. Operations, Lina contributed to building GrowVC: the first online, global marketplace for entrepreneurs. She holds an MBA in Sustainable Management from Presidio Graduate School.



**Michael Enescu, Energy Adaptive Networks Expert**

Michael Enescu is Chairman and Co-founder of EAN, responsible for development of network virtualization technology based on smart grid research from Caltech. He has a broad range of experience having developed and delivered dozens of enterprise and consumer software products.



**Eng. Viorica Gheorghe, Chief of Markets**

Viorica is Chief of Markets and Forecast specialist with 12 years' experience in operating OPCOM markets.



**Rebeca Dragomir, Marketing Manager**

Rebeca is Marketing Manager with 8 years' experience in the Marketing field and has been at Restart Energy since its beginning.



**Eng. Mara Grigore , Head of Large Accounts**

Mara is Head of Large Accounts with 20 years of experience as Key Account Manager for top energy companies like Arelco Power.



**Eng. Marian Iriza Voinea, Head of Gas Supply**

Marian is Head of Gas Supply with 6 years of gas distribution experience and 10 years of gas supply experience.





**Max Unger, TGE Sales Manager**

Max is a serial entrepreneur and blockchain expert who has been involved in the industry for more than six years. His background is in strategic planning and marketing, whilst also having worked as an IT project manager. Over the years he has helped high-profile clients such as Ducati Australia and MicroMoney Intl. launch digital campaigns to great effect. Outside of this, he is also the founder of a medical start-up which helps improve post-operative care for patients.



**Azam Shaghghi, PR Manager**

Azam, known as disruptive entrepreneur in none for profit sector, is a technology enthusiast working in financial industry as an analyst. She spends her life learning about how to capitalize on technology disruption innovations and positive impact. Aiming to escalate competitiveness in corporate venture capital, her areas of interest is hedge funds & private equity investment to enhance profit revenue. Azam is also a writing contributor to Huffington Post, Medium, and STEM Magazine.



**Dorian Lupu, Lead Software Architect**

Dorian has over 10 years of experience developing new features for in-house applications and micro-services architectures. He will assist Restart Energy on building the software for the RED Platform and taking the project to the next level, by employing his past experience in building real time trading platforms.



**Alexandru Tarcan, Online Sales Manager**

Direct experience in sales and purchasing fields in last 15 years, like basic specialization computer programming; have recently joined the team after finishing the delivery of a custom built online marketplace platform.



**Susaye Greene, RED project ambassador**

Susaye's well-known career in music and art industry R&B, pop, and dance-pop in 1976s was a great success as she was the last member to join the Motown girl group called The Supremes.

Along with art and music work, she has always expressed her numerous support for STEM education (Science, Technology, Engineering, Math) and in 2016 was an advisor to the only Canadian team competing in Google Lunar XPrize Team PlanB Canada, the 30 million dollar prize.

Her tremendous passion in bringing the world together for the peace and prosperity, she finds her vision aligned with Restart Energy Democracy ICO project platform that allows people to consume and buy energy based on the RED crypto token using Blockchain technology. The token allows for the virtual storage of electrical energy, giving people access to cheaper energy and right to trade it.

## 2.3 Advisors



### **Cătălin Sorin Ivan**

Member of the European Parliament for the last 9 years, with 15 years of political experience. Blockchain advocate with a Master's in International Business. Cătălin is one of the youngest members to ever grace the halls of Brussels and he aims to spearhead blockchain and deregulation efforts in the heart of the EU. Before getting into politics, he studied and earned a Master's degree in International Business - a solid background for blockchain and deregulation advocacy. He has been a member of 14 Special committees and has held two vice-chair positions

during his time as MEP: the vice-chair of the delegation for relations with the countries of the Andean Community (2011-2014), and the vice-chair of the committee on Budgetary Control (2017).

### **Ayako Miyaguchi, Advisor**

Ayako is global influencer and expert in cryptocurrency. As Managing Director Japan of Kraken, she has globally educated the public, VCs, and regulators on the cryptocurrency/blockchain innovation and technologies. She secured the agreement between the MtGox bankruptcy trustee and Kraken, leading the projects for the investigation and other proceedings. She is a founding member of Japan Blockchain Association (JBA) and spearheads JBA's foreign relations. She is currently advising different cryptocurrency/blockchain projects for social impact both in the developed and the developing world, connecting the world with blockchain.



### **Junko Nagao, Advisor**

Junko is the founder and CEO of Visions Sprout, a management and fundraising strategy consultancy. She has developed multi-sector partnerships, leadership programs, and organizational strategy in the U.S., East African countries, and Asia. She regularly participates in inter-governmental forums and organizations to promote inclusive and sustainable solutions. Junko supports women and girls in STEAM ventures and investments, mentoring diverse young people. Currently, she serves as a mentor for the Global Give Back Circle (GGBC), part of the Clinton Global Initiative Commitment. She

received her Masters from the Harvard Graduate School of Education, and Bachelors from Barnard College, Columbia University.



### **Nicoleta Almaj - Murariu, Head of legal**

Co-founding managing partner of Almaj & Albu SCA and for more than 10 years concentrates her expertise in the areas of development, financing, acquisition and disposition of energy projects, including renewable, gas, nuclear and coal power projects. Nicoleta received a Law Degree from Bucharest University, a Master's degree in Business Law from NicolaeTitulescu University, a degree in European law from Université Paris 1 Panthéon- Sorbonne, French-Romanian College of European Law.



### **Rafael Friedmann, Advisor**

Rafael has over 40 years of experience promoting more sustainable energy sector development choices; primarily in the USA and Latin America. Early work on solar thermal applications has been followed by over a quarter century of work in energy efficiency policy, programs, and their evaluation. Work has included academia, Lawrence Berkeley National Laboratory, consulting, and electric and gas utility. Professional studies include a Bachelor's in Energy Resource Engineering from Universidad Autonoma Metropolitana of Mexico, Master's in Mechanical Engineering at Technion of Israel, and Ph.D. from the Energy & Resources Group



of UC Berkeley.

**Thomas L. Rosenberg, Advisor**

Thomas’s passion is connecting the dots between desired goals and organizational structure, culture, and strategy. A systems thinker, he blends extensive change leadership and coaching experience with science and applied technology, policy, and business expertise. Since 1994, his work has focused on environmental initiatives in the US, Europe, Latin America, Asia, and Africa. A management consultant and coach since 2006, Thomas has successfully addressed climate risk, organizational carbon and sustainability strategy, and stakeholder engagement issues for Fortune Global 750, national governments, among other clients. He also advises and mentors startups.



**Alexandra Popa, Advisor**

Alexandra has over 12 years of experience in investment banking, private equity and venture capital. She is currently leading the Investment Banking department of Banca Transilvania Group, the second largest bank in Romania. She acted as an advisor on multiple M&A transactions covering Telecom, IT, retail, energy and healthcare sectors and was part of the investment team managing around EUR 800m of capital in CEE. Alexandra is also serving as a mentor for the Tech startup industry in local accelerators and other organizations. Alexandra graduated from the Academy of Economic Studies, Bucharest and UPEC - Université Paris-Est Créteil, France and has a Master’s Degree from Université Paris-Sud, France. Alexandra is also a Certified Executive and Board Coach.



**Alexandru Vlaicu, Advisor**

Alexandru is a FinTech and Blockchain enthusiast, currently working as an investment banking professional for Banca Transilvania, one of the leading financial group in Romania. Having an entrepreneurial mindset, he has been actively implied in numerous M&A deals and gained relevant experience, especially in Energy and Technology industries. Alexandru has a Master's Degree in Finance and has over 3 years’ experience as Financial Analyst in 3 different industries: capital markets, banking and investment banking.



**Vlad Trifa, IoT & Blockchain Expert**

Vlad Trifa is an experienced technologist, entrepreneur and author who has been at the forefront of the Internet of Things (IoT) revolution for over a decade. Most recently, he launched and led the Swisscom Digital Lab - a leading innovation center in enterprise digitalization for the largest Swiss telecommunication provider, which helps late companies harness the latest technologies such as AI, Blockchain and IoT. Before that, he co-founded and led the product & R&D departments EVERYTHING, an award-winning industry-grade IoT cloud platform used by numerous Fortune 100 companies. As the founder of WebofThings.org, he is a well-respected author and researcher and wrote numerous patents and articles about the intersection of Web technologies and IoT. The results of his PhD research carried out at MIT, ETH Zurich, and SAP played a central role in W3C efforts to create a standard for the Web of Things. Vlad graduated with a PhD in computer science from ETH Zurich, an MSc in Robotics and Artificial Intelligence from EPFL.





**William Davis, Advisor**

William is at the forefront of emerging technologies. He is an advisor to funds and individual investors in New York City. His capabilities span from complicated technology stacks to targeted campaigns for sustainable lift and mobile customer acquisition and retention. Clients and partners range from the leading lending platforms, crowdfunding sites, virtual currency players and mobile payment gateways to legacy firms entering new markets. He has held positions of Senior Advisor, CIO, COO and President of emerging technology firms globally.

**2.4 Our vision**

We envision a vibrant, sustainable world where affordable energy is created and consumed by anyone anywhere.

**2.5 Our mission**

Our mission is to become the leading global energy supplier, innovating and democratizing the sector.

**2.6 Our goals**

Restart Energy is committed to achieving the following goals:

- Raise US\$30 million to finish RED development and expand globally
- Expand energy retail business by franchising to+45 countries with deregulated markets, representing 70 percent of the world’s energy consumption through 2022

## 3 THE CHALLENGE

Despite the deregulation of energy markets, several challenges prevent market entry for private electricity suppliers. With legacy players continuing to hold majority share of the market, little has changed since the deregulation.

Obstacles to entering the household and SME energy markets include capital-intensive infrastructure and process automations necessary to handle large numbers of low volume consumption. Current service models do not provide direct connection between producers of renewable energy to consumers, resulting in the inability to profit and grow business, save, and choose between renewable and fossil fuels. Government subsidies for renewable energy are designed to jumpstart markets until the necessary economies of scale for grid parity are reached, but in reality, there are very few countries where renewable energy has reached grid parity.

Now, after the drop in subsidies, the world is looking for a new distributed energy development model to directly connect end users to producers to allow consumers direct access to accountable, cheaper energy and to provide producers with increased ROI, enabling a faster renewable energy deployment around the world. Small consumers and producers are usually trapped in contracts with suppliers that provide limited services at high costs for the end users. Currently, the limited blockchain energy schemes have focused on incentivizing renewable energy generation. This model does not solve the main issues in the market raised above.

### 3.1 Our Solution

Restart Energy Democracy (RED): The first global online energy provider.

Restart Energy is developing a blockchain-based platform with a single, intuitive user interface allowing for global energy supply that will help it become the next generation utility company.

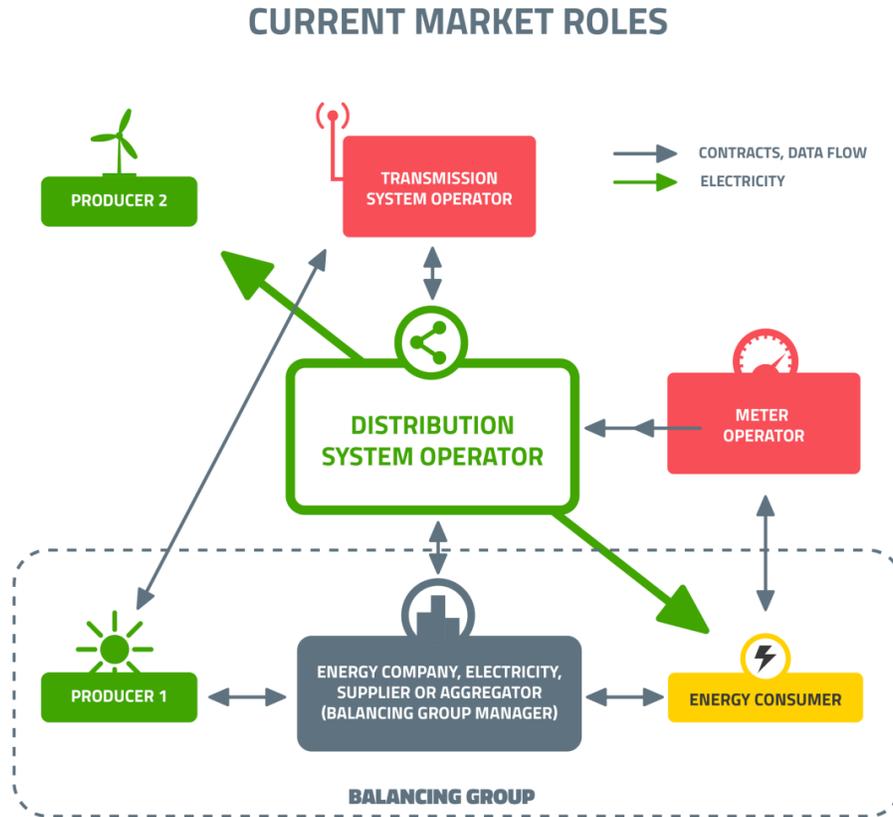
More than 3 billion energy consumers all over the world in deregulating markets will be able to switch their current energy provider with Restart Energy or a RED Franchise in an online, transparent environment using our platform in less than 5 minutes. The platform will provide for all of their energy needs in a superior user-friendly way for real time consumption, invoices, payments and, most importantly, it will allow for direct peer to peer energy associated rights exchanged between consumers, prosumers and producers of any kind.

The Restart Energy Democracy Platform (RED) connects energy producers and traders with retail customers around the globe in a transparent, decentralized manner; creating added value for all the parties by employing blockchain to remove several layers of costs associated with bureaucracy and transaction costs.

By rearranging the way transactions are settled in a transparent manner using blockchain, producers will be able to sell their energy at a price 30% higher compared to the wholesale price to high numbers of low-volume retail customers, who will then pay 30% less using existing grid infrastructure and the RED platform administered by Restart Energy.

Furthermore, we intend to develop a new standard of cryptographic green certificates on Blockchain that will be awarded to consumers of renewable energy. The green certificates will store information about the source of energy, the producer, the consumer/user and the owner of the certificates. We believe that by creating a transparent and accountable standard of cryptographic green certificates that can be traded on secondary markets we add incentives to consumers for consuming renewable energy and ultimately increasing the revenues of the producers.

Fig. 5 Current market roles



### 3.2 How Electricity Is Traded Now

At present, electricity is traded through exchanges or over-the-counter transactions (OTC). In many markets, more than 75% of the electricity volume is traded over the counter. As a result, bids and offers are managed by financial brokers, and therefore, are often executed outside of exchanges. This, in turn, reduces the visibility and transparency of the transactions. In addition, the centralized model of trading with a small number of large-scale energy companies dominating the market further limits improvements toward visibility and transparency of trades.

The global trends and latest technologies in renewable energy generation has enabled individual consumers to generate energy on their own and this has pushed the energy markets toward decentralization. In addition, improvements in the battery technologies have enabled efficient storage of energy, providing more opportunities for consumers to become independent in their energy management.

However, the current transaction model remains a barrier to trade: consumers must still use the traditional methods to purchase and sell their excess energy requirements from their own generation.

### 3.3 Current System

- 1) Consumer: takes energy from the grid; pays retail price for energy; usually cannot choose his energy source; low accountability; low incentive to invest in renewable energy.
- 2) Prosumer: a consumer that also produces energy; a prosumer produces more energy with solar than needed, so sells some back to the grid at a very low price - low because these small quantities are very difficult to forecast, and legacy energy providers have no incentives to offer such services because their own supply and revenue from consumers would be reduced.

Producer: injects energy into the grid; gets wholesale price for the energy; very low return on investment means low incentive to invest without subsidies.

### 3.4 New System: Restart Energy Democracy Platform (RED-P)

RED-P is a global, decentralized energy supply platform.

Consumers and producers register to use the RED-P to gain access to 1) global energy supply, 2) intelligent wifi meters, 3) watt prediction software and 4) peer-to-peer (P2P) energy exchange. 5) Earn green certificates.

#### Innovative features of RED-P include:

- Any registered user can buy or sell from any other registered user
- Some consumers are also generators (e.g. wind/solar) as large power stations (gas, coal, nuclear) are being replaced with thousands of consumer-generators.
- P2P: All parties in our ecosystem are able to trade with each other.

With the new platform, we anticipate energy companies to adapt to the new economy. Energy companies will start to take payment of energy bills in tokens as there will be a market for those tokens and a value associated with them. Blockchain is appealing to energy companies as it will allow the energy companies to address the administrative burden of connecting to retail market consumers, energy producers, balancing responsible parties and other bodies through the blockchain. It would also automate payments daily or weekly, with lower levels of debt.

Finally, RED-P will increase competition in the electricity market. For instance, with our model, consumers will be able to "auto-switch" their energy supplier every 30 days. The system will tender consumer contracts every 30 days seamlessly, ensuring a more competitive marketplace and truly market-reflective prices.

RED MWAT token holders purchasing energy from the RED platform will also receive 1 Green Certificate for each 1 MWh of green energy consumed. The green certificates will be automatically allocated to the Consumers' accounts and will help in accounting for how much green energy they have consumed. A secondary platform for green certificates will be developed on the RED platform where companies that want to support renewable energy production and help the planet end fossil fuel pollution may purchase the green certificates from the consumers according to free-market principles.

The companies will be able to use the purchased green certificates globally to reduce their carbon footprint and prove their green credentials in a transparent manner.

Each green certificate on blockchain will contain information of the production source, issue date and will allow the general public to track ownership.

These green certificates represent an additional income source for the owners and incentivize the Consumers to use the RED platform for purchasing green energy.

By deploying the green certificates into the RED Ecosystem we are increasing the added value and margin gains of the renewable energy producers that will access the RED Platform.

### 3.5 Size of the market

By 2016, the worldwide electricity consumption reached 21,190 TWh (Terawatt hours). Asia and Americas accounted for 43% and 27% of the total respectively. Of the Asian consumption, China accounted for 58% while India accounted for 12%. In other words, China has consumed approximately 25% of the world's electricity in 2016.

The global power market is currently worth around US\$ 2 trillion per annum. The extent of deregulation of energy trading largely varies according to the country/territory.

Majority of the world's largest energy markets are already deregulated and some others are moving towards deregulation. However, most of the Middle East and Africa markets remain highly regulated, which account for around 8% of the global consumption.

Further, it is important to note that China has recently announced<sup>1</sup> its plan of deregulation of electricity market that is currently worth US\$ 500 billion.

### 3.6 Energy Markets Regulations

- 35 countries in the world accounting for 44 percent of the world's energy consumption have already embraced deregulated energy markets and many other markets will follow
- Japan recently deregulated its energy market because power became substantially more expensive after Fukushima and citizens no longer trusted the energy monopolies, making the idea of open markets more appealing
- India is experimenting with deregulated energy markets
- China is planning to open its US\$ 500 billion energy market

A deregulated electricity market would generally allow the market forces (demand and supply) to determine the price while providing opportunities for the private sector to participate in the market. Similarly, the European Union is also in the process of creating a unified market across its member countries/territories with the objective of creating an integrated energy ecosystem that will increase the efficiency of the market, allowing cheaper energy prices for its people in a more sustainable and manageable energy network. However, the extent of the deregulation can vary according to the country. At present, Western and Northern European markets are already deregulated to a great extent, while Southern and Eastern European markets are less deregulated.

The United States usually have a highly deregulated market but not all states have separated the retail from the distribution operator; Canada also has deregulated markets with Alberta and Ontario being the most deregulated provinces. In Oceania, both Australia and New Zealand have highly deregulated markets in electricity with active involvement of the private sector.

<sup>1</sup> <http://globalriskinsights.com/2016/06/chinas-energy-deregulation-overshadows-aramco-ipo/>  
[http://www.creden.univ-montp1.fr/Reseau/DOCS%20COLLOQUE/Lefevre\\_Todoc.pdf](http://www.creden.univ-montp1.fr/Reseau/DOCS%20COLLOQUE/Lefevre_Todoc.pdf)  
<https://www.japantimes.co.jp/opinion/2016/09/14/editorials/power-retail-deregulation/>  
<https://cpianalysis.org/2015/11/20/chinas-new-chapter-on-its-electricity-market-reform/>  
<https://www.engerati.com/article/energy-deregulation-transforming-asia's-energy-sector>

Countries across Asia such as Japan, South Korea, Taiwan, Malaysia, Thailand, Philippines and Singapore have opted for market deregulation in a bid to create sustainability.

