

Energy Crisis

Green Transition

Energy Democracy

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Special issues in Energy
Financing and Risk
Management



I ❤️



Believe

SYNERGIES

PERSONAL RESPONSIBILITY



CLIMATE CRISIS

OR

CLIMATE CHANGE



- **Passive behavior.**
- **Accept that nothing can be done.**
- **Systemic change.**
- **Need for plan, non systemic.**
- **New tools, we can't fix a problem with the same attitude that created it.**



TESLA



NEW PERSPECTIVE NEW PERCEPTION!

You can't expect
different results if
you keep acting
and reacting the
same way.

**YOU CAN'T
EXPECT TO SEE
CHANGE
IF YOU NEVER
DO ANYTHING
DIFFERENTLY.**

YOU HAVE TO MAKE
CHANGES
— TO SEE —
CHANGES



Βιωσιμότητα Αειφορία



Daily Word
Meaning



NEWS

On visit to Athens, Merkel pledges action on Greek debt sustainability

11.04.2014 • 19:57



On her second visit to Athens in less than two years on Friday, German Chancellor Angela Merkel pledged that the eurozone would discuss Greece's debt sustainability later this year.

Interactive Guide on
**DEBT SUSTAINABILITY
FRAMEWORK**
for Low-Income Countries

Energy Democracy

Energy is Social Good or Commodity?

MASLOW'S HIERARCHY OF NEEDS

BYJU'S
The Learning App



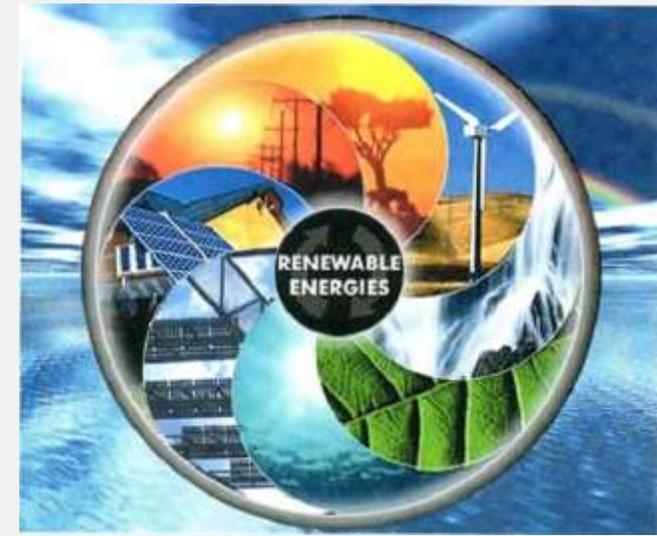
- ▶ The need for development, creativity, growth.
- ▶ The need for self-esteem, power, control, recognition.
- ▶ The need for love, belonging, inclusion.
- ▶ The need for safety, shelter, stability.
- ▶ The need for air, food, water, health.



Green Transition

Why?

Fossil Fuel



THE ENERGY TRILEMMA



The 'Only
Alternative'

CLIMATE CRISIS



 **Donald J. Trump** 
@realDonaldTrump  [Following](#)

The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive.

RETWEETS 24,831 LIKES 14,654 

2:15 PM - 6 Nov 2012



GREEN
20



Present...



Cat
tas

troph
ology

미하이 그레쿠 Mihai Grecu



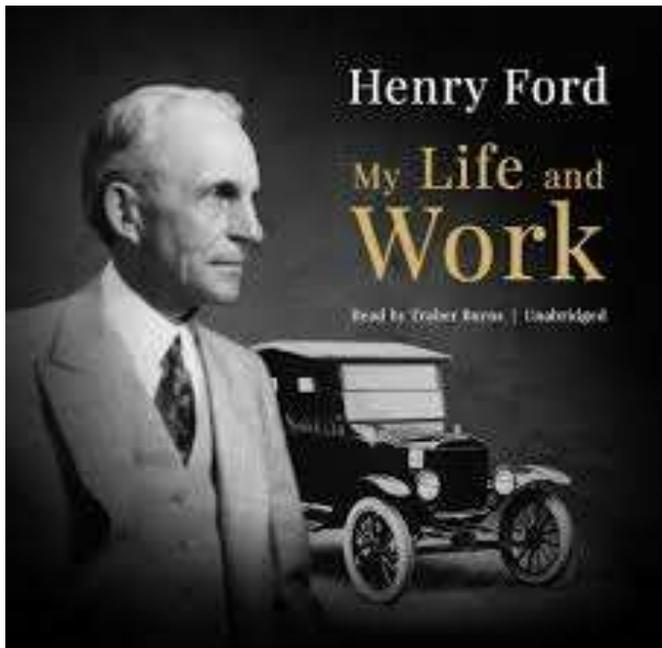
London 1880



Streets in major cities full of horse s...t.

Fear for infectious diseases, epidemic, pandemic...

Horseless Carriages



**DISRUPTIVE
TECHNOLOGY**



From Horseless Carriages To Zero Emission Cars



**DISRUPTIVE
TECHNOLOGY**



ELECTRO MOBILITY+



INNOVATION



View of a girl charging a Baker electric car, while a woman stands next to a wall-mounted electrical box in background. c.1914.