Japan is aiming for a complete deregulation of its retail market by 2017 with reforms in electricity and gas markets. The Fukushima event was the main driver of the energy policy being revisited. Japan initiated its electricity market deregulation process last year April and it is steadily becoming one of the world's largest deregulated electricity markets. If successful, the change could result in a vastly modernized energy sector resulting in lower rates and a more prosperous economy overall. The deregulation could see Japan advance innovation and even become a model for the Asian region.

Malaysia has introduced deregulation to its gas and power sector and has paved the way for the introduction of Independent Power Producers (IPPs) to the supply function of the sector, helping the government to reduce the costs and administration involved in the exploration of new natural gas fields.

Thailand, as a part of International Monetary Fund and World Bank recommendations, unbundled the Electricity Generating Authority (EGAT) assets and introduced laws for market deregulation. Since 2010, it offers new financial products that target huge market capitalization.

The Philippines's Energy Regulatory Commission facilitated the privatization of the National Power Corporation which worked very well in the urban centers, with fully liberated markets benefitting urban consumers. However, providing services to rural markets competitively remains a challenge.

The national electricity market of Singapore, under the supervision of the Electricity Market Authority (EMA), facilitates the competitive sale of electricity to wholesale and retail markets. It introduced large consumers to the retail electricity industry with contestability reaching 45% by 2010 with a view of to eventually achieving 100% by 2020.

Pollution and overcapacity is China's reason for market deregulation. Pollution is a major driving force behind China's reform as cheap coal and overcapacity encourage wasteful consumption patterns. This stands in the way of the government's efforts to improve energy efficiency and cut pollution.

China's large scale investments in wind and solar energy are being under-used within the current system, which is too static to effectively incorporate fluctuating green energy generation rates, resulting in waste and the threat of power cuts.

The country is a big energy consumer, representing 25% of the world's energy consumption. Electricity distribution and transmission are critical to China's growing economy.

The electricity reforms began with a pilot project in Shenzhen, in 2014, and where expanded to five more regions in 2015, with enterprises seeing savings of \$854.6 million as result. Similarly, direct energy sales were expanded to seven more cities in 2015. The government is set to expand the program to ten more provincials, and one to two regional power grids in 2016 (including Beijing, Tianjin, Chongqing, and Guangdong), and the whole country by 2017. The government will be monitoring the progress of the pilot project until 2018.

The regulator aims to complete the revamp of transmission and distribution tariffs by the end of this year, and will start trial spot market power trading by the end of 2018 and fully operate it in 2020. It also aims to complete work related to the opening of the retail market to new players after state-run monopolies are fragmented.

By shifting to a deregulated market, the government wants to use market forces to phase out inefficient and less environmentally friendly producers out of the market.

With the market setting prices at various bidding increments, efficient producers will now be given the chance to properly use their assets, under-bidding less competitive producers. As a result, China's ageing and "dirty" generators will be forced to operate at peak consumption hours, thereby reducing pollution levels.

However, although the world is moving towards deregulation, most of the markets have not yet seen an efficient and effective competition as these markets are still dominated by a small number of large companies. In fact, this issue has been identified by most regulators who are actively encouraging the new market entrants and especially new technologies to transform the market and its operation, leading to a higher level of competition and transparency benefiting the consumers.

### 3.7 The RED MegaWatt Token: Real utility from an EU energy provider

Restart Energy will issue its own energy carrying cryptocurrency token called Restart Energy Democracy token (MWAT) in a token crowdsale of US\$30MM. A real minimum raise does not exist as company's products and services already are functional on the market.

Each MWAT will cost the equivalent of 0.10 USD and have a virtual capacity of 1 MWh/month allocated on the RED Platform Software. Restart Energy will initially charge the RED MegaWatt Tokens with a minimum of 0.11 KW/MWAT Token. The contributors may choose to consume or sell the energy rights contained in the tokens. The more we expand, the more energy can be traded with RED MegaWatt Tokens on the RED Platform. The RED MegaWatt Token works as a virtual battery<sup>2</sup> with the ability of storing up to 1 MWh/token. This energy is transferred by producers and suppliers in a special community energy fund in exchange for access to the RED platform. The energy accumulated in the fund is distributed equally on a monthly basis amongst MWAT token holders accounts directly proportional to the number of tokens owned. The energy producers and suppliers will undertake to transfer an amount between 1% and 5% of the energy traded on the platform. By accessing a large retail base of customers, the energy producers will be able to sell their energy at a price 30% higher than the market wholesale price and at the same time, the RED platform users and consumers will purchase that energy at a price 30% lower than the normal market retail price.

Restart Energy has agreements with energy producers currently operating 300 MW of renewable generation capacity to start the collaboration with RED platform and provide energy in exchange of access to the platform to RED MegaWatt Token holders and is in discussion with additional 2000 MW of existing renewable generation capacities to enter the same platform after the implementation of the RED platform.

Year	2017	2018	2019	2020	2021	2022	2023
Estimated KW Token charge in RED MegaWatt Tokens	0	0,11	0,86	2,74	6,24	11,24	19,13

The RED MegaWatt Tokens are necessary to access the RED-Platform and can be used to access the RED Franchise. In addition, the tokens will be listed in the popular cryptocurrency exchanges where it can be traded freely.

Token holders accessing the RED platform will automatically be assigned on a monthly basis a number of KW tokens (each KW token represents a unit of energy) directly proportional to the RED MegaWatt Tokens owned. The token holders' accounts will accrue active energy each month from the Community Energy Fund proportional to the number of tokens owned in the form of discount received from Restart Energy as their energy supplier or a RED Franchise (Type A).

<sup>2</sup>MegaWatt Tokens are not physical batteries. The word "battery" is used to explain how the tokens will link the energy distributed from the Community Energy Fund to MegaWatt Token holders' accounts.

## 4 THE BACKGROUND

*"Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening." –Tom Goodwin, 2015*

**Restart Energy's aim is to become the largest global energy supplier without owning the grid.**

The blockchain technology is unlocking the door to a new energy sharing economy transforming the old consumption patterns. Restart Energy is creating a global energy sharing ecosystem based on the blockchain technology.

Presently, the services needed to provide electricity to the consumer can roughly be divided into four categories detailed below: generation, transmission, distribution, and retail.

### 4.1 Generation

Historically, the generation of electricity was done by governments and large scale companies; the generation has traditionally been hydrocarbon- or nuclear-based power plants.

However, the generation of renewable energy is now increasing and it accounted for 3.16% of the total generation in 2016<sup>3</sup>.

### 4.2 Transmission Network Operator

Transmission Network Operator does the business of moving electricity to long distances, generally from power plants (generators) to consumer networks (distributors).

### 4.3 Distribution Meter Operator

Distribution means the movement of electricity from the high voltage transmission network to the end consumer. Distributors normally operate lower-voltage electrical lines that connect to individual consumers or businesses. Where there is a power interruption, consumers need to contact their distributor who should take steps to resolve the issue.

### 4.4 Retail Energy Company

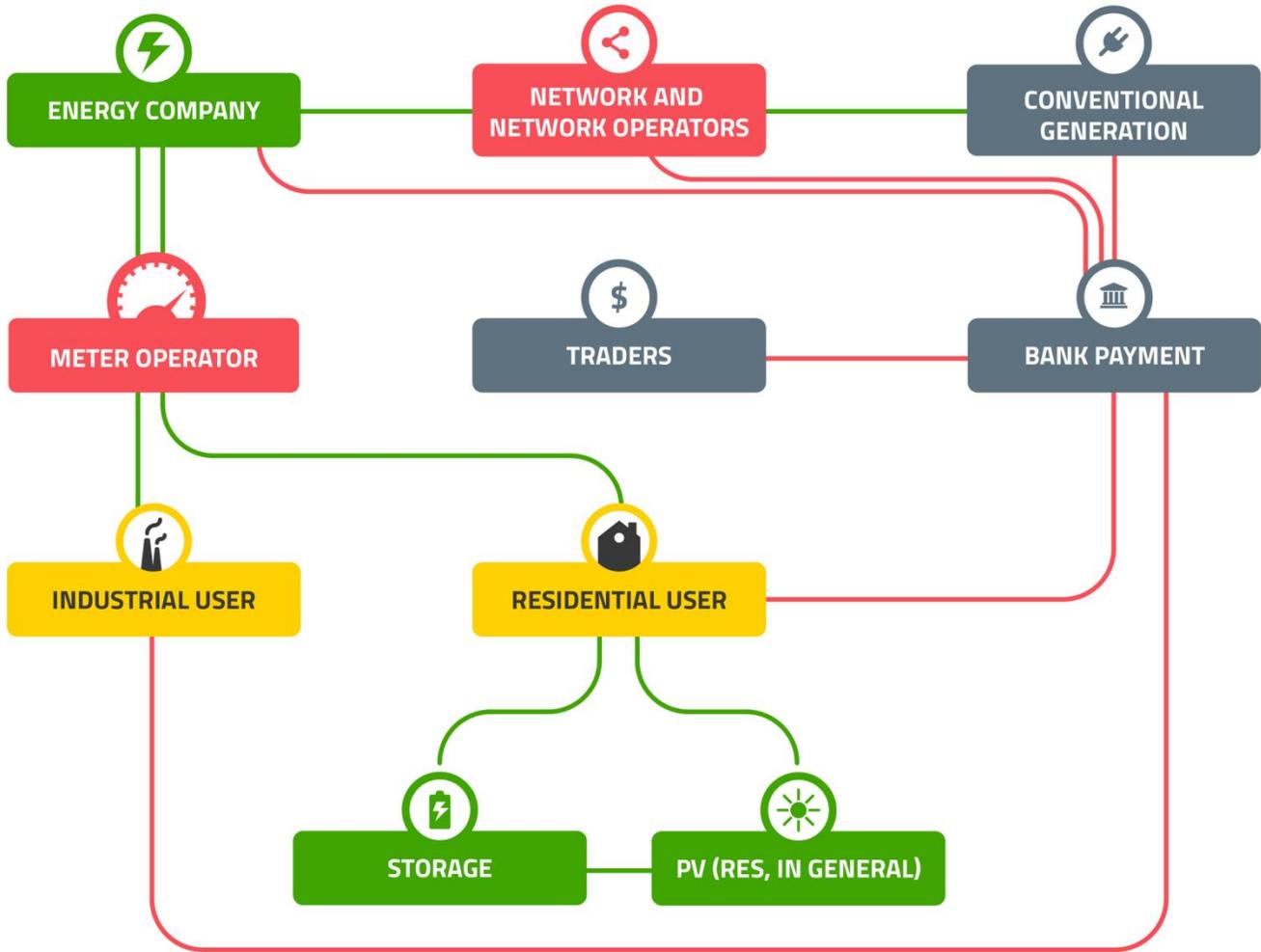
Retail means the sale of electricity to the end consumers. Retail companies are responsible for administering and billing the end consumers. In most deregulated markets, consumers might refer to the retailer as their "utility". Examples include Enel, E-On, EDF, TEPCO, Seraya Energy, CEFC, Souther CO, Edison International etc.

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<sup>3</sup> <https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>

Fig. 6 Graph Traditional Process

## TRADITIONAL PROCESSES



— ELECTRICITY  
— PAYMENT/FEE

Source: PwC Blockchain in Energy Report

## 4.5 Regulated and Deregulated Markets

Electricity markets can be of two types: regulated and deregulated.

In a regulated market, the players in the energy supply chain are able to operate as a single, vertically integrated monopoly. But in deregulated markets, regulators often mandate market segmentation in such a way that each player in the supply chain should be operated by a separate entity.

Deregulated markets are much more competitive than regulated markets and the prices are decided by the forces of demand and supply. Additionally, the marketplace is typically managed by a government-franchised non-profit Independent System Operator (ISO). The ISO can have additional responsibilities such as maintaining grid stability and reliability through market signaling, which is generally done with the help of a computer controlled system that is often referred to as a Supervisory Control and Data Acquisition (SCADA) system.

In deregulated markets, the electricity retailers can buy electricity at wholesale prices (typically in 1MWh energy increments) and then sell that electricity directly to end consumers. These retailers are not directly responsible for powering customers; however, they are responsible for metering and billing of the consumption.

In essence, consumers pay for generation, transmission, and distribution of electricity. The consumers also need to pay their retailer's fees. The retailer costs generally include marketing, administration, and managing the risk of bad debts. This retailer fees often add up to a significant amount. The difference between the residential and industrial prices generally arises from the costs passed to the end consumer from their retailer.

## 4.6 Existing Retailers

Retailers or the "utilities" are responsible for billing and interacting with customers in the end of the energy supply chain. Typically, an energy retailer buys the electricity in the wholesale markets, pays the distribution system operator a fee for distributing to the end consumer, and then bills the customer for its service at a markup price; this markup can be a significant percentage.

Most of the time only about 50% of the cost of retail electricity is used to pay for the electricity purchase. Individual consumers are only one type of utility customer. On the other hand, industrial pricing reflects wholesale cost and the distribution costs. Therefore, the wholesale rate may be lower than these numbers. The other half is utilized in covering the administrative work, marketing, and risk of bad debts. Typically, when a customer signs up for a legacy utility, a credit check process is carried out to ascertain the likelihood of default by the customer. Most retailers are known to be slow to adopt new technology.

Retailer can be thought be providing credit facilities for the end consumer as the retailers bill the consumer monthly in arrears. Retailers generally deploy various risk assessment techniques to identify the potential default ratios and this potential loss is factored into the consumer bills. This ultimately means the regular paying customers are burdened with the cost of the default customers. This issue is aggravated as most regulators have laid down the periods (generally 3-15 days) that a retailer needs to provide the service despite the fact that the bills are outstanding.

## 4.7 Challenges of renewables

The installation of photovoltaic (PV) arrays has increased the grid's decentralization and its ability to empower consumers to become producers (or "prosumers").

Approximately 38% of residential electricity cost is used to cover the transmission infrastructure and the losses during transmission.

When PV modules are installed by a customer, the generated power does not need to travel a long distance. For instance it can be consumer's television within few meters away. However transmitting electricity over a long distance can be significantly less efficient.

Ownership of household PV modules can be a very efficient solution and it can pay off the investment in a shorter period. Adoption of solar energy has in fact surpassed most optimistic estimates made a decade ago and it is very likely that this trend will continue into the foreseeable future.

PV modules, although environmentally friendly, can pose new problems for the electrical grid as the power generated should either be stored or used immediately. Normally what happens is that the power generated is consumed by the household itself and any excess power generated is transferred/sold to the grid.

Although this is a sustainable system in the long run, it can create technical challenges when they are deployed on a large scale. In some regions with high PV penetration, an overvoltage condition has arisen as more energy is transferred back into the grid than the grid can technically handle.

The grid needs to respond by reducing the production to remove the excess energy otherwise risking damage to its infrastructure.

## 4.8 Cryptocurrencies in electricity markets

One of the most overlooked aspect of public cryptocurrencies is that of user agency. User agency refers to the concept that the user is in charge of his/her assets at all times, and those assets can be easily exchanged for other assets.

Public cryptocurrency users secure their own funds and also authorize their own transactions.

Public blockchains has enabled consumers to make payments using a "token-based" asset. Restart Energy gives an accounting layer for the energy ecosystem by making use of the Ethereum smart contracts. The users will retain the control of their own assets and they can choose exactly how they are to be utilized in the system.

By moving the transaction logic for both energy and payments onto a blockchain-based architecture along with state channels, Restart Energy reduces the administrative burden of processing transactions over traditional payment processors that could typically charge fees of 1.5% - 2.5%. Further, by pushing market signals to customers, Restart Energy empowers customers to make informed decisions about their energy usage. This reduces their own costs; while increasing the robustness, efficiency, and reliability of the whole electrical grid.

People want freedom: freedom of choice, freedom to breathe unpolluted air, and energy independence. Blockchain technology has made it possible to freely exchange goods and services from peer to peer through RED Platform, without the need of central systems.

# 5 THE PROBLEM IN DETAIL

## 5.1 Monopolistic players

Legacy, vertically integrated players still hold majority shares of the deregulated energy market in the world, which has often created monopolistic behaviors leading to poor customer service and unreasonable and arbitrary pricing. With limited transparency between the producers and consumers, market inefficiencies are often transferred to small renewable energy producers and end customers.

Vertical integration is a model common to many European energy markets. In theory, vertical integration delivers efficiencies and reduces costs to the company. The nature of electricity generation assets, which are expensive to build and have a long life, makes vertical integration an attractive structure for companies to help reduce future risks. This is because the electricity generator will always have a buyer for some or all of its

output at a price that the generator determines. This provides a high-level hedge for fluctuating relative profitability across the wholesale and retail sides of the electricity market. Vertically integrated companies can also avoid credit and collateral costs. But as well as helping manage risk, vertical integration is a business model that inherently lacks transparency. The different divisions or businesses – electricity generation, gas production, energy retail – can be sister businesses or divisions within the same company. While there will be separate management for each business division, these all fall within the management of a single group board. As a result, it is impossible to see the dynamic or relationship between the different business divisions. For example, to what extent is one business arm exerting pressure on the other? The dynamics between the different divisions will affect the price consumers pay and may differ between companies.

In addition, monopolistic behaviors can affect the consumers negatively as follows:

- Monopolies restrict output onto the market to exploit its dominant position over a period, or to drive up the price.
- There is asymmetric information. The monopolist may know more than the consumer and it can exploit this knowledge to its own advantage.
- Monopolies have no incentive to reduce average costs to a minimum.
- Monopolies can create barriers to entry for new entrants due to high startup capital costs and economies of scale with their high volumes.

## 5.2 Inefficient operating environment and trading platforms

The nature of electricity adds complexity to the wholesale electricity market. This is because electricity is unlike other commodities. It is impossible to trace electricity from a particular generator to a particular customer and electricity is rarely stored (storage is very expensive and where it does occur tends to be in the form of hydro). In addition, there are very tight physical parameters, such as frequency and voltage, that must be maintained when it is transported via the grid system that require second by second management across the system. The energy trading in most countries is highly regulated, technical, and capital intensive. For instance, during the trading process on day-ahead markets, electricity producers who want to sell power to the spot market must send their sale offers (for the amount of electricity they are prepared to deliver at various prices during the 24 hours of the following day) to the power exchange by noon on the day before the power is delivered to the grid. This may lead to the reliance on erratic pricing in the energy trading by energy providers.

Therefore, there are many problems in retail electricity and gas supply today:

- The current energy-trading environment has limited the access to a few, specialized wholesale energy traders. On the other hand, it does not create any direct connection between energy producers and energy consumers, limiting the potential transparency between the parties.
- Market entry for the household and SME consumer segment for private electricity suppliers is currently not viable because of the expensive infrastructure and process automations necessary to handle a large number of consumption places and the long pay-back periods behind the low volumes.
- Hectic, complicated tariffs systems are confusing for the final customers.

## 6 DETAILS OF THE SOLUTION

### 6.1 Amazon of Energy

#### How will this work?

The Restart Energy Democracy Platform connects energy producers and traders with retail customers around the globe in a transparent, decentralized manner that creates value for all the parties by employing a) blockchain to remove several layers of costs associated with bureaucracy and transactions costs and b) a decentralized supply service to end customers. The inherent structure of the system is designed for fast scalability and global applicability in all deregulated energy markets using the same proven methods that helped the company to achieve its fast growth in EU market.

Producers will be able to sell their energy at a price 30% higher compared to the wholesale price due to high numbers of low volume retail customers that in turn will pay 30% less using existing grid infrastructure by rearranging the way transactions are settled in a transparent manner using blockchain.