BLAST FROM THE
PAST



1956

5Mb



You'll Be Able To Carry Phone In Pocket In Future

Some day, Mansfielders will carry their telephones in their pockets.

Don't expect it to be available tomorrow, though.

Frederick Huntman, telephone company commercial manager, says, "This telephone is far in the future — commercially."

Right now, it's a laboratory development and it's workable, allowing the carrier to make and answer calls wherever he may be.

Other telephones of the future includes a kitchen loud speaking telephone, and a visual image telephone.

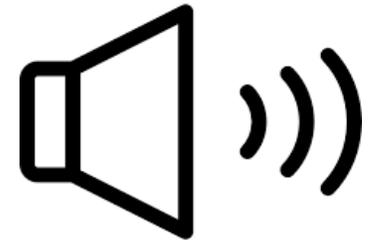
The kitchen instrument can be used as a regular telephone, a loudspeaking phone if the housewife happens to be busy preparing a meal, or as an intercom station for the home.

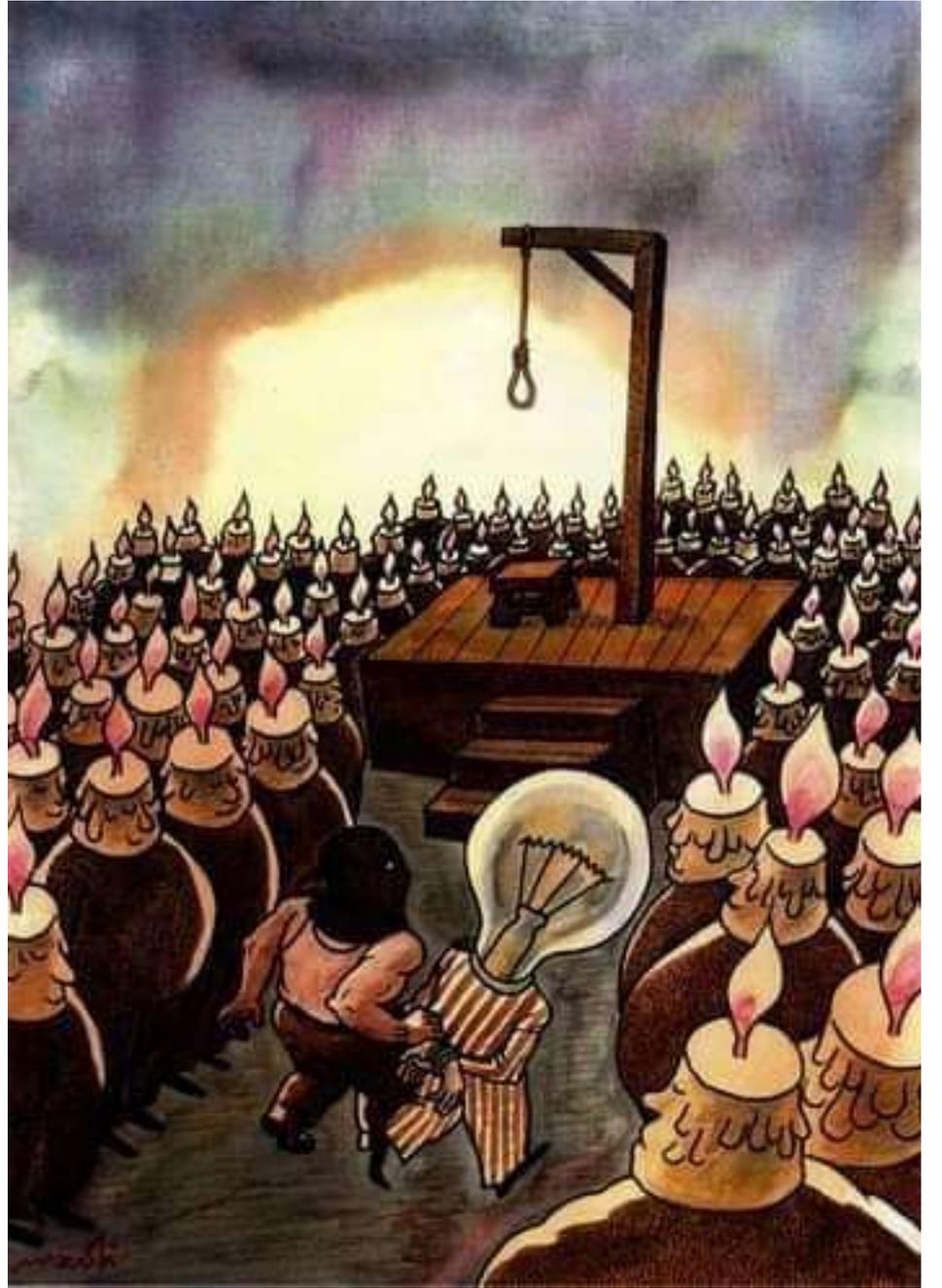
The visual image telephone allows the parties to converse by way of a microphone and loud speaker while a miniature television camera transmits the image. The "TV phone" also will have a writer signature transmission system and a conversation tape recorder.

The new phones are being displayed at the Home and Flower Show at the Coliseum.



HOW ABOUT THIS? — Mrs. Jean Conrad, commercial representative of Mansfield Telephone Co. holds up the pocket-sized, wireless telephone which Mansfielders will some day carry with them. The phone is still in the development stage and "far in the future."

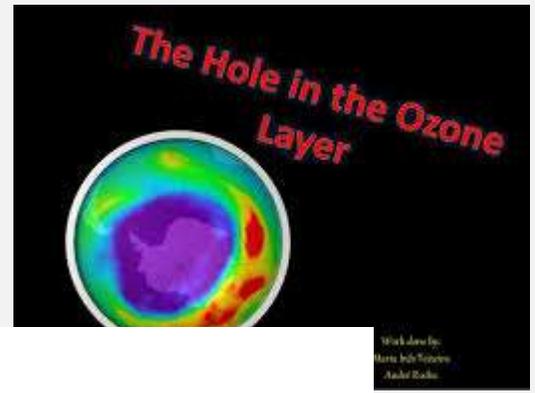
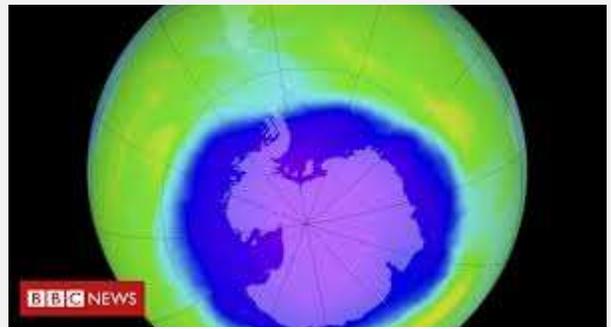
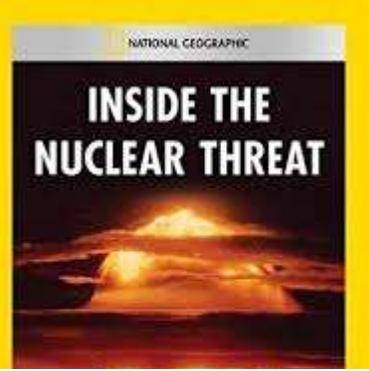




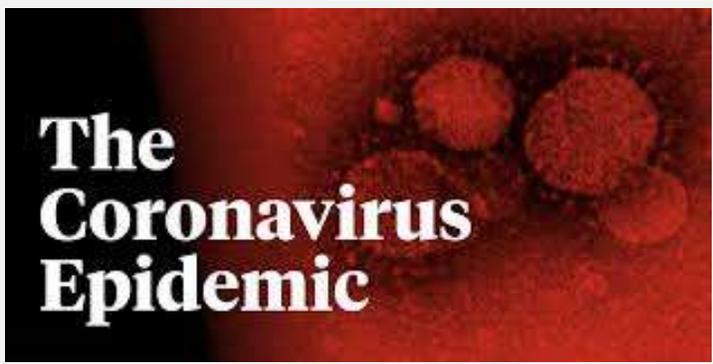
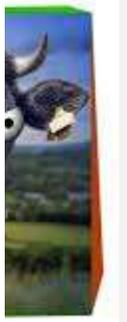
CLIMATE CRISIS

THE GREEN TRANSITION





ACT NOW



WHAT NOW?



GREEN BONDS



RECOVERY AND RESILIENCE PLAN



energyHUB

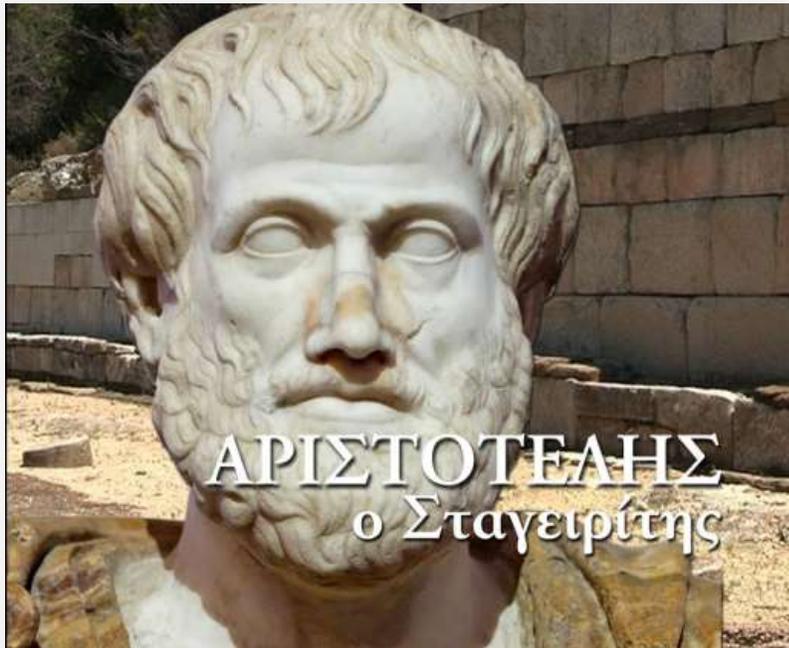


**THERE'S NO MORE
BUSINESS
AS USUAL**

**DISRUPTIVE
TECHNOLOGY**



**Personal
Social
Responsibility**



- Κοινό καλό / Common Good
- Ηθική / Ethics
- Ευ ζην / Good Living

Climate Crisis affects:

Agriculture

Stockraising

Tourism

Supply chain

Economy

Labour

Health

Social Security

Politics

Immigration

Water

Fires

Biodiversity

Geopolitics

Inequality

Injustice

Conflicts, Social Automation

Human Rights

Democracy

Problem Ethics, Health,
Development, Justice, Economy,
Social Cohesion, Civilisation
Democracy, Survival



CLIMATE LAW

obligatory



Environmental, Social, and Governance (ESG) Criteria

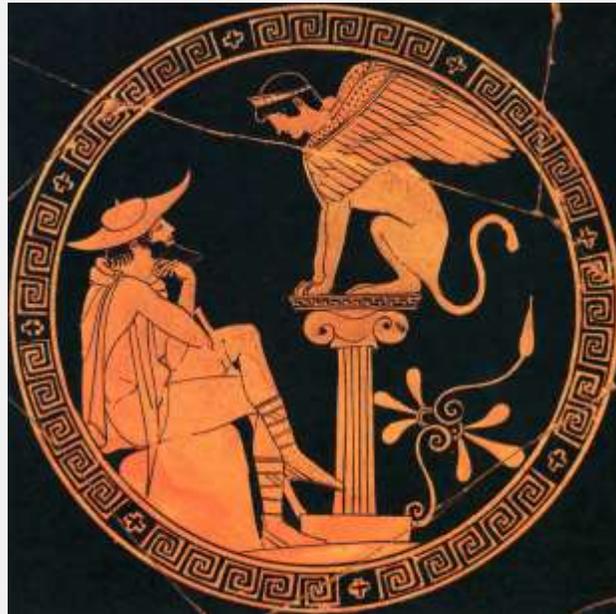
(in-'vī-raɪn/-mant-el 'sō-shəl an(d) gə-'vɑ:n-nən(t)s kri-'br-ē-ə)

A set of standards for a company's behavior used by socially conscious investors to screen potential investments.

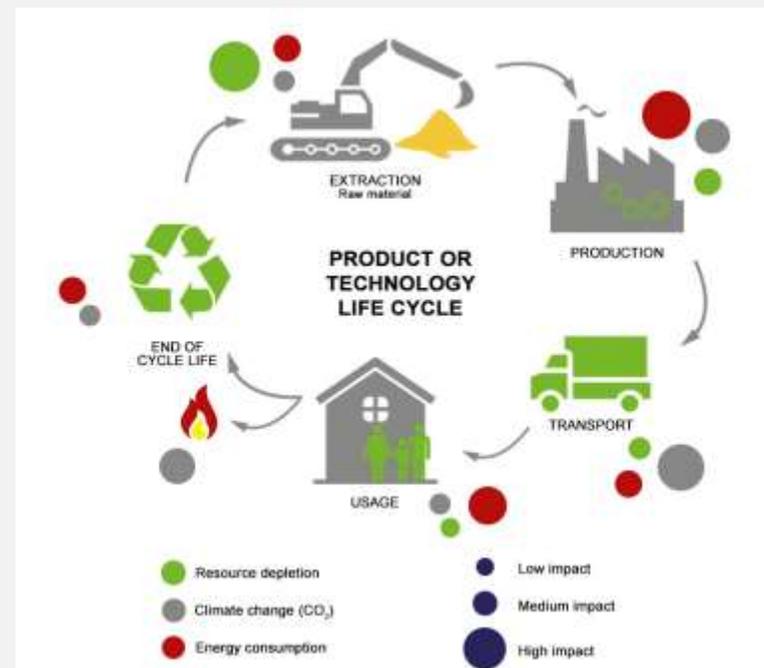
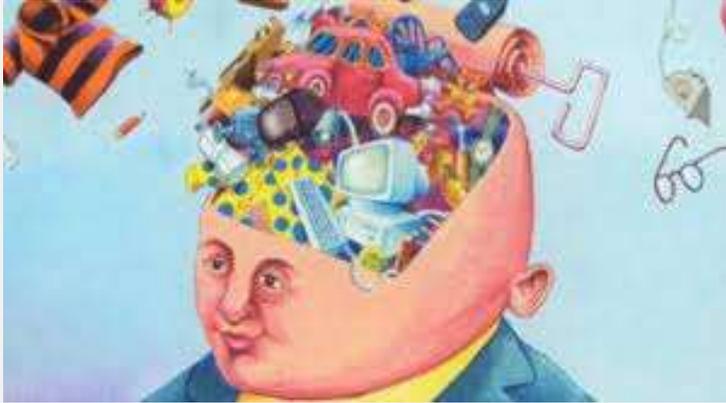
What went wrong?

What we did wrong?

Research question formulation



Over-consumption development model



**I shop
therefore
I am**

Freedom - Slavery



**GRETA
THUNBERG**



HATERS



Donald J. Trump ✓

@realDonaldTrump

Follow



So ridiculous. Greta must work on her Anger Management problem, then go to a good old fashioned movie with a friend! Chill Greta, Chill!