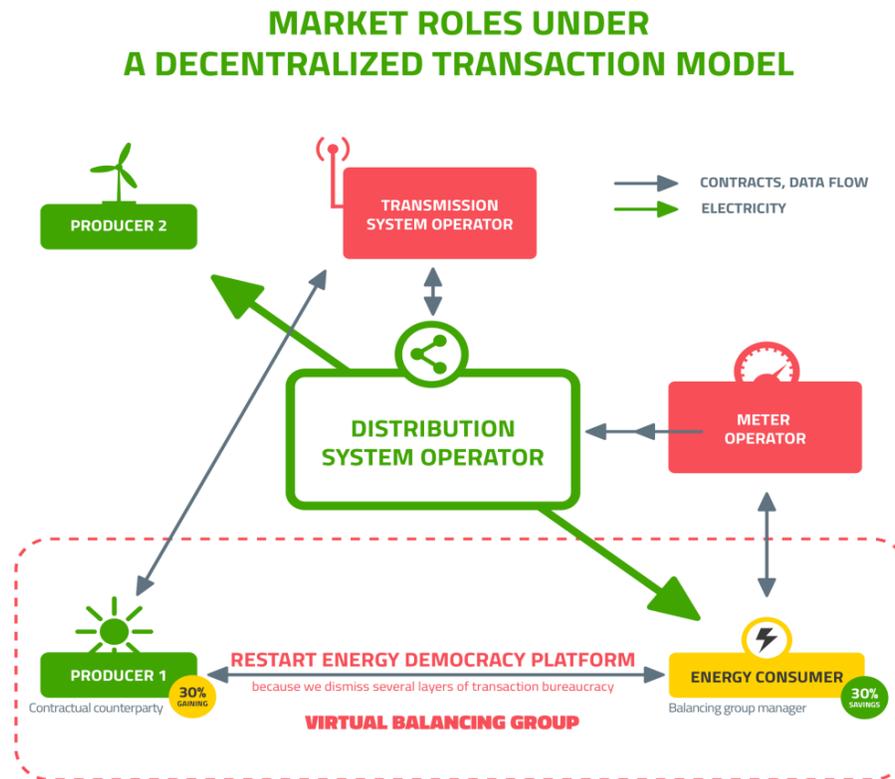
Energy virtually sold by producers to consumers on the RED Platform is tokenized and delivered worldwide. The RED Platform software automatically matches the value of internal KW Tokens depending on local energy rates.

#### Energy supply as a service

Existing private energy providers and energy producers in deregulated markets will have to purchase MWAT Tokens to gain access to the RED-P, and will benefit from the process automation and retail customer base with better margins without associated transaction capital costs and zero risks.

Electricity and gas consumers and producers accessing RED-P will be represented by Restart Energy when switching energy providers, payments and other related services. At the same time, Restart Energy will sign contracts with local electricity and gas suppliers for providing them energy supply as a service, sales, marketing, IT and process automation infrastructure to supply to large numbers of low volume consumers.

Fig. 8 Market roles under a decentralized transaction model



## 6.2 Restart Energy Democracy Platform (RED-P)

The global Restart Energy Democracy platform (RED-P) software allows consumers and producers to register and change supplier, compare tariffs, see consumptions and pay invoices with cryptocurrency and tokens. The platform empowers users to buy, sell and trade energy among each other – worldwide.

Restart Energy, provides the sales, marketing and other infrastructure including invoicing systems and process automation systems necessary for supplying energy to a large number of consumers to local private energy providers around the world while receiving a fee per unit of consumption as its revenue.

RED-P provides transparency and improves efficiency throughout the value chain under its control. It uses several innovative systems and processes, including web and mobile apps, wireless metering and effortless online switching of suppliers with superior customer service and zero bureaucracy, enabling consumers to effectively acquire and manage their energy needs and achieve savings.

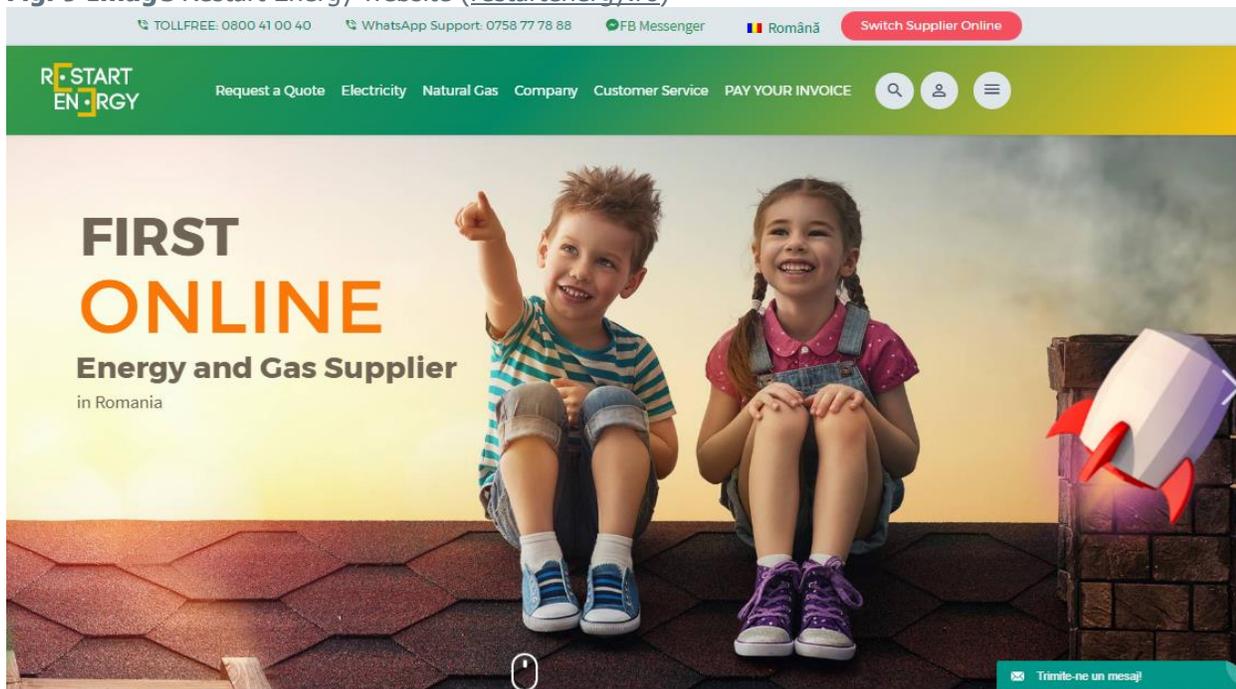
Restart Energy uses the blockchain technology as the basis of this platform to apply its inherent nature of transparency, decentralization, and security.

The model is one that works in a global context and will be implemented across all power markets, which are becoming increasingly deregulated. The Chinese power market, which has always been closed is also opening a US\$500 billion market in 2020.

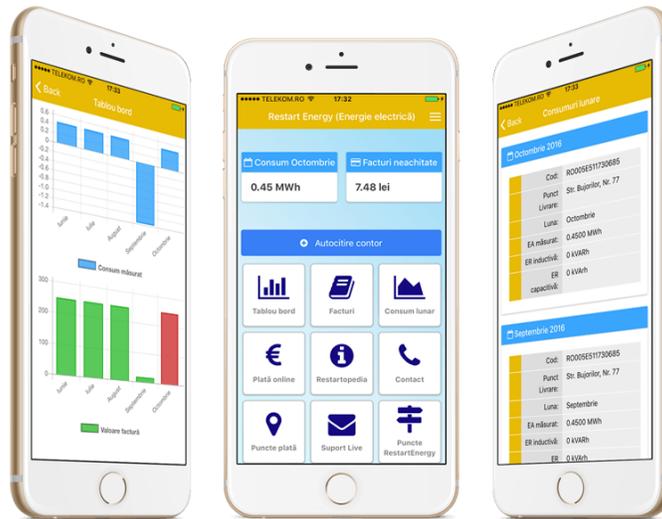
Restart Energy brings the following features/benefits to its consumers, which has resulted in a far superior service compared to the legacy players:

- **Web and mobile app:** All our services are accessible via a web interface through a web browser and via a smartphone through Restart Energy mobile app supporting both iOS and Android.
- **P2P energy exchange:** The decentralized energy platform will enable anyone to trade energy products using tokens, transforming the energy sector.
- **Wireless metering:** Energy consumption metering is available online via the web and mobile app and therefore accessible from anywhere. In addition, consumers can set notifications when the consumption exceeds certain thresholds.
- **Online switching of suppliers:** Switching energy or gas supplier will be done online
- **Transparent & simple invoicing:** Restart Energy has implemented a simple and transparent invoicing system which can be easily understood by any non-technical person.
- **Zero bureaucracy:** Restart Energy has optimized all its customer engagement points throughout its value chain to eliminate any bureaucracies.
- **Excellent customer service:** Restart Energy provides its customer support via phone, email, and online chat 24/7.
- **Reduced costs:** By removing several layers of transaction costs, consumers will purchase energy 30% cheaper while producers will sell energy at a price that is 30% higher than the wholesale price adding value to all the parties.
- **100% renewable energy:** Consumers have the option to choose up to 100% renewable energy service.

Fig. 9 Image Restart Energy website ([restartenergy.ro](http://restartenergy.ro))



**Fig. 10 Image** Restart Energy mobile app



Restart Energy enables its customers to pay their bills for both energy and gas through the Zebra Pay<sup>4</sup> cash terminals with Bitcoin. Zebra pay provides a possibility to buy bitcoin at large network of terminals in Romania, where users can buy bitcoins for cash at more than 350+ physical locations. Bitcoins are transferred immediately at the moment of purchase.

### 6.3 Decentralized energy trading platform

Restart Energy is setting up a decentralized energy trading platform based on blockchain technology (Restart Energy Democracy platform or RED-P), which will enable anyone to trade energy using the tokens or fiat currencies in any deregulated energy market in the world. This will revolutionize the way people purchase their energy needs and the way energy producers sell their production.

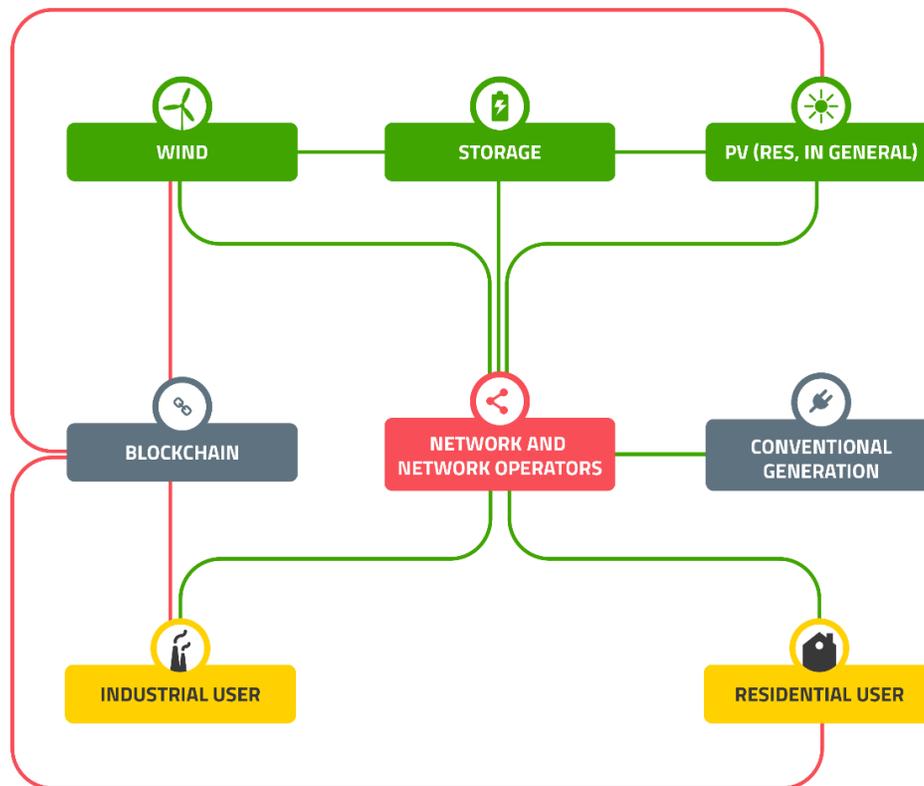
**The proposed platform in its very nature will provide the following benefits:**

- Power to the people: everyone will be able to register, buy, sell, consume and trade the RED MegaWatt Tokens on the crypto-energy trading platform
- Open an entire new market: facilitate and secure a transparent peer-to-peer exchange and contribute to developing cryptocurrencies as a payment instrument increasing demand
- Restart Energy will also be able to provide delivery and offtake or purchased and sold energy

<sup>4</sup>Zebra Pay is a universal payment service based in Romania that operates the largest network of self-service terminals in Romania.

Fig. 11 Processes in a blockchain-based system

## PROCESSES IN A BLOCKCHAIN-BASED SYSTEM



### TRADING PLATFORM – RESTART ENERGY DEMOCRACY PLATFORM



The platform will work as a global integrated energy services platform for retail energy customers, energy producers and suppliers.

## 6.4 Virtual balancing

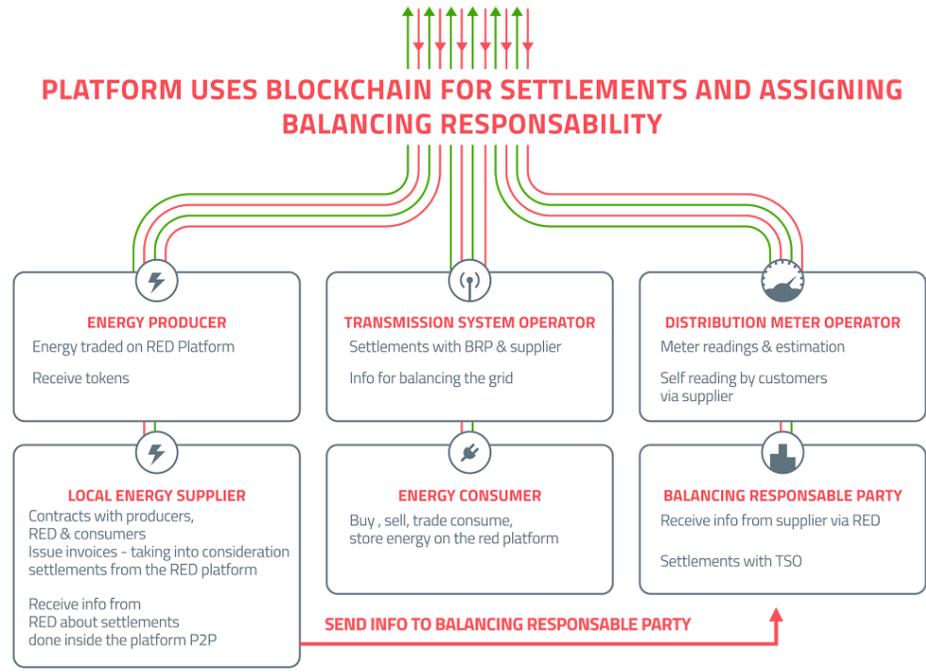
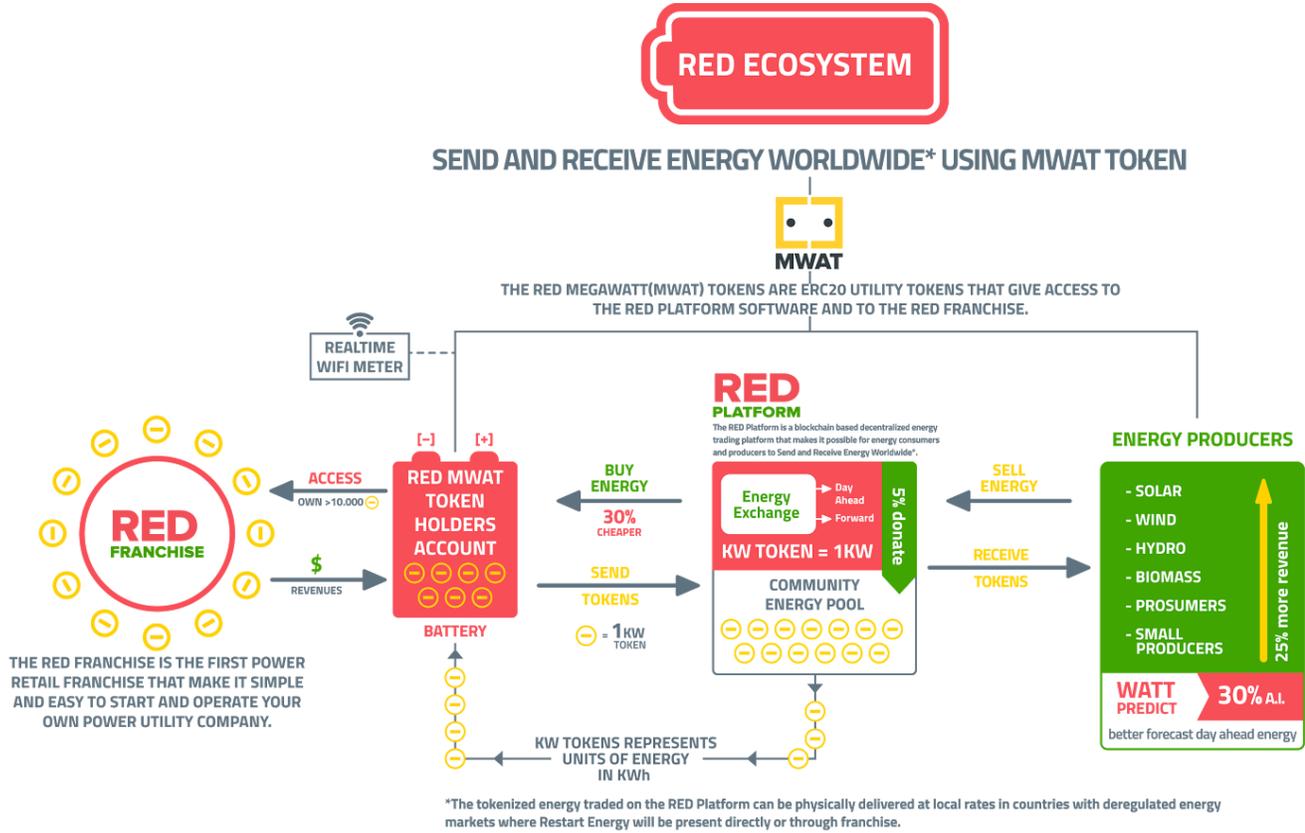
Many TGE's related to direct peer to peer energy exchange seem to lack the knowledge of how these transfers can be physically executed and accounted for considering that any kind of energy exchange needs to pass through the existing grid and requires accounting and balancing responsibility. The key to being able to provide direct energy exchanges between consumers and producers is closely related to the way the energy systems are balanced by the transport network operators (TSO).

One of the main features of the RED-P is that it will provide virtual balancing for suppliers, consumers and producers in the same country (group) and assign balancing responsibility between the parties so that they may exchange energy among them that will be accounted in the final settlements without affecting the total quantities of energy inside the same balancing group.

In other words, if Consumer A purchases energy directly from Producer B, the quantity of active energy that was directly purchased will not appear in the monthly supply invoice. This system is only possible if all the ingredients are present mainly real time energy metering and smart AI energy forecasting that can accurately predict intermittent energy production and consumption coming from renewable sources.

## 6.5 Elements of the RED-P Ecosystem

Fig. 12 RED Ecosystem



## WiFi Meters provide real time energy consumption/production

Restart Energy One provides its customers with the real time energy consumption viewing service on restartenergy.ro web site or on the mobile phone app by downloading the Restart Energy App for Android or IOS.

The specially developed Restart Energy WiFi smart meters have 0.1% precision class and are installed in the general circuit board, without any changes to the existing meter, belonging to the distribution operator, they send data regarding power quality and energy consumption in real time to Restart Energy servers. You can see this data in real time on the phone/pc. Thus, the user knows at any moment its energy consumption and cost, as well as the instant active power. This is a great tool to increase public awareness about energy efficiency and how much electric power home appliances use.

By monitoring and recording features related to the power quality distributed by the area distribution operator, namely voltage and power variations, frequency variations, harmonics, flickers, outages, Restart Energy servers automatically send notifications to the customer and the distribution operator whenever there are deviations from the Power Quality Standard.

Customers have access to various charts and data about the historical energy consumption and the consumption profile.

## Watt Predict Solar Energy Forecast Software



Watt Predict is an innovative AI learning software designed for superior solar energy forecasting. It is a system that is able to estimate electrical energy production for the next day.

[Watt Predict](#) develops a software for a more precise estimation of the quantity of energy produced by photovoltaic (PV) parks. Their mission is reducing costs and thus significantly decreasing the invoices issued by institutions responsible for imbalances for photovoltaic systems by providing a forecasting service with high accuracy and financial accessibility.

[Watt Predict](#) offers a new calculation method for forecasting the energy production from PV. In the forecast solar radiation, the most difficult component is forecasting cloudy appearance spontaneous mainframe systems and their evolution over time and space. To remove this drawback, it created and implemented:

- a mathematical forecasting the appearance of clouds by detecting areas of convergence and areas of frontier.
- a soft radar information from previous measurements to identify and anticipate the movement of cloud systems.