Roma Downey ✓ @RealRomaDowney

Congrats @GretaThunberg twitter.com/time/status/12...

4:22 AM - 12 Dec 2019



Η ΚΑΘΗΜΕΡΙΝΗ

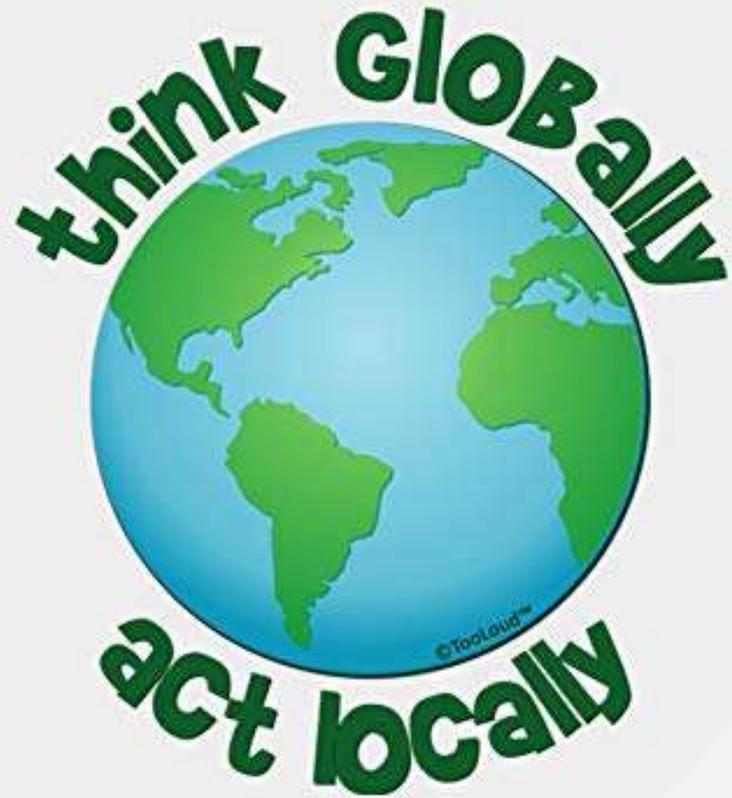
APRIL 2021

Who you think is responsible for Climate Change?

(possibility for multiple answers)

65%	Every human
51%	Powerful states
48%	State / Government
45%	Private Enterprises
23%	Municipalities
20%	Specific Professional groups
18%	Political Parties