Developing and combining these two components, constitutes the novelty in terms of solar radiation forecast by step timetable.

The project received EU grants for research and is currently used in a research project in partnership with the European Space Agency.

Our application is based on numerical weather prediction, more specifically done with open-source WRF-ARW regional weather prediction system initiated with GFS (Global Forecast System initial data and lateral boundary conditions). We use optimization techniques such as genetic algorithms in order to better represent the nebulosity (the main impediment in forecasting the incoming radiation).

The energy produced by Solar PV parks is sold on energy markets 1 day in advance, thus a precise estimation of the quantity of energy is of supreme importance for the producers.

**Media:**

<http://armandgroup.eu/en/energy/cercetare/watt-predict/>

<http://ricap.ro/blog/companii-participante-2/watt-predict/>

<http://www.zf.ro/business-hi-tech/un-start-up-a-creat-un-sistem-care-estimeaza-productia-de-energie-a-panourilor-solare-15091843>

## 7 INDUSTRY ANALYSIS

### 7.1 Global perspective

By 2016, the total worldwide electricity consumption reached 21,190 TWh (Terawatt hours), with 43% of the consumption coming from Asia and 27% of the consumption coming from the Americas. China and India were responsible for most of Asia's consumption: China at 58% and India at 12% respectively. In other words, China alone accounted for approximately 25% of global electricity in 2016.

Global power market is worth around US\$2 trillion per annum. The deregulation of this market largely depend on country/territory. Most of the major markets are either already deregulated or in the process of deregulating. However, Middle East and Africa still remain largely regulated. But these two regions make up less than 8% of global electricity consumption. It is important to note that China has also recently announced that it would be starting the process of deregulation of its huge US\$500 billion electricity market by 2018.

Using power source as a metric of civilization, world energy consumption has significant implications for humanity's socio-economic-political sphere<sup>5</sup>. The world's primary energy supply amounted to 155,481 terawatt-hour (TWh) or 13,541 Mtoe<sup>6</sup> in 2014, while the final global energy consumption was 109,613 TWh or about 29.5% less than the total supply. World final energy consumption includes products such as lubricants, asphalt and petrochemicals which have chemical energy content but are not used as fuel. This non-energy use amounted to 9,404 TWh (809 Mtoe) in 2012.

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<sup>5</sup> [https://en.wikipedia.org/wiki/World\\_energy\\_consumption](https://en.wikipedia.org/wiki/World_energy_consumption)

<sup>6</sup> Million Tons of Oil Equivalent

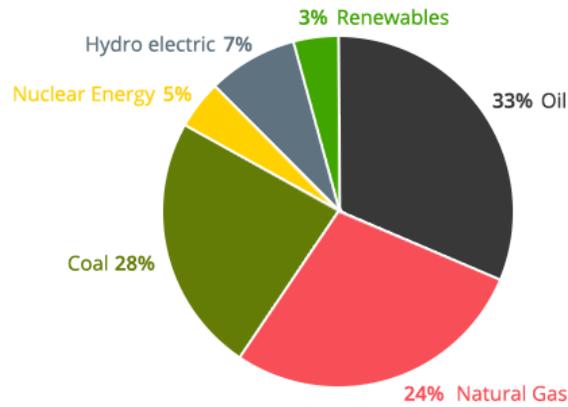
**Globally, Primary Energy: Consumption by fuel\* in 2016:**

Million tonnes oil equivalent	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electric	Renew-ables	Total
Total World	4418.2	3204.1	3732.0	592.1	910.3	419.6	13276.3

- Notes: Oil consumption is measured in million tons; other fuels in million tons of oil equivalent.

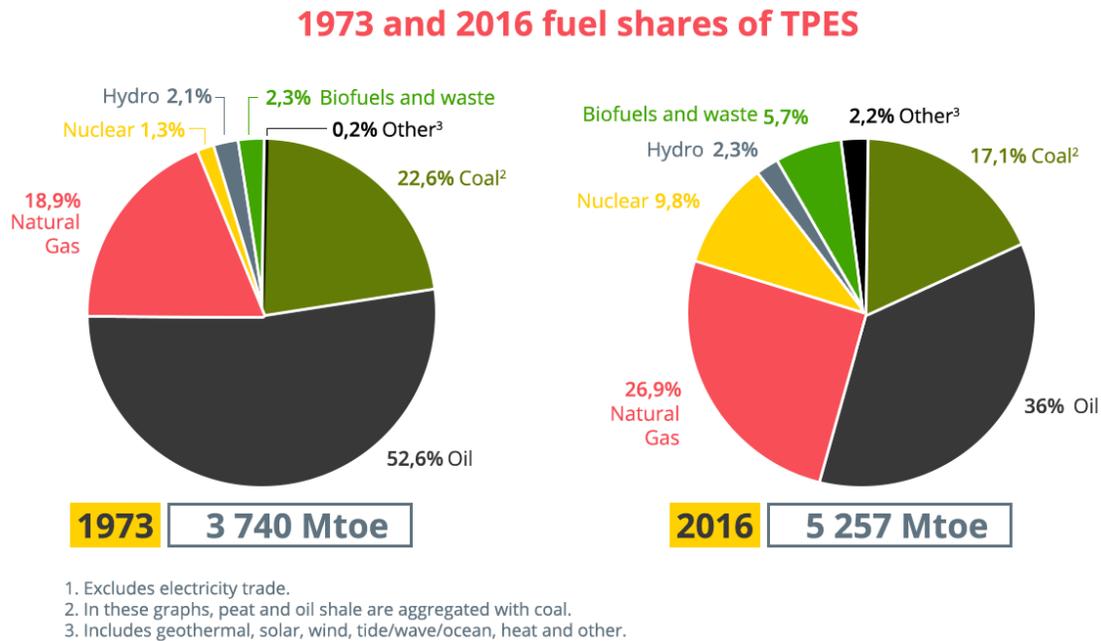
**Fig. 13** Total primary energy supply of 13,276.3 million tons of oil equivalent by source in 2016 (BP, 2017)

**Total Primary Energy Supply**



Source: <https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>

**Fig. 14** Comparison 1973 and 2016 fuel shares of TPES<sup>7</sup>



Source: *iea.org*

According to the 2017 Global Energy Market Trends Report<sup>8</sup> by Schneider Electric, the global energy landscape is continuing to evolve. The level of complexity makes it increasingly difficult for organizations to anticipate and react to the variables that will have the greatest impact on their business. Within those same companies, these effects are likely to be felt across multiple departments across stakeholders around the world.

### Renewable Energy Industry Outlook<sup>9</sup>

Throughout 2016, renewables effectively competed against fossil fuel generation in power markets and for procurement contracts around the world. It is clear that renewable energy resources have outgrown the "alternative" label.

Due to the declining costs of solar and wind technologies as well as the anticipation of a more carbon-constrained future, today the global growth of renewable energy is increasingly driven by voluntary procurement by utilities and corporations. We have seen an especially rapid decline in the global levelized cost of electricity (LCOE) of solar photovoltaic (PV) generation as well as onshore and offshore wind.

These improving economics are empowering many customers to seek greater control over their energy choices, and a movement toward localized energy procurement seems to be underway. We're seeing many municipalities across the world take advantage of community choice aggregation (CCA) policies, and community solar has taken off too. It is this strong demand from customers and communities that seem to have allowed renewables to shed the "alternative" label and transition into mainstream resources.

<sup>7</sup> <https://www.iea.org/publications/freepublications/publication/KeyWorld2017.pdf>

TPES - Total primary energy supply

<sup>8</sup> <http://www.se-library.com/2017-global-trends.pdf>

<sup>9</sup> <https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/renewable-energy-outlook.html>

## 7.2 Local perspective

Romania is the largest oil and gas producer in Central and Eastern Europe<sup>1011</sup>, but a net importer on both counts. According to BP's Statistical Review of World Energy (2016)<sup>12</sup>, Romania's proved reserves at the end of 2015 were 100 million tons of oil (with a reserve to production ratio of 19.5) and 100 billion cubic meters (bcm) of gas (with a reserve to production ratio of 10.4). Domestic gas production covered in excess of 95% (97.61%) of total consumption in 2015.

The main sources of electricity generation in Romania (approximate percentages valid for 2015<sup>5</sup>) are as follows: Coal 27.63%; Hydro 27.15%; Nuclear 18.27%; Gas 14.34%; and Renewable sources (other than Hydro) 12.51%. Although numerous facilities have been commissioned in the last five to seven years, only 12.51% of the total electricity generated and dispatched into the grid in 2015 was produced by energy facilities other than hydropower. CEZ owns the biggest onshore wind farm from the EU in Romania, the Fântânele-Cogealac wind park, with a capacity of 600 MW.

The main electricity generation companies are state-owned: Nuclearelectrica, the operator of the only nuclear power plant in Romania, having a capacity of 1,400 MW; Hidroelectrică's system of hydropower plants; and around 20 thermal coal-fuelled power plants. All these companies together generate around 70% of the country's total electricity production.

According to data published by TSO Transelectrica, Romania produced 8.1 TWh of electricity from renewable energy sources in 2015, a 3% increase from the previous year. Renewable energy thus accounted for 16% of the 51.74 TWh used in 2015. According to the Energy Ministry, Romania has met its objective of reaching total renewable energy of 24% for 2018; Romania has already reached 27%.

## 7.3 Competition

Current competitors of Restart Energy are the legacy energy suppliers owning distribution companies that also are licensed to sell their electricity and natural gas. By April 25, 2017, there were 258 licensed companies for supplying electric power and/or natural gas. Of them, 173 are registered for supplying electric power, 128 for natural gas (43 companies are licensed for both services)<sup>13</sup>.

There are eight major distribution and system operators (DSOs) for electric power, one per region, which supplies to other regional distributors or companies. Some of them are state-owned while others are privately owned. Below are the privately owned companies:

1. **Enel** (<https://www.enel.ro>): Enel is a global, vertically integrated energy company that manages and upgrades the electricity networks in the three regions of Banat, Dobrogea and South Muntenia.
2. **CEZ** (<http://www.cez.ro/ro>): CEZ is the Czech national energy company that owns one distribution region in Romania.
3. **E.ON** (<https://www.eon-energie-romania.ro/>): Eon is a German, vertically integrated energy company that supplies natural gas and electricity in Romania.
4. **Electrica** (<https://www.electrica.ro/>): Electrica is a leader in the electricity distribution and supply market in Romania, as well as one of the most important companies in the energy services sector.

After the launch of RED-P, Restart Energy will enter+45 deregulated energy markets around the world to serve the household and SME consumer segments.

10 <https://www.globallegalinsights.com/practice-areas/energy/global-legal-insights---energy-5th-ed./romania>

11 [https://ec.europa.eu/energy/sites/ener/files/documents/2014\\_energy\\_market\\_en\\_0.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/2014_energy_market_en_0.pdf)

12 <https://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2016/bp-statistical-review-of-world-energy-2016-full-report.pdf>

13 <https://www.export.gov/article?id=Romania-Energy>

## Other decentralized energy platforms

There are several other projects that aim to bring innovation to the energy market/trading with the use of the blockchain technology. These projects have raised, or are in the process of raising, funds through token sales.

Some of the notable projects are:

- **WePower** (wepower.network): We Power aims to build a decentralized green energy trading platform. WePower is planning to launch its activity in Spain in 2018.
- **EnergiMine** (energimine.com): EnergiMine aims to build a decentralizing global energy market by rewarding energy efficient behavior.
- **PowerLedger** (powerledger.io): The Power Ledger aims to build a decentralized platform that enables interoperability between diverse market management/pricing mechanisms and units of electricity by way of tokens.

**Table** Comparison of RED-P with the other proposed platforms

Parameter	Restart Energy	Wepower	Power Ledger	Energi Mine
Licensed EU Energy Provider	Yes	No	No	No
Company with revenues and track record	Yes	No	No	No
Existing substantial customer base	Yes	No	No	No
Tokens containing energy at sale	Yes	No	No	No
Tokens give access to Energy Franchise Business	Yes	No	No	No
Job creating business ecosystem	Yes	No	No	No
Agreements in place with energy producers for transferring energy to RED MegaWatt Token holders	Yes	Yes	No	No
Provides a decentralized energy trading platform for P2P direct exchange	Yes	Yes	Yes	Yes
Blockchain based Token and smart contracts	Yes	Yes	Yes	Yes
Token can be used to settle energy bills	Yes	Yes	Yes	Yes
Allows physical delivery of energy	Yes	No	No	No
Allows energy producer to raise funds	Yes	Yes	No	No
Global scalability of business model	Yes	No	No	No
Deploy its own smart wifi meter	Yes	No	No	No
Allows online switching of existing supplier	Yes	No	No	No

AI based software for prediction of Solar energy production	Yes	No	No	No
Token can be used by companies as reward to onboard new customers	No	No	No	Yes
Allow third party applications on its platform	No	No	Yes	No
First mover advantage with market ready system	Yes	No	No	No
Consumers receive green certificates for using renewable energy	Yes	No	No	No
Company develops own standard green certificates	Yes	No	No	No
Project implementation depends on regulatory or system changes	No	Yes	Yes	Yes

## 8. WHY BLOCKCHAIN

A [public] blockchain is a continuously growing public ledger of records that is an independent, decentralized, verifiable, and permanent database coexisting in multiple locations shared by a community<sup>14</sup>. The records are arranged in data batches called blocks that follow a cryptographic validation method. That means each block references and identifies the previous block by a hashing function, forming an unbroken chain.

Functionally, a blockchain can serve as an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way. For use as a distributed ledger, a blockchain is typically managed by a peer-to-peer network collectively adhering to a protocol for validating new blocks. Once recorded, the data in any given block cannot be altered retroactively without the alteration of all subsequent blocks and a collusion of the network majority, which is nearly impossible.

### 8.1 How blockchain works

There are three main components that need to be combined to create a [public] blockchain. They are:

1. Private key cryptography
2. A distributed network with a shared ledger
3. An incentive to service the network

#### Private Key cryptography

The main purpose of this component of blockchain technology is to create a secure digital identity reference. Identity is based on possession of a combination of private and public cryptographic keys. Each party that wishes to transact over the internet will hold a private key and a public key. The combination of these keys can be seen as a dexterous form of consent, creating extremely useful digital signatures. In turn, this digital signature provides strong control of ownership.

<sup>14</sup> <https://en.wikipedia.org/wiki/Blockchain>

### A distributed network with a shared ledger

A network of so-called computing “nodes” is required to maintain a blockchain. A node can be any computer connected to the blockchain network using a client that performs the task of validating and relaying transactions. A node gets a copy of the blockchain, which is downloaded automatically upon joining the blockchain network.

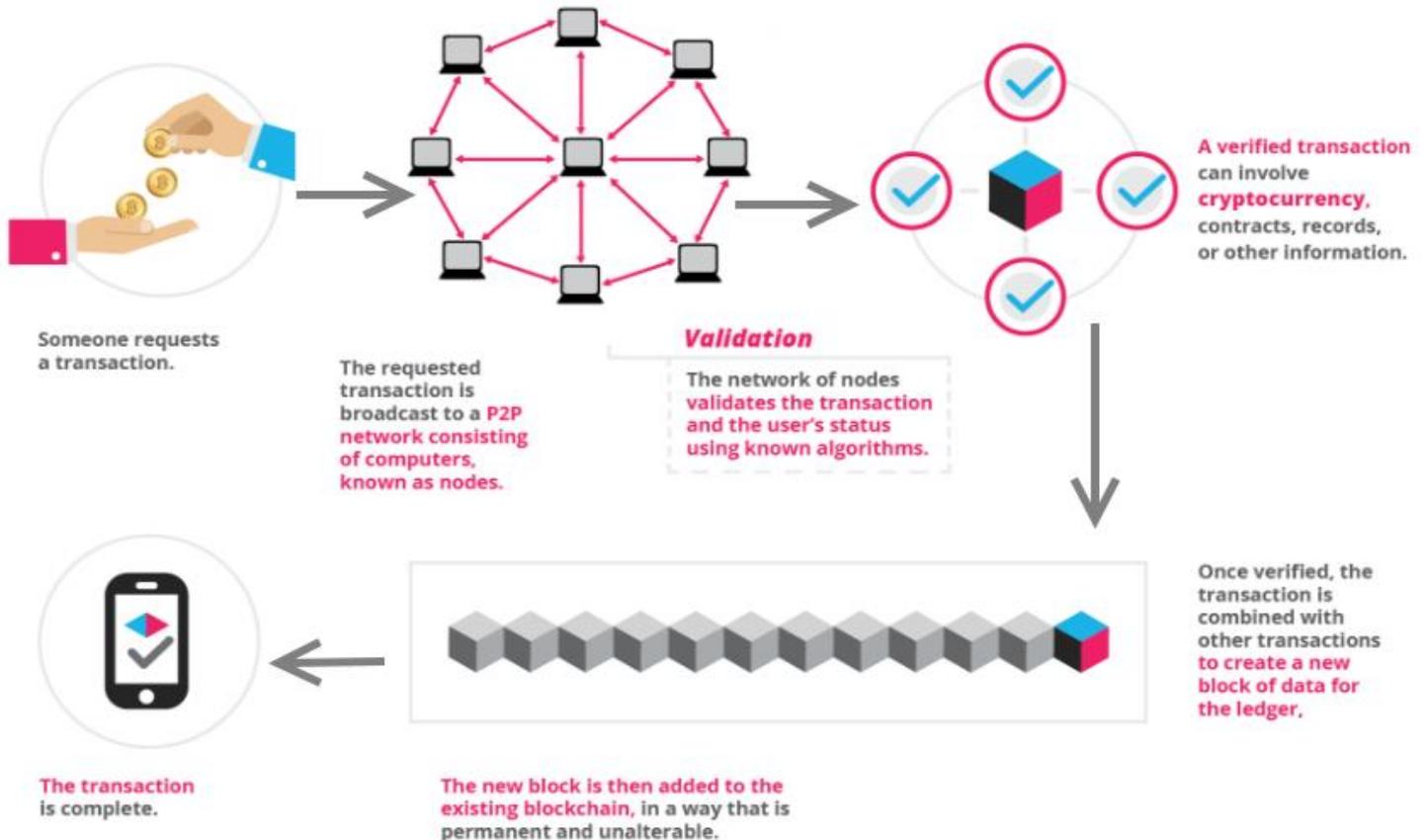
When cryptographic keys are combined with this network, a useful form of digital interactions emerges. The process begins with one party broadcasting a block containing a digital signature, timestamp and relevant information to all nodes in the network.

### An incentive to service the network

The nodes in a blockchain offer computer-processing power to service the network. There is a reward available for the nodes typically in cryptocurrency in exchange for their service.

Cryptocurrency units must be unique to be owned and have value. To achieve this, the nodes serving the network create and maintain a history of transactions for each currency unit by working to solve proof-of-work mathematical problems and voting with their CPU power, expressing their agreement about new blocks or rejecting invalid blocks. This process is often called mining. When a majority of the miners arrives at the same solution, they add a new block to the chain. This block is time stamped, and can also contain data or messages. The type, amount and verification type can be different for each blockchain. It is a matter of the blockchain’s protocol – or rules for what is and is not a valid transaction or a valid creation of a new block. The process of verification can be tailored for each blockchain. Any needed rules and incentives can be created when enough nodes arrive at a consensus on how transactions ought to be verified.

Fig. 15 Infographic: How blockchain works



Source: [blockgeeks.com](http://blockgeeks.com)

## 8.2 Advantages of blockchain technology

Blockchain technology has the following inherent advantages.

**Immutability:** Nothing on the blockchain can be changed without the consensus of the network. Any confirmed transactions on the blockchain cannot be changed.

- ✓ **Permanence:** What happens on the blockchain stays on the blockchain. A public blockchain will act as a public ledger, meaning that as long as the blockchain remains operative, the data on it will be accessible.
- ✓ **Removal of intermediaries:** The P2P nature of the blockchain does away with the need for intermediaries and users to interact directly with one another. With the removal of intermediaries and the distributed ledger being updated in real-time by the miners, any data inputted on the blockchain is transmitted and stored automatically.
- ✓ **Decentralization of consensus:** With no central authority acting as a clearinghouse for transaction validation, the effort required to reach consensus is shared between the miners.
- ✓ **Transparency (pseudonymity):** Public blockchains can offer full transparency of the transactions carried out on the network while safeguarding the privacy of its users through pseudonymity since only the transacting addresses are shown.
- ✓ **Speed:** Blockchain results in a much faster process than a centrally controlled ledger.
- ✓ **Lower costs:** The removal of intermediaries will result in lower transaction costs.
- ✓ **Security:** With the encryption through cryptography, no one other than the sender and recipient can access the data sent across the blockchain.

## 8.3 Blockchain Smart Contracts

Blockchain technology enables the coding of simple contracts known as “smart contracts” that will execute when specified conditions are met. It is capable of facilitating, executing, and enforcing the negotiation or performance of a contract/agreement. The entire process is automated can act as a complement, or substitute, for legal contracts with superior security to traditional contract laws and reduce other transaction costs associated with contracting.

Smart contracts are a very useful feature for the blockchain technology that can pave the way to a completely new scope of commercial and other applications of the blockchain technology as it can remove the intermediary required in commercial transactions.

**Fig. 16 Image** An example smart contract code on Ethereum blockchain

```

/* Allow another contract to spend some tokens in your behalf */
function approve(address _spender, uint256 _value)
    returns (bool success) {
    allowance[msg.sender][_spender] = _value;
    return true;
}

/* Approve and then communicate the approved contract in a single tx */
function approveAndCall(address _spender, uint256 _value, bytes _extraData)
    returns (bool success) {
    tokenRecipient spender = tokenRecipient(_spender);
    if (approve(_spender, _value)) {
        spender.receiveApproval(msg.sender, _value, this, _extraData);
        return true;
    }
}

/* A contract attempts to get the coins */
function transferFrom(address _from, address _to, uint256 _value) returns (bool success) {
    if (balanceOf[_from] < _value) throw; // Check if the sender has enough
    if (balanceOf[_to] + _value < balanceOf[_to]) throw; // Check for overflows
    if (_value > allowance[_from][msg.sender]) throw; // Check allowance
    balanceOf[_from] -= _value; // Subtract from the sender
    balanceOf[_to] += _value; // Add the same to the recipient
    allowance[_from][msg.sender] -= _value;
    Transfer(_from, _to, _value);
    return true;
}

/* This unnamed function is called whenever someone tries to send ether to it */
function () {
    throw; // Prevents accidental sending of ether
}

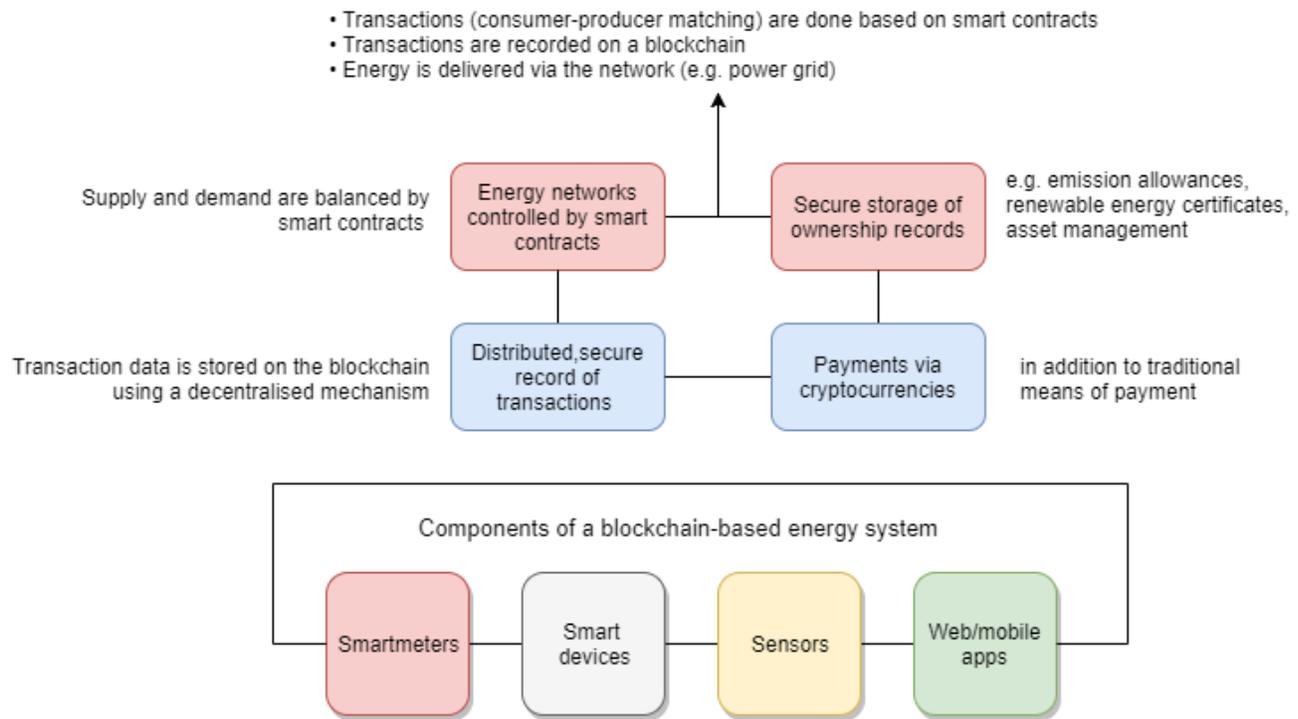
```

Source: [blockgeeks.com](http://blockgeeks.com)

## 8.4 The RED Platform Design

Restart Energy Democracy platform (RED-P) will connect the final consumer to the producer directly using the existing grid via smart contracts within the frame and license of local private energy providers by managing their entire supply activity as a service and including them in the same virtual balancing group managed by the system.

**Fig. 17** Schematic of RED-P



An energy supplier buys energy and sells it in retail, ensuring that production and consumption are matched with hourly settlements. Otherwise, it can lose money by not gaining the extra energy that was not consumed and by paying a high bill for the energy it did not have.

Individual quantities exchanged inside the system will not affect the total energy balance because they are settled inside the system. This means it is possible for someone who owns an on-grid solar rooftop PV system to sell the energy he injects into the grid at peak times to someone who auctions for that energy on the RED-P using blockchain and the intelligent wireless meters and watt predict technology developed by Restart Energy to track and account for these energy exchanges inside the same virtual delimited balancing group.

It will enable its users to buy, sell, trade electrical energy using KW tokens issued by the company. Restart Energy will allow physical delivery and offtake of the purchased or sold energy in the states where the company is licensed to supply or has agreements in place with local suppliers.

Restart Energy's wireless intelligent meters work together with the RED-P. The wireless meters developed by Restart Energy will measure produced and consumed energy and send this data using existing WiFi connections in real time to Restart Energy servers and the RED-P allowing for instantaneous P2P trading.

### **Intelligent WiFi metering system**

Restart Energy invested in a wireless, smart metering system that estimates power production for the next day. It takes data from different sources such as historical trends of sunlight and solar radiation, cloudy days at different time and location. The system recognizes the previously measured information, and the radar software anticipates the cloud movement.

To make its RED-P more efficient and accurate, Restart Energy will integrate its smart metering system with the Watt Predict software with producers for hourly settlement. This system alone will help to predict the energy output and will allow for 30% more efficient energy transactions, settlements, supply, and trade.

### **Existing energy supply software suite**

Our software engineers have developed the first integrated software suite for the Romanian power and gas markets.

### **myRestart Mobile App**

Restart Energy developed a mobile application for Android and IOS to service its energy customers. The Restart Energy mobile app allows customers to see their energy consumption in real time (if they have wifi meters installed), send meter reading, view historical consumption, see and pay invoices, 24h support, send messages and notifications, update personal info, view scheduled grid repairs and latest news on Restartopedia.

The application can be downloaded here:

<https://play.google.com/store/apps/details?id=ro.restartenergy.app>

## 9 PROMOTION STRATEGY AND MARKET TRACTION

The market development of Central and Eastern Europe is at an intermediate phase between Western markets and quickly growing emerging markets. Different stages being already accomplished we can find different levels of market maturity present.

Evolving rhythms are different from market to market and also Balkans countries are characterized by being significantly more fragmented compared to Western Europe.

Restart Energy development started on Romanian market, the biggest market in the Balkans.



Romania, as part of the European Union single market, is a fast developing, upper-middle income mixed economy with a skilled labor force. It is the 16th largest in the European Union by total nominal GDP and the 13th largest based on purchasing power parity.

The Romanian economy is the 49st-largest economy in the world (out of 190 countries measured by IMF) with \$204.943 billion annual output, and ranks 63st in the world with in terms of GDP per capita measured by purchasing power parity<sup>15</sup>. Romanian economy is expected to grow by +6% in 2017. Based on current economic growth, it's expected to hit 1 trillion of USD PPP before 2035. Romania continues to be one of the leading nations in Central and Eastern Europe for attracting foreign direct investment (FDI): the inward FDI in the country with a cumulative FDI totaling more than \$170 billion since 1989.

Romania is the largest electronics producer in Central and Eastern Europe.

Up until the late 2000s financial crisis, the Romanian economy had been referred to as a "Tiger" due to its high growth rates and rapid development. Until 2009, Romanian economic growth was among the fastest in Europe (officially 8.4% in 2008 and more than three times the EU average). Romania is rich in iron ore, oil,

<sup>15</sup><https://www.imf.org/external/pubs/ft/weo/2017/02/weodata/weoselco.aspx?g=2001&sg=All+countries>

salt, uranium, nickel, copper and natural gas. The country is a regional leader in multiple fields, such as IT and motor vehicle production.

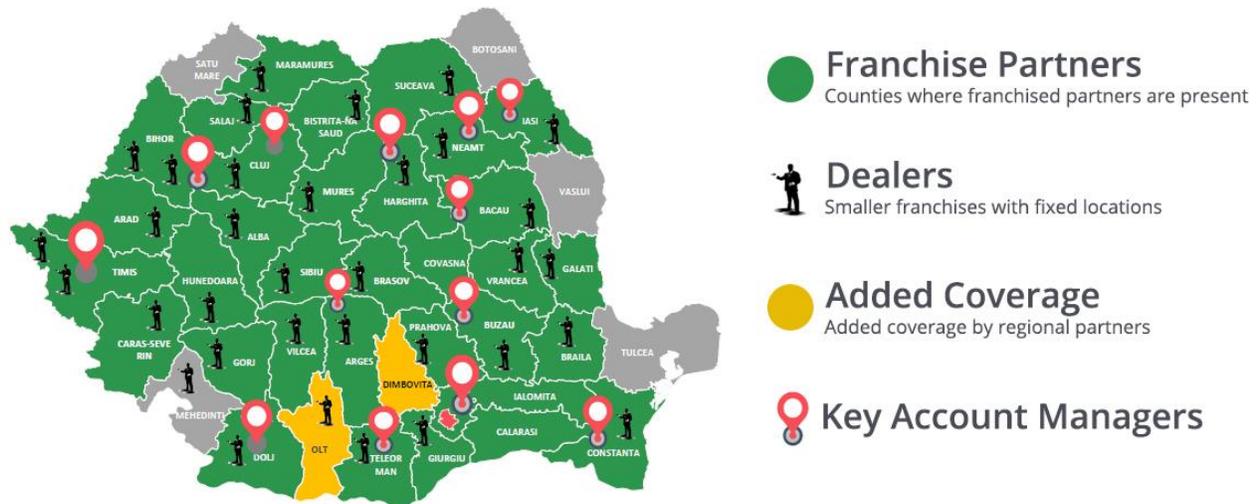
Bucharest, the capital city, is one of the largest financial and industrial centers in Eastern Europe. According to Eurostat Romania posted the biggest economic growth in EU in 2016 by more than 6% increase of GDP.

The projections for economic growth in Romania for 2018 and 2019 were both lifted by 0.3 percentage points to 3.7% and 3.5%, respectively, the World Bank said in its June 2017 Global Economic Prospects (GEP) report. Restart Energy's strategy outlined below is designed and used for the Romanian market. For the global expansion of RED to +35 countries, Restart Energy will develop a sales strategy tailored to each country's needs and ecosystem.

Since its inception, Restart Energy continues to grow aggressively. It has successfully developed a multichannel sales strategy by quickly identifying market opportunities and leveraging local resources such as micro-entrepreneurs through the first retail energy franchise in the European Union. Sales channels currently used for supplying energy and gas in Romania are as below:

1. **Local distribution partners** who acquire a franchise and sell energy to their long-standing customer. This strategy has proved very successful so far and will be a major contribution to the national expansion.
2. **Formation of local D2D teams** around the best local franchised partners.
3. **Own Sales Force** that includes 1 National Sales Manager, 1 Logistics Manager, 8-person Contracting Department, 7 Regional Sales Managers, 70 D2D own sales agents on a commission basis.
4. **Partnerships** with national companies like EuroGSM (largest ORANGE telecom dealer), InterBroker (3rd largest insurance broker), GRS (largest auto insurance broker), Lyoness (largest cash-back shopping network), Romanian Post (5000+ country locations), TVSat (largest regional media & telecom company), Romanian War Veterans Organization, etc.

Fig. 18: Romania Country coverage



## 10 TOKEN MODEL

Restart Energy is committed to building a socially responsible business. The token generation event, in addition to being structured in accordance with all regulatory requirements, is established as a reward based crowdfunding campaign, where contributors will receive RED MegaWatt Tokens.

In exchange of access to RED platform energy producers and suppliers are requested to allocate between 1% and 5% of all the energy they produce and trade on the RED platform to a transparent RED community energy fund from where it will be distributed proportionally to RED MegaWatt Token owners accounts on a monthly basis. The token model takes into consideration that energy producers will be able to sell their energy on the RED-P to smaller household and SME consumers at retail prices 30% higher compared to wholesale prices while the consumers will purchase that energy 30% cheaper compared to the normal retail price.

Thus, by allocating the remaining 1%-5% energy to RED community in exchange of the access to RED-P, energy producers will sell the remaining 99% - 95% of annual energy produced with 30% more than the wholesale prices (18.75% gain).

Restart Energy will operate with a two-token model, the RED and KW tokens, with each token being ERC-20 compliant.

### 10.1 RED MegaWatt Token

The RED MegaWatt Token will be issued by Restart Energy in the TGE (Token Generation Event) and will carry an initial charge of 0.11 KW Tokens/MWAT, that the holder may choose to consume or trade on the RED platform together with the energy related rights. The RED MegaWatt Tokens are necessary to access the RED platform software and the RED franchise. In addition, the tokens will be listed in the popular cryptocurrency exchanges where they can be traded freely. The KW energy tokens contained in the MWAT tokens will be replenished evenly from the Community Energy Fund on a monthly basis in the token holder accounts.

The energy will be allocated by energy producers and suppliers in the form of KW tokens and stored in the Ethereum smart contracts. The RED platform will provide access to the green energy which the token holder can either use or sell to another. In exchange for access to the RED platform, renewable energy producers and suppliers are required to allocate between 1% and 5% from each energy transaction on the platform to the Community Energy Fund from where it will be evenly distributed to the RED MegaWatt Token holders' according to the number of MWAT tokens owned. The more renewable energy producers and suppliers are using RED, the more energy is allocated to the community fund. RED MegaWatt Token holders can consume the allocated energy or sell it on the RED platform at any time. This ensures liquidity for the contributors, especially if they are from places where Restart Energy is not yet connected to the energy infrastructure or doesn't have a franchise in place and cannot receive the energy via supply contracts.

Owning RED MegaWatt Tokens grants the holders free access to the RED Franchises as follows:

- 10,000 Tokens** - **RED City Franchise** - allows token holders to sell energy in their city of residence
- 100,000 Tokens** - **RED Regional Franchise** - allows token holders to sell energy in an entire region of their country of residence
- 1,000,000 Tokens** - **Red Country Franchise** - allows token holders to sell energy in their entire country of residence
- 10,000,000+ Tokens** - **RED Master Franchise** - gives the token holder exclusive rights in his/her country of resident and the option to create sub-franchises inside that country.

## 10.2 KW token

The transactions on the RED platform will be done using KW tokens. Each 1 KW token will be equivalent to 1 unit of energy and it will be purchased by the users of the RED platform with crypto and fiat currencies in order to be consumed or sold on the RED platform. The RED MegaWatt Token holders will receive KW tokens proportional to the number of RED MegaWatt Tokens owned.

## 11 TGE (TOKEN GENERATION EVENT) STRUCTURE

### 11.1 Token price

We will create roughly 500 Million RED MegaWatt Tokens. One RED MegaWatt Token worth \$0.1 dollars (10 US cents).

### 11.2 Bonus

A Private Sale with contributions of minimum 50,000 USD will be held, until Jan 14th, 11:59 PM (GMT)  
The Pre-sale TGE starting date is January 15<sup>th</sup> and will end on February 12<sup>th</sup>, 2018.

- During the pre-sale TGE period, RED MegaWatt Tokens will be sold applying following bonuses:  
10000\$ - more - 20%

The TGE sale will start on February 14<sup>th</sup> and will end on March 14<sup>th</sup>, 2018.

- During Day 1 of the TGE sale period, the bonus will be 15%. Each day the bonus will go down by 1% down to a minimum of 0%.
- The last 15 days of the TGE there will be no more bonus.

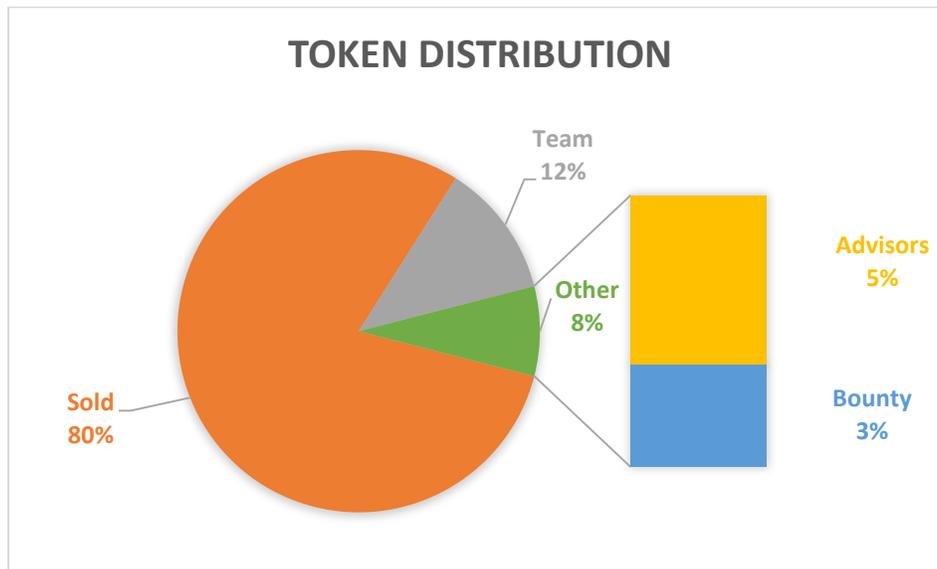
### 11.3 Acceptable cryptocurrencies for RED MegaWatt Token Generation

We will accept ETH, BTC, ETC, BCH, LTC, XRP. The ETH payments will be accepted via a smart contract. All BTC, ETC, BCH, LTC, XRP participants need to also provide an ETH wallet address to receive the MWAT tokens.

## 11.4 Token distribution

The following is how the coins are going to be distributed:

- Issued: 80% of the coins will be sold in the TGE (token generation event)
- Team: 12% will be kept by the team in a lockup structure for team incentivization
- Advisors : 5% will be given to advisors in a lockup structure
- Bounty : 3% will be awarded for the Bounty Program



## 11.5 Use and lockup of team tokens (12%)

Use and lockup of team tokens (12%) 50% of them will be available in the same time as for the public, roughly 1 week after the TGE. 25% of them will be locked for 6 months and 25% will be locked for 12 months.

A locking period is applied because we want to demonstrate that we are in this for the long run and that the team's incentives are aligned with the token holder's interest.

## 11.6 Token distribution and secondary markets

Tokens are distributed immediately after payment confirmation, via smart contracts, including BTC payments, please note that the confirmation of payments on Bitcoin network might take longer than on Ethereum. They will be available for use 7-14 days post crowdsale token launch depending on platform where they are listed.

## 11.7 Token contract address

Will be available and published only at <https://restartenergy.io>

Only registered users that have passed KYC and AML will be able to see the token address on the website.

## 11.8 Unsold Tokens

Unsold tokens will be burned.