The Climate is changing

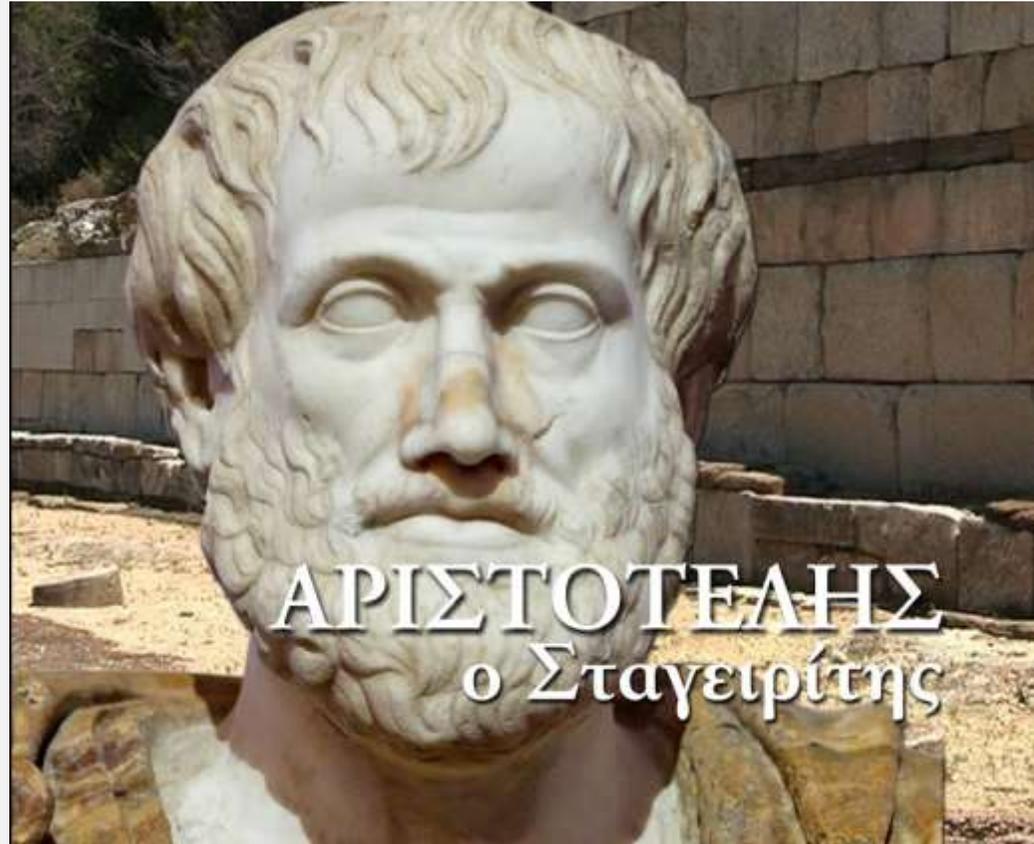


The Climate is changing



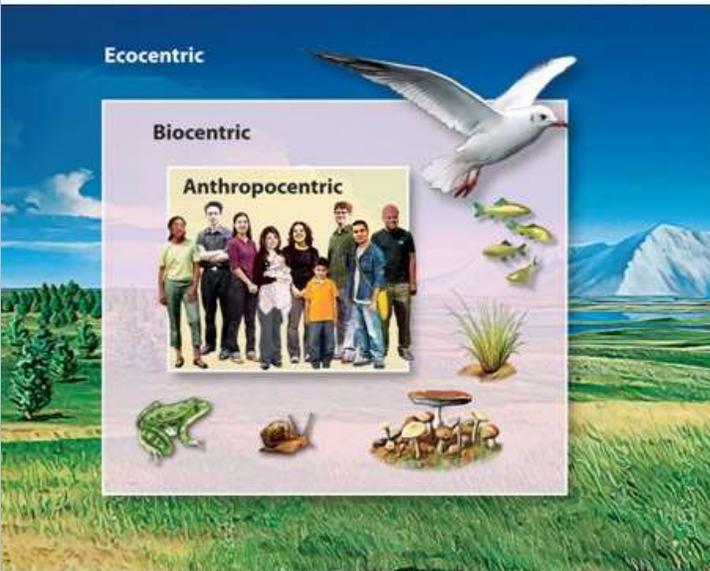
Individual
Responsibility

DOING
GOOD
TOGETHER™



- **Common Good**
- **Ethics**

Environmental Ethics



- Environmental ethics is the application of ethical standards to the relationship between humans and the environment.
 - **Anthropocentrism:** Humans and human welfare most important
 - **Biocentrism:** All living things have value; some may be more important than others
 - **Ecocentrism:** Well-being of a species or community more important than that of an individual



Global Greens Congress, Canberra, Australia, 2001

- **Ecological Wisdom**
- **Social Justice**
- **Participatory Democracy**
- **Non violence**
- **Sustainability**
- **Respect for Diversity / Inclusion**



- Apathy, Lack of participation, Populism, Messianism, Crisis of Values.
- States not offending Human Rights
- Insufficient legal framework created bad behaviour (individual, corporate, public).
- Vicious Circle

We are what we usually do.
Aristotle

Energy Democracy



Knowledge: Education Political, Environmental, Energy, Experiential.

Participation : Mindful in consumption, production, rational use and saving .

Resilience: mitigation of energy vulnerability.

Changing model of development

Resistance with constrictive sustainable propositions

Requirements from us & others

Creating virtuous cycle

HEAT
or
EAT
No Need to Choose.



Holistic / Sustainable use of Energy and Natural Resources



ENERGY POVERTY

The words "ENERGY POVERTY" are written in large, white, bold, sans-serif capital letters on a dark blue background.