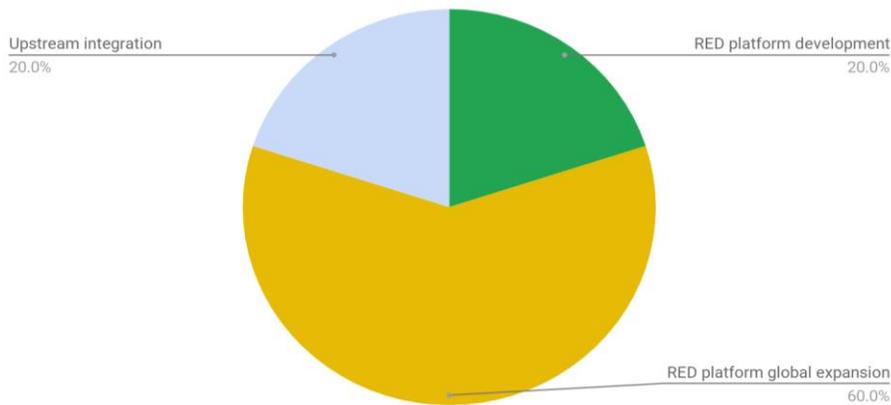
## 11.9 Use of funds

Restart Energy will contribute 20% of the token proceeds for consolidating the current business of supplying energy and gas to 27,000 households and 3,000 companies in Romania by integrating upstream integration through the acquisition of 10 MW operational solar and small hydro power plants. It will immediately start activity in other energy deregulated EU countries using the successful franchised-based, micro-entrepreneurial, job-creating, organic growth business model.

10% of the yearly energy production of the newly purchased 10 MW renewable power plants or 1,000,000.0+ KWh will be allocated to the special energy fund of the RED community.

20% of the token proceeds will be utilized for development of the RED platform and 60% of the funds will be used to expand the RED business model to +45 global markets.

**Fig. 20** Use of funds



## 11.10 Token Economics

Year	2017	2018	2019	2020	2021	2022	2023
<b>Countries</b>	1	8	24	38	42	45	47
<b>Franchises</b>	300	2400	7200	11400	12600	13500	14100
<b>Customers</b>	30000	135000	900000	2250000	4200000	6000000	9450000
<b>Revenues MM.USD</b>	20	100	540	900	1680	2400	3780
<b>Energy Supplied MWh</b>	150000	2700000	18000000	45000000	84000000	120000000	189000000
<b>Energy Supplied GWh</b>	150	2700	18000	45000	84000	120000	189000
<b>Energy Fund KWh</b>	0	135000000	900000000	2250000000	4200000000	6000000000	9450000000
<b>RED Community Energy Fund GWh</b>	0	135	900	2250	4200	6000	9450
<b>RED MegaWatt Tokens issued MM</b>	500	500	500	500	500	500	500
<b>RED MegaWatt Tokens Purchase Cost USD</b>	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Estimated charge of KW Tokens in RED MegaWatt Tokens</b>	0	0.11	0.75	1.88	3.50	5.00	7.88

## 12 ROADMAP

### 12.1 Upstream integration

Restart Energy is planning to acquire 10 MW of renewable energy production assets in the beginning of 2018:

- 5 MW Small Hydro Plants with 10,000,000+ KWh yearly energy production
- 5 MW Solar Parks with 6,000,000+ KWh yearly energy production
- Additionally, the company is planning the development of a 5 MW geothermal turbine in 2018 funded 75% with EU grant.
- 10% of the yearly energy production will be transferred to the RED Community Energy Fund

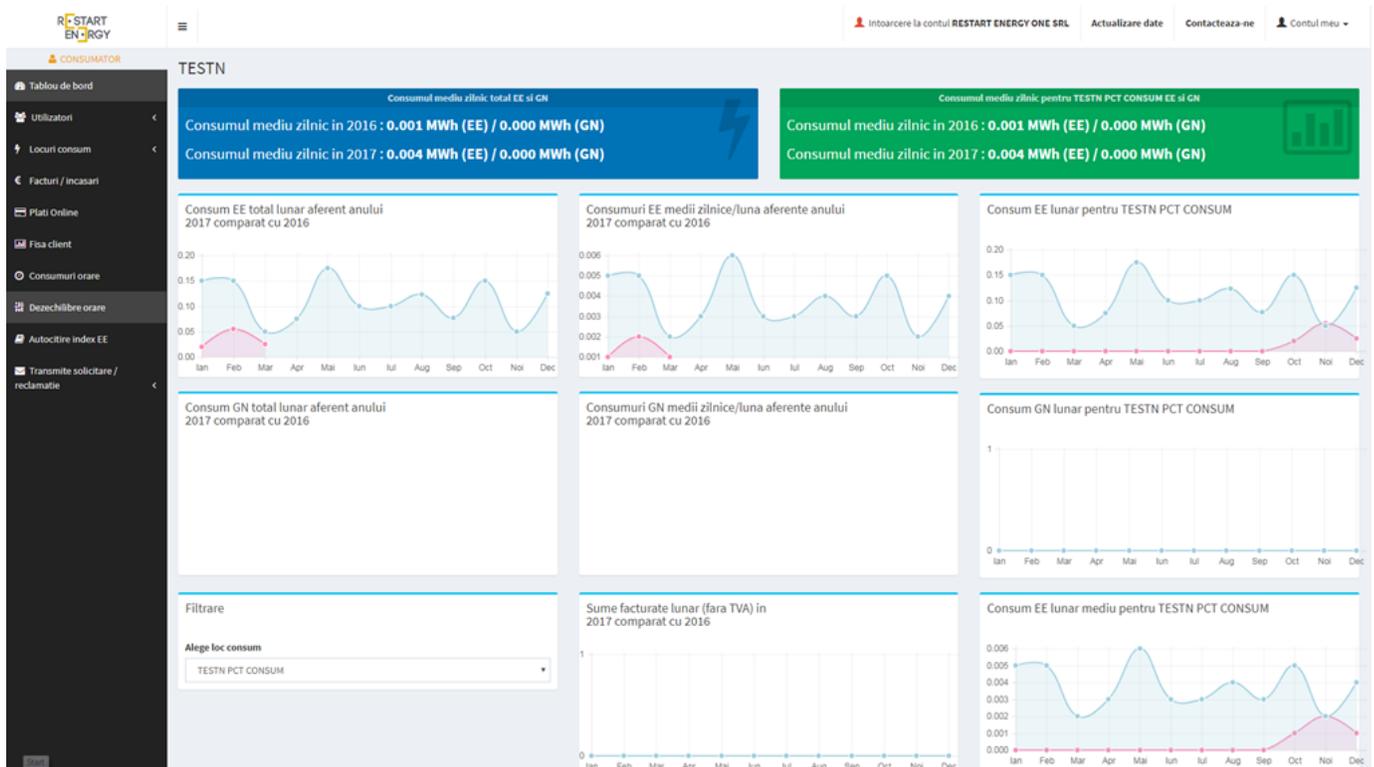
### 12.2 RED - Restart Energy Democracy platform development

Restart Energy has already achieved 75% development level of the software components and process automation that will be the RED Platform. Further development of the RED Platform for blockchain integration will include the energy exchange module and small adaptations for each individual energy market.

The following applications are fully functional and in use by our personnel, customers and business partners:

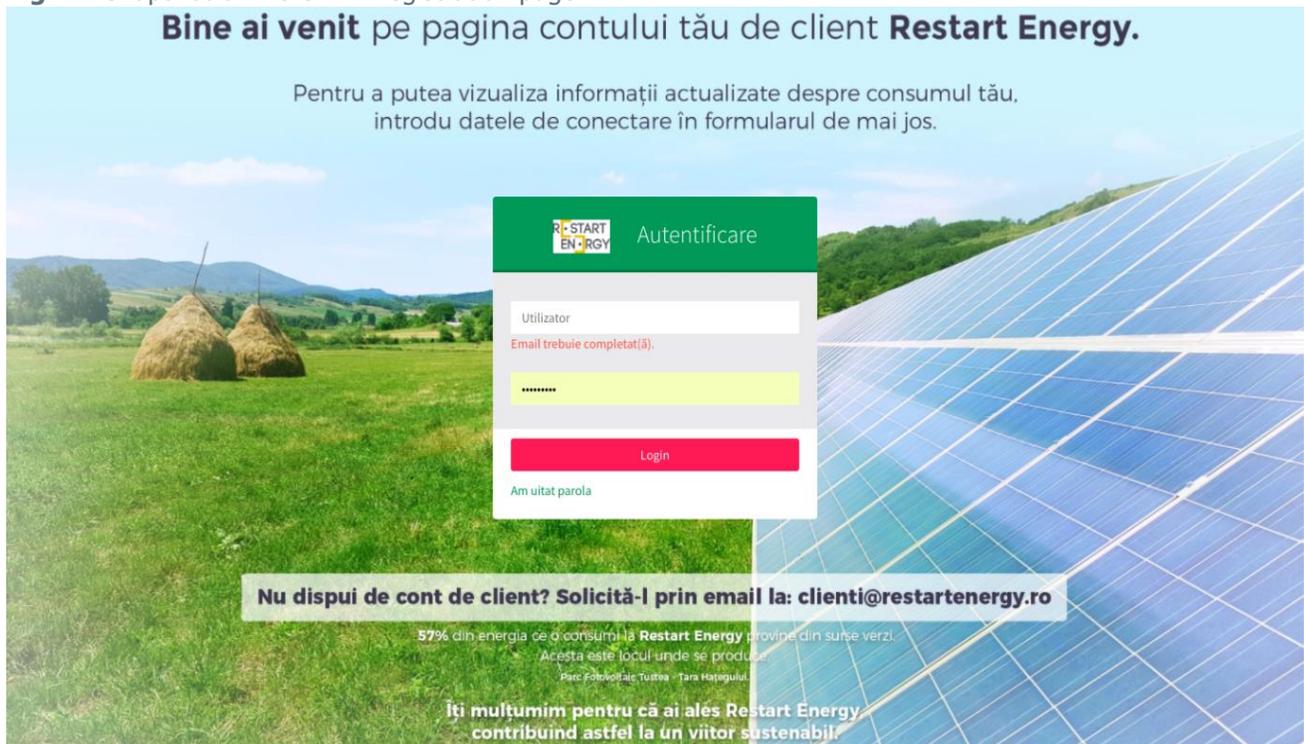
**a) Advanced energy supply and trading software with full process automation**

**Fig. 21** Snapshot of Energy Supply Software ERP



**b) Customer online CRM**

**Fig. 22** Snapshot online CRM - registration page



Access link to online client portal: <https://client.restartenergy.ro/site/login>

### c) Front Desk CRM Module

Fig. 23 Snapshot of front desk module 1:

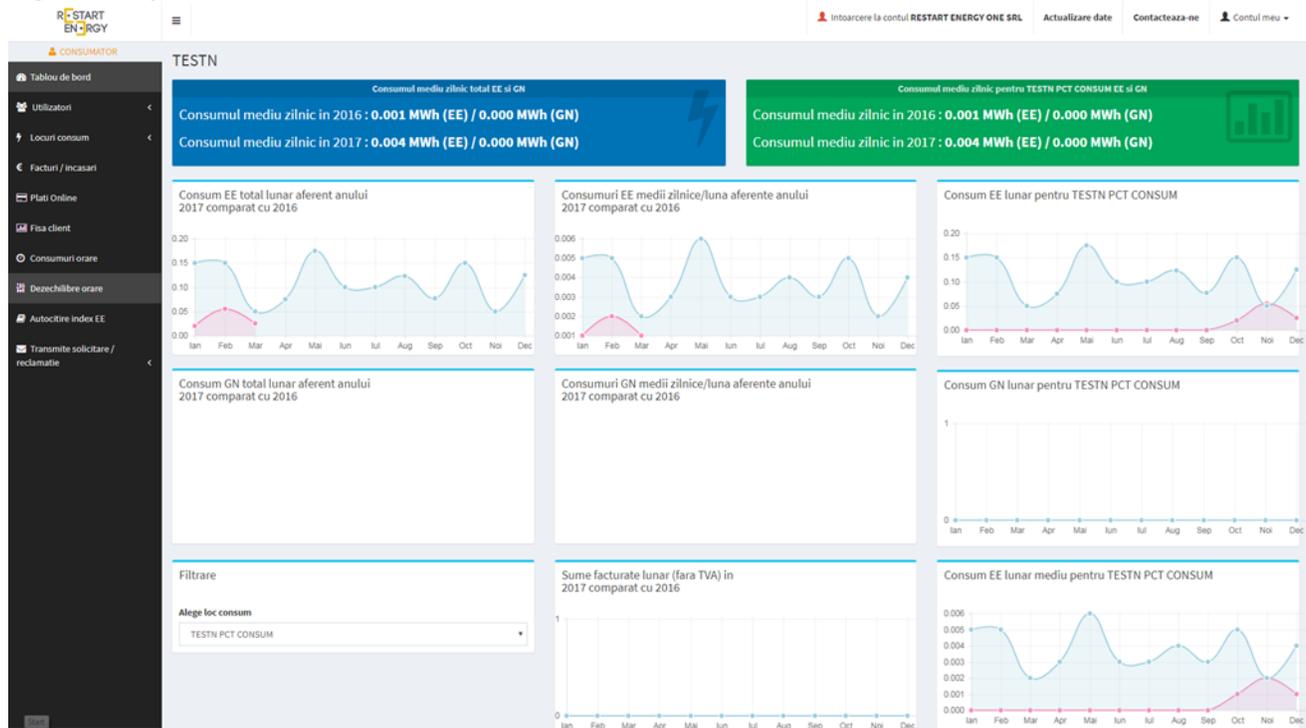
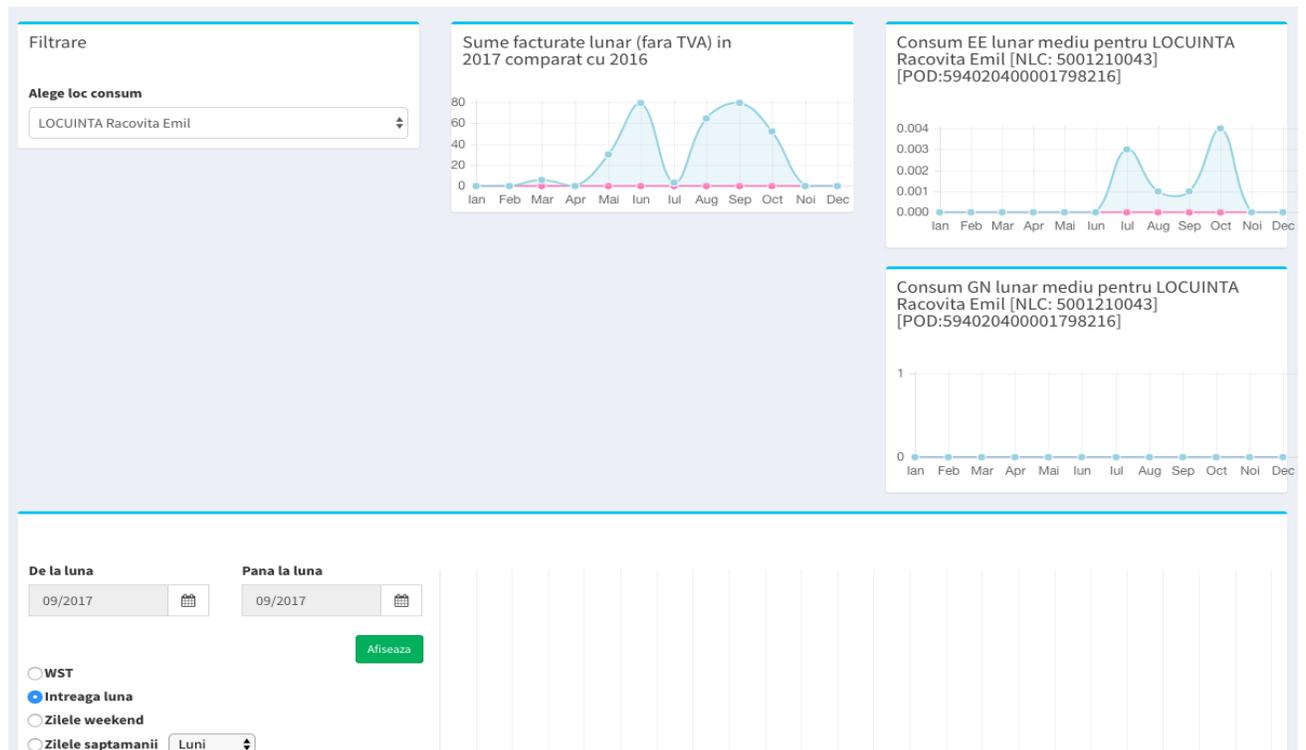


Fig. 24 Snapshot of front desk module 2:



### d) Agent/Franchise/Sales partner CRM module Figure 25 Snapshot of franchise module

The screenshot shows the CRM module interface for agent TESTN. The main content area displays a list of clients with the following data:

Nr.	ID	Nume client	Cod client/DP	Agent responsabil	Tip client	Judet	Tip	Consum mediu lunar EE [MWh]	Consum mediu lunar GH [MWh]	Lista optiuni
1	18141	ION POPESCU TEST1	6076	TESTN (EE) - Utilizator: TEST N	NonCasnic	Bucuresti	Existenti	0.146	0.000	[Icons]
2	18142	ION POPESCU TEST2	6077	TESTN (EE) - Utilizator: TEST N	Casnic	Bucuresti	Existenti	0.115	0.000	[Icons]
3	18809	ION POPESCU TEST3	7029	TESTN (EE) - Utilizator: TEST N	Casnic	Bucuresti	Existenti	0.000	0.000	[Icons]
4	18811	ION POPESCU TEST4	7030	TESTN (EE) - Utilizator: TEST N	NonCasnic	Bucuresti	Existenti	0.000	0.000	[Icons]
5	18812	ION POPESCU TEST5	7031	TESTN (EE) - Utilizator: TEST N	Casnic	Bucuresti	Existenti	0.000	0.000	[Icons]

### e) myRestart Mobile App

Restart Energy developed a mobile application for Android and IOS to service its energy customers. The Restart Energy mobile app allows customers to see their energy consumption in real time (if they have wifi meters installed), send meter reading, view historical consumption, see and pay invoices, 24h support, send messages and notifications, update personal info, view scheduled grid repairs and latest news on Restartopedia.

Fig. 26 Snapshot and link to mobile app

The screenshot shows the Google Play Store listing for the myRestart - Energie si gaz app. The app is developed by Transylvania High Tech Solutions SRL and has a PEGI 3 rating. The listing includes an 'Install' button and a video player showing a preview of the app's interface.

The application can be downloaded here: <https://play.google.com/store/apps/details?id=ro.restartenergy.app>

**f) WattPredict energy forecasting software**



**g) WiFi meters software and integration with platform**



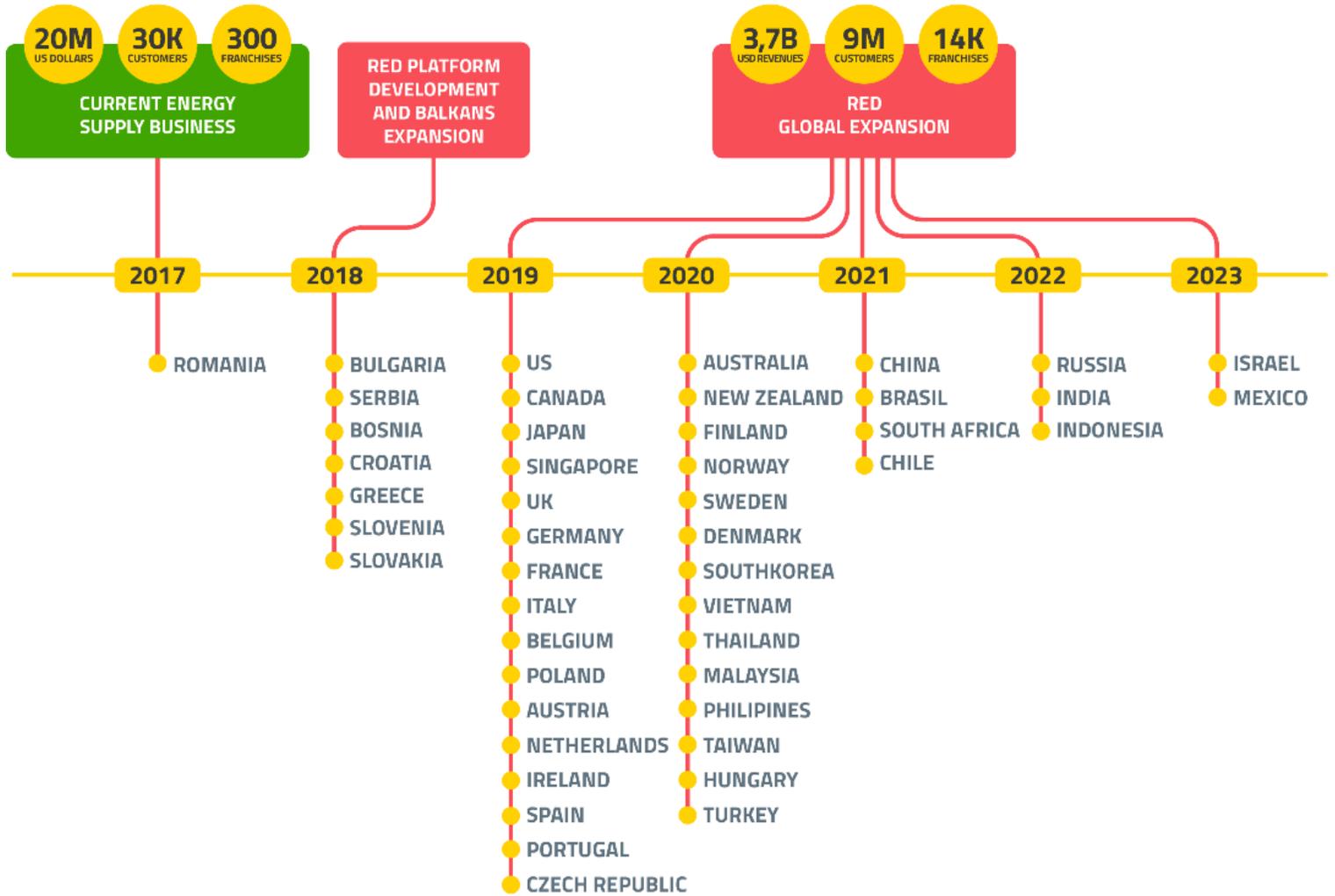
**Given below are the planned milestones in the further RED platform development.**

Timeline	Milestone
2018 Feb	Integration of blockchain in the RED platform
2018 Mar	Development of peer to peer energy exchange module
2018 Apr	MVP (Minimum Viable Product) Development
2018 May	Platform testing (internal)
2018 June	Product launch with a selected producers/consumers
2018 Aug	Country-wide launch
2018 Oct	Start of world expansion

**12.3 RED Platform Expansion Plan**

Given below is the expansion plan for the RED Platform, including the markets where we want to enter. The platform will be fully developed and tested in 2018 and we expect to start its global expansion in the last quarter of the year. Until then, Restart Energy will continue its plans of expansion the actual franchised energy supplying business in the Central & Eastern Europe. The expansion plan was made taking into consideration only the jurisdictions (countries or states for US/Canada) that have at least started the liberalization process for their energy markets or publicly declared that have plans of liberalization. Given this, we mention that the presented expansion plan is subject to external factors such as changes of the energy-related legislation from the selected countries or other potential markets.

# ROADMAP



## 12.4 Financial overview of RED business plan

For a specific financial overview, we present below the actual estimated revenues of Restart Energy operational activity in 2017 and a snapshot of the company's forecasted revenues for 2018-2023 period. **The business plan assumes the expansion of RED platform to over 45 countries, opening over 14,000 franchises and attracting over 9 million customers. By doing this we estimate that the revenues will reach 3,78bln. USD in 2023, posting a 161% compounded annual growth rate.**

Year	2017	2018	2019	2020	2021	2022	2023
Countries	1	8	24	38	42	45	47
Franchises	300	2400	7200	11400	12600	13500	14100
Customers	30000	135000	900000	2250000	4200000	6000000	9450000
Revenues MM.USD	20	100	540	900	1680	2400	3780
Energy Supplied MWh	150000	2700000	18000000	45000000	84000000	120000000	189000000
Energy Supplied GWh	150	2700	18000	45000	84000	120000	189000
Energy Fund KWh	0	135000000	900000000	2250000000	4200000000	6000000000	9450000000
RED Community Energy Fund GWh	0	135	900	2250	4200	6000	9450
RED MegaWatt Tokens issued MM	500	500	500	500	500	500	500
RED MegaWatt Tokens Purchase Cost USD	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Estimated charge of KW Tokens in RED MegaWatt Tokens	0	0.11	0.75	1.88	3.50	5.00	7.88
RED Franchises average income USD*	9900	14850	22275	33413	50119	75178	112767

\*Franchise incomes are only estimated and depend on local market conditions and type of franchise.

## 13 MEDIA COVERAGE

Restart Energy featured on CNN and Huffington Post after announcing EU MEP as latest advisor

- <https://www.ccn.com/member-european-parliament-joins-restart-energy/>
- [https://www.huffingtonpost.com/entry/restart-energy-ico-adds-a-member-of-the-eu-parliament\\_us\\_5a59f57ee4b0a233482e0b90](https://www.huffingtonpost.com/entry/restart-energy-ico-adds-a-member-of-the-eu-parliament_us_5a59f57ee4b0a233482e0b90)

Restart Energy makes waves with its cryptocurrency on Huffington Post

- [https://m.huffpost.com/us/entry/us\\_5a535aa6e4b0cd114bdb34e0](https://m.huffpost.com/us/entry/us_5a535aa6e4b0cd114bdb34e0)

Restart Energy Welcomes IoT Pioneer Dr Vlad Trifa as Advisor

- <http://dailytelescope.com/pr/restart-energy-welcomes-iot-pioneer-dr-vlad-trifa-as-advisor/33733>
- <http://daemoniaca.com/2017/12/19/restart-energy-welcomes-iot-pioneer-dr-vlad-trifa-as-advisor/>

Restart Energy taps LDJ Capital and William Davis III for Help with ICO

- <https://geekcrunch.reviews/restart-energy-taps-ldj-capital-william-davis-iii-help-ico/>

Restart Energy Welcomes Susaye Greene As Project Ambassador

- <http://www.digitaljournal.com/pr/3590336>
- <http://www.getnews.info/669919/restart-energy-welcomes-susaye-greene-as-project-ambassador.html>
- <http://www.4-traders.com/BLOCKCHAIN-GROUP-CO-LTD-6165838/news/Blockchain-Restart-Energy-Welcomes-Susaye-Greene-As-Project-Ambassador-25643747/>
- <http://www.nbcrightnow.com/story/37031751/restart-energy-welcomes-susaye-greene-as-project-ambassador>

Restart Energy Democracy (RED) disrupts the market with a blockchain-based energy trading ecosystem.

- <https://seekingalpha.com/instablog/22912651-daniel-jennings/5084428-red-energy-disrupts-market-blockchain-based-energy-trading-ecosystem-sustainable-future>

Restart Energy partners with Bancor; integrates Bancor Protocol into MWAT token

- <https://blog.restartenergy.io/restart-energy-will-be-joining-the-bancor-network-by-integrating-the-bancor-protocol-into-its-red-dadfbe3eb431>

Restart Energy partners with Boost IT to work on blockchain

- <https://blog.restartenergy.io/restart-energy-teams-up-with-blockchain-expert-boostit-fc08b464c5c0>

Hacked.com's Aakash Kawale analyzes the RED project

- <https://blog.restartenergy.io/hacked-ico-analysis-restart-energy-1ea1b1dc05d2>

CNBC's Jon Najarian interview's Restart Energy's CEO, Armand Doru Domuta in Geneva

- <https://blog.restartenergy.io/iico-host-jon-najarian-interviews-armand-doru-domuta-ceo-founder-restart-energy-9f22baa828b5>

RED Geneva meetup

- <https://blog.restartenergy.io/meet-restart-energy-in-geneva-on-december-18th-a885886ecec>

Restart Energy Aims to use Blockchain to Democratize Energy

- <http://marketmadhouse.com/restart-energy-aims-use-blockchain-democratize-energy/>

Tech leader Michael Enescu joins RED

- <https://blog.restartenergy.io/renowned-technology-leader-michael-enescu-joins-restart-energy-25a436b048d>

AmaZix partnership announced

- <https://blog.restartenergy.io/restart-energy-amazix-announce-strategic-partnership-49c5b33b0247>

Restart Energy largest energy company in Romania's western region

- <https://blog.restartenergy.io/restart-energy-recognized-as-largest-energy-company-in-romania-s-western-region-b1fbe01393c0>

10 million German solar prosumers could mean a big opportunity for RED

- <https://blog.restartenergy.io/10-million-solar-energy-prosumers-in-germany-until-2030-fdb0d3ec78a3>

*"The Amazon of ENERGY is here and RED MWAT is the key to this marketplace"*

- <https://blog.restartenergy.io/how-red-mwat-is-your-best-bet-on-the-future-of-energy-d1bbb6729a8>

Ethereum becomes de-facto building block for TGE's, RED stands to benefit

- <https://blog.restartenergy.io/a-review-of-the-restart-ico-and-whether-you-should-invest-a0c7008adae6>

Why RED stands out – Pillars

- <https://blog.restartenergy.io/why-red-stands-out-pillars-fefc2584f114>

Fossil fuels running on fumes, renewables the way to go – RED can help

- <https://blog.restartenergy.io/restart-and-the-end-of-fossil-fuel-monopolies-8ce2db8a42c4>

Retail franchises decentralize energy – Restart Energy leads the way

- <https://blog.restartenergy.io/how-restarts-retail-franchisees-will-democratize-energy-and-power-the-value-of-red-tokens-f2bf065dac2c>

Restart Energy Democracy Platform will help ease pains of government cutbacks to clean power

- <https://blog.restartenergy.io/how-to-continue-progress-after-the-government-cuts-down-incentives-for-renewables-in-the-uk-energy-1072ca4dc607>

France slows down nuclear power, goes green – RED can help integration of prosumers into grid

- <https://blog.restartenergy.io/france-is-leading-the-way-in-low-carbon-electricity-generation-cc3dd8b2add0>

Restart Energy's Green Certificates and turnkey expansion strategy, a winning combination

- <https://blog.restartenergy.io/restart-energy-democracy-decentralized-energy-trading-platform-with-p2p-services-going-global-b795b31306e9>

The RED Platform turns old Green Certificate ideas in favor of consumers

- <https://blog.restartenergy.io/red-platform-will-award-green-certificates-to-consumers-for-using-renewable-energy-37c3af01744>

Restart Energy and EuroGSM are developing a strategic partnership to conclude mass market contracts for electricity and natural gas at EuroGSM locations.

- <http://www.zf.ro/companii/energie/eurogsm-si-restart-energy-incep-sa-vanda-abonamente-de-curent-si-gaze-consumatorilor-romani-15577306>

- [http://www.bursa.ro/eurogsm-si-restart-energy-incep-sa-vanda-abonamente-de-curent-si-gaze-consumatorilor-romani-305162&s=print&sr=articol&id\\_articol=305162.html](http://www.bursa.ro/eurogsm-si-restart-energy-incep-sa-vanda-abonamente-de-curent-si-gaze-consumatorilor-romani-305162&s=print&sr=articol&id_articol=305162.html)
- <http://www.wall-street.ro/articol/Companii/201982/eurogsm-va-vinde-si-abonamente-de-electricitate-si-gaze-pentru-firma-restart-energy.html>
- <http://www.comunic.ro/article/parteneriat-eurogsm-%C8%99i-restart-energy-pentru-%C3%AEncep-comercializarea-de-abonamente-de-energie>
- <http://www.businessage.ro/stiri/eurogsm-%C8%99i-restart-energy-%C3%AEncep-s%C4%83-v%C3%A2nd%C4%83-abonamente-de-curent-%C8%99i-gaze-consumatorilor-rom%C3%A2ni>
- <http://voxcapital.ro/revista-presei-eurogsm-va-vinde-abonamente-de-electricitate-si-gaze-pentru-firma-restart-energy/>

Restart Energy and PROFI Moldova signs a contract for the supply of electricity at commercial points.

- <http://www.comunicatedepresa.ro/restart-energy/restart-energy-si-profi-anunta-o-noua-colaborare-in-domeniul-furnizarii-energiei-electrice/>
- <http://www.promovariweb.org/2017/07/restart-energy-si-profi-anunta-o-noua-colaborare-in-domeniul-furnizarii-energiei-electrice.html>

Restart Energy supports the future of Romania, actively investing to help young people to fulfill their dreams.

- <http://www.comunicatedepresa.ro/restart-energy/restart-energy-furnizorul-de-energie-si-gaz-care-ajuta-elevii-sa-isi-atinga-adevaratul-potential/>

Restart Energy becomes the official sponsor of the Association of War Veterans and Veterans with Disabilities

- <http://www.comunicatedepresa.ro/restart-energy/furnizorul-roman-de-energie-si-gaz-restart-energy-incheie-un-parteneriat-cu-asociatia-militarilor-veterani-si-veteranilor-cu-dizabilitati/>

Market analysis demonstrates the transparency of Restart Energy prices in energy and gas supply services.

- <https://www.timponline.ro/pentru-facturi-mai-mici-la-electricitate-si-gaz-bistritenii-incep-sa-schimbe-furnizorii/>

Restart Energy Offers

- <http://www.comunicatedepresa.ro/restart-energy/schimba-furnizorul-de-energie-in-conditii-inedite-prima-luna-este-gratuita-marele-premiu-este-de-un-an-de-energie-electrica-gratuita/>
- <https://www.anuntulfinanciar.ro/Schimba-furnizorul-de-energie-in-conditii-inedite-prima-luna-este-gratuita-Marele-premiu-este-de-un-an-de-energie-electrica-gratuita/>

Cable provider SAT 2002 buys shares at Restart Energy, the Romanian energy and gas supplier with an continuous growth path

- <https://www.news.ro/economic/furnizorul-de-televiziune-prin-cablu-sat-2002-a-intrat-pe-piata-de-energie-cumparand-actiuni-la-o-firma-lansata-in-urma-cu-2-ani-1922400011002017090917200717>
- <http://m.gandul.info/financiar/unul-dintre-cei-mai-mari-cablisti-independenti-intra-in-afaceri-cu-energie-16723314>
- <http://www.ziuanews.ro/revista-presei/furnizorul-de-televiziune-prin-cablu-sat-2002-a-intrat-pe-piata-de-energie-cumparand-actiuni-la-o-firma-lansata-in-urma-cu-2-ani-777741>

Miscellaneous mentions

- <http://obiectivbr.ro/content/analiza>

Social Responsibility Actions (Hospital Renovation)

- [http://adevarul.ro/locale/timisoara/vechilor-saloane-maternitatea-bega-renovate-sponsori-mana-larga-1\\_5357cf580d133766a806fd9a/index.html](http://adevarul.ro/locale/timisoara/vechilor-saloane-maternitatea-bega-renovate-sponsori-mana-larga-1_5357cf580d133766a806fd9a/index.html)
- <http://armandgroup.eu/ro/ut-enim-ad-minim-veniam-3/>

## Message to contributors from Restart Energy founder

Restart Energy is my legacy to the world, it's my dream of creating a transparent energy eco system that allows and encourages free and direct energy transfers between people that have the possibility to choose renewable energy without limitations from sources they can trust.



We became the fastest growing independent energy company in an European Country by tapping into the vast potential of micro entrepreneurship and creating new jobs with the Restart Energy franchise. Restart Energy token generative event is a black swan event for energy monopolies, its history in the making. By buying RED MegaWatt Tokens, you get an opportunity to participate in a great business success story while making money in the process.

### FAQ

#### Function

##### How does RED work?

RED MWAT Token is an ERC20 digital cryptographic utility token issued by Restart Energy Democracy, using blockchain technology that gives access to the services provided on the RED Platform Software and the RED Franchise. This will be achieved thanks to the new service offered by Restart Energy Democracy worldwide, RED platform.

##### RED Platform

The RED Platform Software is a blockchain based decentralized platform for Peer to Peer direct energy trading between consumers and energy producers worldwide. RED platform is the platform where users (and Restart Energy clients) can log in and trade (buy; sell) energy directly P2P (peer-to-peer), in a decentralized and easy to use manner. Users can get access to Restart Energy services, also obtain and use electricity.

##### RED Franchise

The RED Franchise is the first power retail franchise that makes it simple and easy to start and operate your own power utility company. Allows token holders to develop its own power retail business and earn revenues by selling energy to retail households and business consumers RED franchise is the business opportunity that owners of RED MWAT can get access to. It is an innovative, tested and working idea that is growing in a rapid manner. The energy franchise brings the decentralized world of energy one step closer to the free market in energy sector.

## RED MWAT Token use

### Do we generate all tokens at once?

Yes. Once the smart contract is created!

### What happens with unsold MWAT Tokens?

Unsold tokens will be burned.

### Will it be secondary (non-RED-P) trading exchanges for RED and KW token?

MWAT Tokens are received in your ETH wallet and they are used to access RED platform. You can sell or buy them on any of the secondary (Non-RED platform) markets that will start listing MWAT.

KW, on the other hand, is an internal use token, that has a direct report to RED Platform as a representation of an energy unit.

### Can I refill any time my MWAT token with energy at a preferred price?

Your MWAT Tokens give you access to trade up to 1000 KW Tokens/Month on the RED Platform Software.

### Am I limited to use the MWAT token for a certain market?

You can access the RED platform from anywhere in the world and use the P2P energy exchange, however Restart Energy can only deliver electricity in countries where the company will be licensed as a private energy supplier or where a Type A RED Franchise is deployed.

### Can I pay my bills with energy stored on the blockchain?

Yes! That is the basic functionality, among others. The KW Tokens that you purchase on the RED Platform represent units of energy that will be deducted from your energy invoice if you are a customer of Restart Energy or of a RED Franchise.

### If I choose to pay my bills using the KW tokens where I can find conversion rate?

Calculated LIVE on our platform.

### Are MWAT Tokens consumed if I use or sell the associated KW tokens?

MWAT Tokens are not consumed or used if you use or sell the associated KW Tokens. Think of MWAT like "virtual batteries" and KW Tokens represent units of energy that fill up the MWAT Tokens accounts.

### How can I obtain/use Green Certificates?

Consumers holding RED Tokens will automatically receive 1 Cryptographic Green Certificate for each 1 MWh consumed from renewable sources. The green certificates will be tradable on a secondary market on the RED platform and companies/contributors around the world will have access to purchase them in order to support renewable energy consumption/production and reduce their carbon footprint.

## RED Platform use

### **If I 'consume' MWAT Tokens do I get one time KW 'fill' on RED platform?**

RED MWAT Tokens grants you access on the platform (FREE), as you consume the energy in the form of KW Tokens that is deposited in the batteries, not the batteries itself.

### **If I keep MWAT Tokens (on RED platform) will I get a monthly / yearly KW 'fill' on MWAT Tokens?**

Yes, monthly your RED MWAT Tokens accounts will receive KW tokens provided by the producers as a fee for accessing the RED Platform. In order for this electricity to be consumed, the token holder has to be an energy customer of Restart Energy or a RED Franchise.

### **Can I sell RED MegaWatt Tokens on the platform at any moment?**

Yes, on secondary markets! Restart Energy will provide access to the RED Platform to its existing 30,000 customers only if they own RED Tokens. Owning the tokens gives access to a P2P global energy exchange platform. Restart Energy won't buy the tokens back.

## RED Franchise use

### **What type of resources will be received as benefit from a franchise?**

You will get energy and profit from running the franchise business.

### **Can I upgrade a city franchise to regional/country later in time?**

Yes! On the first-come first-served principle, if the area isn't reserved already.

### **How will I benefit from an externalized service of purchasing electricity?**

Just like everybody benefits from free market principles, you will find the best prices on the decentralized network, but even better, you can optimize your energy costs by purchasing directly from producers and choose the renewable sources you want to promote.

# DISCLAIMER - RISKS AND DISCLOSURES

## Disclaimer and main - Risks

Please read this disclaimer notice carefully. Please note that the disclaimer set out below may be altered or updated, at any time in whole or in part at the sole discretion of the Company. You should read it in full each time you visit the site.

All information is provided without any warranties of any kind and the Company. and its advisors make no representations and disclaim all express and implied warranties and conditions of any kind, including, without limitation, representations, warranties or conditions regarding accuracy, timeliness, completeness, non-infringement, suitability of the Tokens for any prospective contributor, and the Company and its employees, officers or professional advisors assume no responsibility to you or any third party for the consequence of errors or omissions.