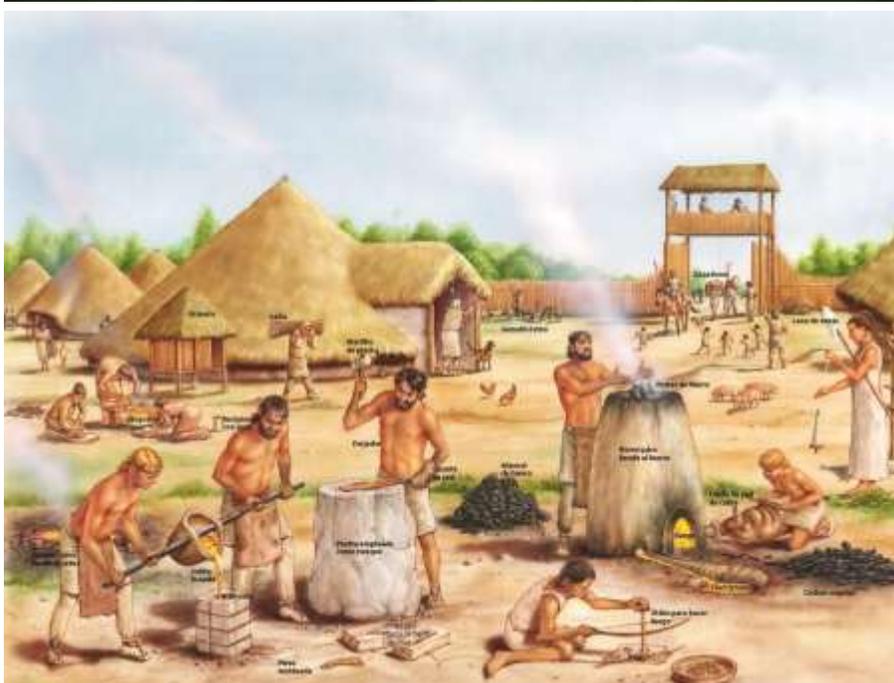


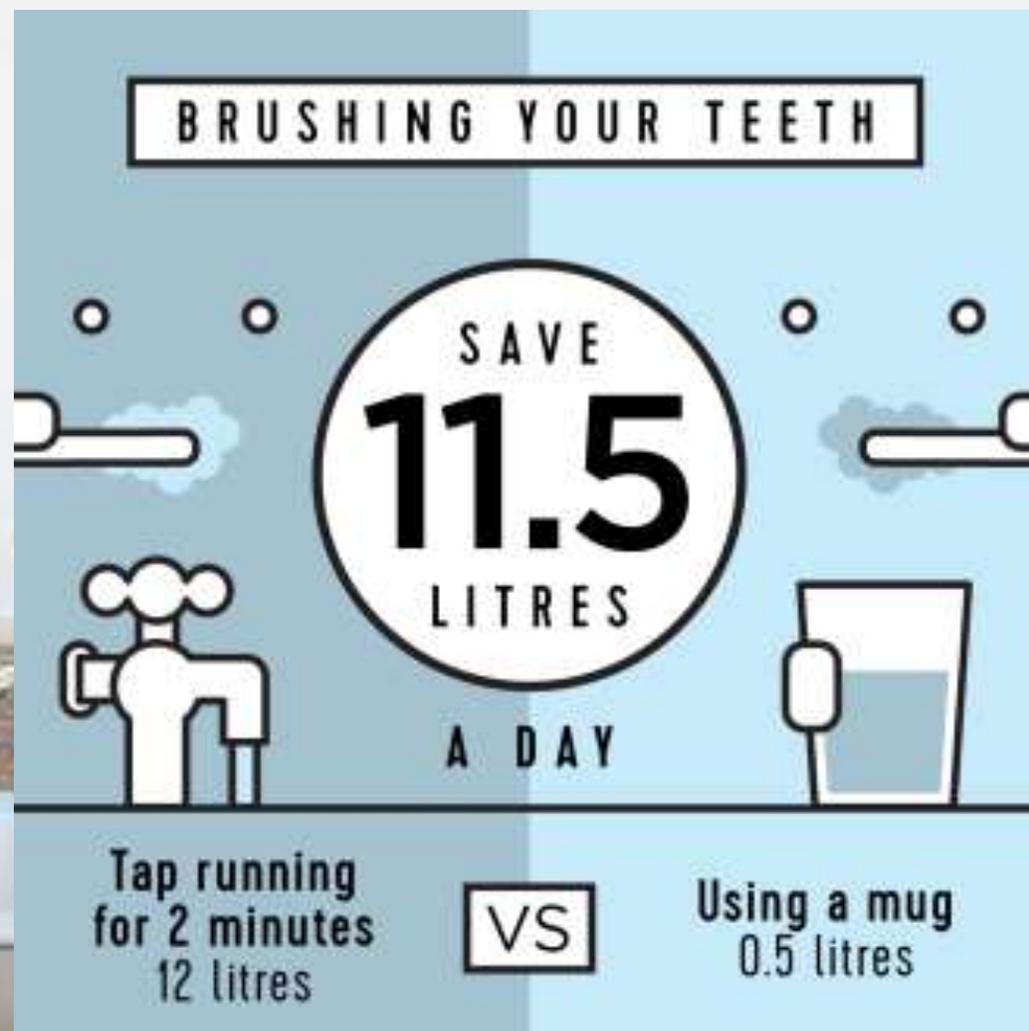


We must redefine our relationship with energy and natural resources usage



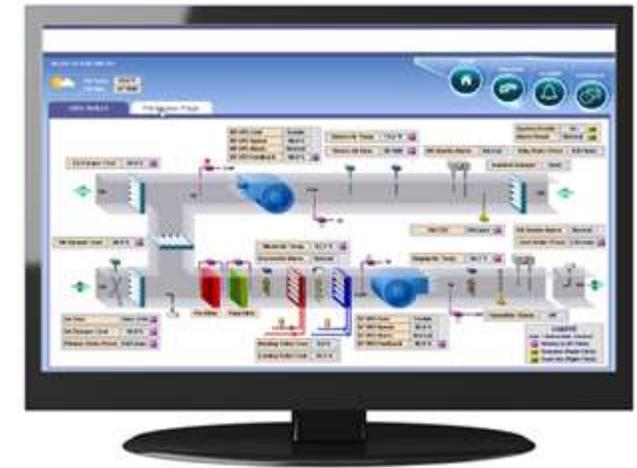
WATER
HEATER







MONITORING & MANAGEMENT



Monitoring, Controlling, Saving

A circular graphic with a dark blue background. It features the word "TECHNOLOGY" in large, white, bold, sans-serif capital letters. Surrounding the text are various white icons: a bar chart, a gear, a circuit board, and a circular gauge. The overall theme is digital and technological.

TECHNOLOGY

- **High level Academic Institutions.**
 - **Brain Remain - Regain**
 - **Connectivity**
 - **Funding from EU programs**
 - **Leverage with private equity**
 - **Green Bonds, Green Funds, ESG,**

A circular graphic with a dark grey background. It features a glowing yellow lightbulb in the center. Surrounding the lightbulb are several white words: "Solution", "Inspiration", "Intelligence", "Creativity", "Ideas", and "Vision". At the bottom, the word "Innovation" is written in large, white, bold, sans-serif capital letters. A hand holding a white chalk is visible on the right side, appearing to have just written the word "Innovation".