## Regulatory Risks

The regulatory status of cryptographic tokens, digital assets and blockchain technology is unclear or unsettled in many jurisdictions, herein included also the Romanian jurisdiction. It is difficult to predict how or whether governmental authorities will regulate such technologies or what tax implications could arise for the holders of the RED MWAT tokens. It is likewise difficult to predict how or whether any governmental authority may make changes to existing laws, regulations and/or rules that will affect cryptographic tokens, digital assets, blockchain technology and its applications. Such changes could negatively impact RED MWAT Tokens in various ways, including, for example, through a determination that RED MWAT Tokens are regulated financial instruments that require registration. Company may cease the distribution of RED MWAT Tokens, the development of the Project or cease operations in a jurisdiction in the event that governmental actions make it unlawful or commercially undesirable to continue to do so.

The industry in which Company operates is new, and may be subject to heightened oversight and scrutiny, including investigations or enforcement actions. There can be no assurance that governmental authorities will not examine the operations of Company and/or pursue enforcement actions against Company. Such governmental activities may or may not be the result of targeting Company in particular. All of this may subject Company to judgments, settlements, fines or penalties, or cause Company to restructure its operations and activities or to cease offering certain products or services, all of which could harm Company's reputation or lead to higher operational costs, which may in turn have a material adverse effect on the RED MWAT Tokens and/or the development of the Project.

## Restricted territories:

Viewing the materials available hereafter may not be lawful in certain jurisdictions. In other jurisdictions, only certain categories of person may be allowed to view such materials. Any person who wishes to view these materials must first satisfy themselves that they are not subject to any local requirements that prohibit or restrict them from doing so.

The materials are for information purposes only and do not constitute or form a part of any offer or invitation to sell or issue, or solicitation of any offer, to purchase or subscribe for the Tokens in any jurisdiction or jurisdictions in which such offers or sales are unlawful prior to registration or qualification under the securities laws of any such jurisdiction (restricted territories).

Accordingly, unless an exemption under the relevant securities law is applicable, the Tokens may not be offered, sold, pledged, taken up, exercised, resold, renounced, transferred or delivered, directly or indirectly, in or into a restricted territory where to do so would constitute a violation of the relevant laws of, or require registration thereof in, such jurisdiction.

There will be no public offering of the Tokens in the restricted territories. If you are not permitted to view materials on this webpage or are in any doubt as to whether you are permitted to view these materials, please exit this webpage.

The Company shall not have any responsibility in respect of access to it from territories whose laws prohibit such access or where any aspect of the content of the site may be illegal. Those who choose to access this site from other locations do so on their own initiative and at their own risk, and are responsible for compliance with applicable local laws.

### **Currency Regulation Risks**

Governments are still grappling with public policy on the regulation of cryptocurrencies as a form of settlement in trade. Governments adverse to the proliferation of the use of crypto-currencies in local commerce could issue laws and regulations deeming the use of crypto-currencies a regulated activity. In recent weeks, countries such as China and Korea have issued regulations or statements prohibiting token sales, United States allowing only certified investors to participate to the sale while other countries have sought to bring the sale of tokens within the regulator control of securities offerings. This could result in holders of RED MWAT token being unable to use their RED MWAT token in the future without further regulatory compliance by RED MWAT token.

### **Risks Associated with Use of RED token Network**

Use of crypto-currency exchanges can be complex and subject to stringent qualification requirements. There is no guarantee that the developers will be able to successfully create a system that allows payment for services using global crypto-currencies. The failure to establish a network will result in decreased liquidity of the RED MWAT token as a form of settlement currency within the RED MWAT token Network.

### **Risks Associated With Crowd Sale**

RED MWAT tokens are not investment products. Rather, RED MWAT token serve a specific function within the RED Platform Software and RED ecosystem, which is the means to access and purchase active energy at a lower cost. Without RED MWAT token, the general public may not access the RED MWAT token system. There is also no expectation of future profit or gain from the acquisition of RED MWAT token. For these and other reasons, we believe the sale of RED MWAT token does not constitute a public offering of securities subject to prospectus registration requirements. However, public policy towards token sales is changing, and it is conceivable that regulators may in the future seek to broaden the scope of regulation of token sales. This could make token sales subject to registration requirements in the United States and similar jurisdictions. If the RED MWAT token sale becomes subject to registration requirements, this would delay or potentially postpone the proposed RED MWAT token sale indefinitely.

### **Taxation Risks**

The use of RED MWAT token as a form of settlement currency may or may not be subject to local income tax, capital gain taxes, VAT or other forms of taxes. This uncertainty in tax legislation may expose merchants and customers alike to unforeseen future tax consequences associated with the use of RED MWAT token-Coin as a settlement currency, and/or the trading of tokens or RED MWAT token for capital gains.

**Capital Control Risks** Many jurisdictions, such as China impose strict controls on the cross-border flow of capital. Holders of RED MWAT token may be subject to these regulations and/or arbitrary enforcement of such regulations at any time. This would make the transfer of RED MWAT token out of the local jurisdiction to overseas exchanges an unlawful activity exposing the user of RED MWAT token to government fines or other regulatory sanction.

### **CTF and Anti-Money Laundering Regulations**

The United States has issued a series of regulations to combat terrorist financing (CTF) and money-laundering activities. Many other countries have enacted similar legislation to control the flow of capital for such illicit

activities. The use of crypto-currencies by bad actors would breach such regulations. Any illicit use of the RED MWAT token could seriously impact the global reputation of the RED token Network. In such event, it is not inconceivable that this could trigger scrutiny by CTF and anti-money laundering regulators and potentially cause significant disruption to the distribution and circulation of tokens and RED MWAT token in the RED token ecosystem.

## **Blockchain Risks**

On the Ethereum blockchain, timing of block production is determined by proof of work so block production can occur at random times. For example, ETH contributed to the RED MWAT token Distribution Contract in the final seconds of a distribution period may not get included for that period. Buyer acknowledges and understands that the Ethereum blockchain may not include the Buyer's transaction at the time Buyer expects and Buyer may not receive RED MWAT token the same day Buyer sends ETH. The Ethereum blockchain is prone to periodic congestion during which transactions can be delayed or lost. Individuals may also intentionally spam the Ethereum network in an attempt to gain an advantage in purchasing cryptographic tokens. Buyer acknowledges and understands that Ethereum block producers may not include Buyer's transaction when Buyer wants or Buyer's transaction may not be included at all. RED MWAT token may be subject to expropriation and or/theft. Hackers or other malicious groups or organizations may attempt to interfere with the RED MWAT token Distribution Contract or the RED MWAT token in a variety of ways, including, but not limited to, malware attacks, denial of service attacks, consensus-based attacks, Sybil attacks, smurfing and spoofing. Furthermore, because the Ethereum platform rests on open source software and RED MWAT token are based on open source software, there is the risk that Ethereum smart contracts may contain intentional or unintentional bugs or weaknesses which may negatively affect the RED MWAT token or result in the loss of Buyer's RED MWAT token, the loss of Buyer's ability to access or control Buyer's RED MWAT token or the loss of ETH in Buyer's account. In the event of such a software bug or weakness, there may be no remedy and holders of RED MWAT token are not guaranteed any remedy, refund or compensation. The Project and all of the matters set forth in the White Paper are new and untested. The Project might not be capable of completion, implementation or adoption. It is possible that no blockchain utilizing the Project will ever be launched and there may never be an operational platform. Even if the Project is completed, implemented and adopted, it might not function as intended, and any tokens associated with a blockchain adopting the Project may not have functionality that is desirable or valuable. Also, technology is changing rapidly, so the RED MWAT token and the Project may become outdated. The regulatory status of cryptographic tokens, digital assets and blockchain technology is unclear or unsettled in many jurisdictions. It is difficult to predict how or whether governmental authorities will regulate such technologies. It is likewise difficult to predict how or whether any governmental authority may make changes to existing laws, regulations and/or rules that will affect cryptographic tokens, digital assets, blockchain technology and its applications. Such changes could negatively impact RED MWAT token in various ways, including, for example, through a determination that RED MWAT token are regulated financial instruments that require registration. Company may cease the distribution of RED MWAT token, the development of the Project or cease operations in a jurisdiction in the event that governmental actions make it unlawful or commercially undesirable to continue to do so.

## **Buyer Knowledge and Risks of Project**

Buyer has sufficient knowledge and experience in business and financial matters, including a sufficient understanding of blockchain or cryptographic tokens and other digital assets, smart contracts, storage mechanisms (such as digital or token wallets), blockchain-based software systems and blockchain technology, to be able to evaluate the risks and merits of Buyer's purchase of RED MWAT Tokens, including but not limited, to the matters set forth in this Agreement, and is able to bear the risks thereof, including loss of all amounts paid, loss of RED MWAT Tokens, and liability to the Company Parties and others for its acts and omissions. Buyer has obtained sufficient information in order to make an informed decision to purchase RED MWAT Tokens.

The Project and all of the matters set forth in the White Paper are new and untested. The Project might not be capable of completion, implementation or adoption. It is possible that no blockchain utilizing the Project

will ever be launched and there may never be an operational platform. Even if the Project is completed, implemented and adopted, it might not function as intended, and any tokens associated with a blockchain adopting the Project may not have functionality that is desirable or valuable. Also, technology is changing rapidly, so the RED MWAT Tokens and the Project may become outdated.

## **Business Risks**

The Company plans to conduct closings of sales of RED MWAT token as funds are received. If less than 5,000,000 USD is received from the sale of RED MWAT token, the Company may have insufficient cash to implement its plans as described below, and RED MWAT token purchasers who bought the Tokens shall be at a heightened risk of loss of their contributions. The Company's principal competitors may have greater financial resources than those available to the Company and thus be in a better position to attract talent, initiate projects and offer lower prices for electricity which is a crucial factor for miners of bitcoin. The Company's ability to remain competitive may depend in part upon its ability to develop new and enhanced products or services and to introduce these products or services in a timely and cost-effective manner. In addition, product and service introductions or enhancements by the Company's competitors or the use of other technologies could cause a decline in sales or loss of market acceptance of the Company's existing products and services. There can be no assurances that the Company shall be successful in selecting, developing, and marketing new products and services or in enhancing its existing products or services. Failure to do so successfully may adversely affect the Company's business, financial condition and results of operations. The Company's ability to realize its objectives shall be dependent on its ability to attract and retain additional, qualified personnel. Competition for such personnel can be intense, and there can be no assurance that the Company's results shall not be adversely affected by difficulty in attracting and/or retaining qualified personnel. The industry in which Company operates is new, and may be subject to heightened oversight and scrutiny, including investigations or enforcement actions. There can be no assurance that governmental authorities will not examine the operations of Company and/or pursue enforcement actions against Company. Such governmental activities may or may not be the result of targeting Company in particular. All of this may subject Company to judgments, settlements, fines or penalties, or cause Company to restructure its operations and activities or to cease offering certain products or services, all of which could harm Company's reputation or lead to higher operational costs, which may in turn have a material adverse effect on the RED MWAT token and/or the development of the Project.

Further on, any transaction concluded based on this Whitepaper shall be considered as a random agreement (in Romanian language called "contract aleatoriu"), meaning that the length and even the enforceability of the rights provided herein is not known/entirely know at the moment of its signing, given that the main rights and obligations of this agreement depend on one or several future events and therefore any of the signing party bear the risk of winning or losing depending on such future events.

## **Forward-looking statements:**

The Company makes no warranty whatsoever with respect to the tokens, including any: (i) warranty of merchantability; (ii) warranty of fitness for a particular purpose; (iii) warranty of title, or (iv) warranty against infringement of intellectual property rights of a third party; whether arising by law, course of dealing, course of performance, usage of trade, or otherwise. Except as expressly set forth herein, recipient acknowledges that it has not relied upon any representation or warranty made by the company, or any other person on the company's behalf.

This information contains forward-looking statements that are not historical facts, but relate to its intentions, beliefs, expectations or predictions for future events. In some cases, the Company uses the words "aim", "anticipate", "believe", "consider", "continue", "could", "estimate", "expect", "intend", "may", "plan", "potential", "predict", "project", "purpose", "seek", "shall", "should", "will", "would" and similar expressions or statements to identify forward-looking statements. These forward-looking statements include, without limitations, statements relating to:

- Our business strategies and plan of operations;
- Our capital expenditure and funding plans;
- General economic conditions;
- The trends of industry and technology, notably about blockchain and cryptocurrency industry developments; our Group`s financial conditions;
- Margins, overall market trends, risk management and exchange rates;
- Other statements that are not historical fact.

These forward-looking statements are subject to risks, uncertainties and assumptions, some of which are beyond the control of the Company. In addition, these forward-looking statements reflect the current views of the Company with respect to future events and are not a guarantee of future performance. Additional factors that could cause actual performance or achievements to differ materially include, but are not limited to those discussed under this White paper. These forward-looking statements are based on current plans and estimates and speak only as of the date they are made. The Company makes no undertaking to update or revise any forward-looking statement in light of new information, future events or otherwise. Forward-looking statements involve inherent risks and uncertainties and are subject to assumptions, some of which are beyond the control of the Company. The Company cautions you that a number important of factors could cause actual outcomes to differ or to differ materially, from those expressed in any forward-looking statements. Due to these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this might not occur in the way the Company expects or at all. Accordingly, you should not place undue reliance on any forward-looking information/statement. All forward-looking statements contained in this are qualifies by reference to these cautionary statements.

### **Know Your Customer (KYC) rules:**

Considering the anti-money-laundering and anti-terrorism national and international regulations, the Company reserves the right to develop and apply KYC rules and procedure before the sale of RED tokens, before the trade of such RED tokens and before or during the execution of any transactions on the RED-P; likewise, depending on the findings of such rules and procedure or when there exists a reasonable doubt that a certain participant/interested party is involved in money-laundering or terrorism, the Company reserves the right to refuse at its sole discretion a transaction or sale, trade of RED-T to any third party and also has the right to refuse the access to RED-P and/or to suspend such access at any given moment.

#### **No withdrawal right:**

While deciding to enter and entering into any transaction based on this whitepaper the buyer/interested party is hereby informed and undertakes it will not benefit from a right of withdrawal from the transaction and his decision of entering into such transaction is final and under no circumstance he shall be given with a withdrawal right.



**From:** ALMAJ & ALBU SCPA

**To:** RESTART ENERGY DEMOCRACY SRL

**Date:** 22.12.2017

**Subject:** **Romanian legal provisions related to securities and use of tokens**

The aim of this memorandum is to provide a summary on the main Romanian regulations related to securities and which interfere or could interfere with the RED MWAT token to be implemented by RESTART ENERGY DEMOCRACY SRL (“Client” or “REO”). This Memo was requested and issued for the sole benefit of the Client and A&A does not represent and assume no liability towards third parties.

Our analysis is limited to the Romanian regulations and official opinions existent in relation to securities regime at the issuance date of this Memo and, further on, expresses no opinion in relation with foreign or international legislation; considering the broad analyzed subject, this memorandum cannot and shall not be deemed exhaustive; A&A expresses its availability to further detail this Memo with any other aspects, which the Client might consider fit.

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## 1 SCOPE OF WORK

The use of blockchains and tokens gives rise to legal and regulatory challenges & regulators worldwide are starting to understand and further define the general applicable rules.

Thus, most of the national regulators and EU authorities are already monitoring the development of blockchains and other distributed ledger technologies (as well as the virtual currencies exchanged on them).

It is stated that regulators should control less the technology itself, **but the uses and products that may be promoted based on such technology.**

National Bank of Romania (BNR) announced that *“the cryptocurrency is not a national currency nor a foreign currency, and its acceptance for payment is not mandatory from legal point of view; the cryptocurrency is neither a „virtual currency” as such is regulated by Law 127/2011 regarding the activity of issuance of virtual currency.”*

The rest of the Romanian authorities still haven't expressed an official interpretation over the tokens legal regime, ICOs and blockchain technology.

In light of the before mentioned and in lack of any special Romanian regulations referring to tokens, we are of the opinion that the final legal regime which one should reasonably grant to tokens is determined by the uses and products mediated by such technology.

Therefore, our herein analysis is based on the information provided by the Client and the use and purpose which the latter aims to grant to the subject tokens, purpose which is further in a limitative manner detailed herein below:

- RED MWAT token holders can access the RED Platform energy exchange and have access to select the energy producers from which to acquire energy rights.
- With each 1 RED MWAT token the users can virtually buy or sell up to 1 MWh per month on the RED Platform.
- Energy producers also need RED MWAT tokens to access the RED Platform and they pay as a fee 5% of the traded energy to the platform that distributes this energy monthly and evenly as a free discount to the RED Token account holder.
- Users holding a minimum number of tokens can receive access to a RED Franchise for brokering energy and gas contracts.

## 2 CAPITAL MARKET REGULATIONS

One of the key problem lies in whether a token is or might be considered a security/financial instrument, in which case and if the answer is positive such an approach triggers the application of financial regulations.

Law 297/2004 regulates among others the set-up and functioning of financial instrument markets and the deeds and operations specific to such markets and applies to the activities and operations with financial instruments developed on the Romanian territory, such as:

- the reception and transmission of orders for one or more financial instruments;
- the execution of orders on behalf of clients;
- dealing on own account;
- portfolio management;
- investment advice;
- underwriting and/or placing financial instruments based on a firm commitment;
- placing financial instruments without a firm commitment;
- administration of an alternative trading system.

Further on, as per Law 24/2017, financial instruments have the following meaning:

- securities;
- money-market instruments;
- units of undertakings for collective investment;
- options, futures contracts, swaps, forward interest-rate agreements, forward exchange rate, and any derivative contracts in connection with securities, currencies, interest rates or profitability or other derivatives, financial indices or financial ratios, which may be physically settled or in monetary funds;
- options, futures contracts, swaps, forward interest-rate agreements (one rate) and any other derivative contracts in connection with commodities which must be settled in monetary funds, or may be settled in monetary funds, at the request of any party (other than in the case of default or other incident leading to termination);

- options, futures contracts, swaps and any other derivative contracts in connection with commodities/goods and which may be physically settled, provided that they are traded on a regulated market and/or within an alternative trading system;
- options, futures contracts, swaps, forward contracts and any other derivative contracts in connection with commodities, which may be physically settled, not included in the category of those referred above and not having commercial purposes, having the features of other derivatives, taking into account, inter alia, whether they are compensated and settled through recognized clearing houses or are regularly subject to margin calls; derivative instruments for the transfer of credit risks; etc.

About such activities and operations with financial instruments, Law 297 states that “*No natural or legal person may supply investment services and activities without being registered in the CNVM’s Registry.*” The investment services and activities referred to as financial instruments, may be supplied under a professional title exclusively by the intermediaries provided and authorized under the same law:

- the investment firms and intermediaries in non-Member States, based on the authorization granted by CNVM;
- the credit institutions, authorized by the National Bank of Romania;
- the equivalent of credit institutions and of investment firms, authorized by the competent authorities of the Member States.

Further on it is mentioned that the alternative trading systems may be operated solely by authorized intermediaries or by the market operator, hereinafter referred to as system operators:

- The securities which do not meet the requirements for admission to trading on a regulated market may be traded within such an alternative trading system.
- The system operators shall submit for approval by CNVM their intention to establish an alternative trading system and shall request its approval; the system management, the complete description of its features and the operation rules shall be submitted to CNVM for approval.

Among others, Law 297/2004 states that financial investment services can be carried in a “professional manner” solely by authorized intermediaries, such as: SSIFs - financial investment service companies which provide these services both for third parties and for their

own behalf; traders authorized by CNVM and which perform transactions with financial instruments (of futures and options type) only in their own name and behalf; intermediaries of other EU member states etc; central counterparty (CCP) and clearance house etc.

Among these financial investment services which can be carried on in a professional manner solely by authorized intermediaries, the following should be emphasized:

- intermediation and placement of orders regarding one or several financial instruments;
- trading on its own name and account;
- consultancy services for investments etc.

### 3 CONCLUSIONS

- **Considering the before mentioned Romanian securities regulations and the purpose & use of the RED MWAT token as declared by the Client and detailed in chapter 1 above, we are of the opinion that, in light of the current date Romanian legislation and official interpretation, RED MWAT tokens cannot be deemed as being securities;**
- **Should in the future, REO intend to extend the purpose & use of the RED MWAT token to activities covered by the securities law regulations as detailed in chapter 2 above, this Memorandum should be extended based on the new *de facto* situation.**

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Should you have any further queries or suggestions, please do not hesitate to contact us.

Yours faithfully,

ALMAJ & ALBU SCPA