Innovation

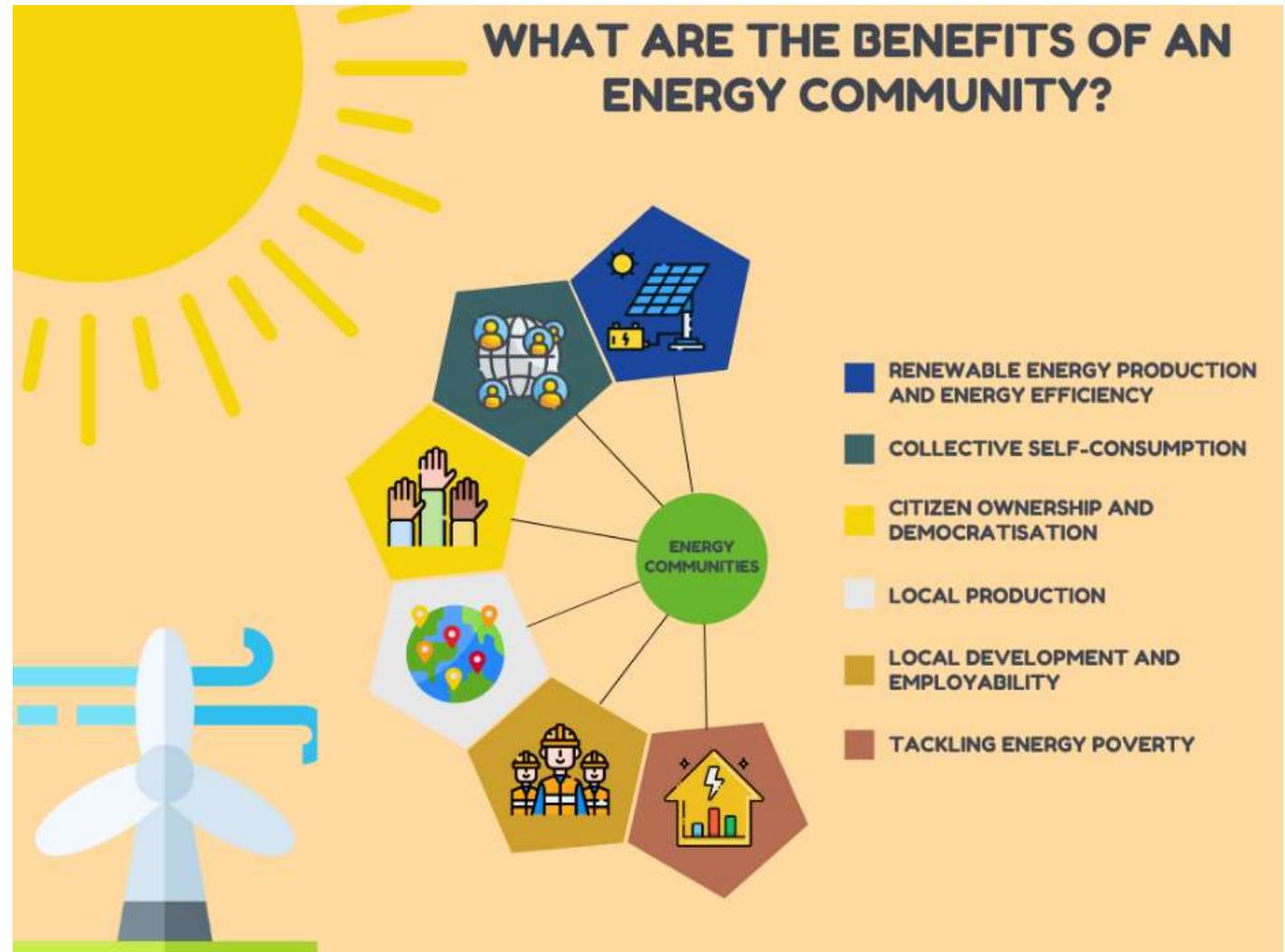
Energy transitions: Keeping the society on board

ENERGY TRANSITION: EVERYBODY IS AFFECTED
SO **EVERYBODY SHOULD BE HEARD!**



Energy Communities

Energy communities organize collective and citizen-driven energy actions that help pave the way for a clean energy transition, while moving citizens to the fore. They contribute to increasing public acceptance of renewable energy projects and make it easier to attract private investments in the clean energy transition. At the same time, they have the potential to provide direct benefits to citizens by increasing energy efficiency, lowering their electricity bills and creating local job opportunities.



ENERGY
REVOLUTION

10 REASONS TO START OR JOIN A COMMUNITY ENERGY PROJECT



NOW!

1

Help build the system needed to **stop the climate crisis**



2

Community renewables **redirect money** from fossil fuels



3

It can **reduce energy poverty** in your area



4

You'll get to **know your neighbours** and strengthen your community



5

You will **produce your own** renewable energy



6

Helps **educate** people on the issues of energy, climate and democracy



7

It keeps the **money locally** in your community



8

You will **show other communities** what is possible



9

It will contribute to creating a **more local, more circular economy**



10

You will be building the kind of **world you want to see**







Energy Community "Thalis"



2,1 MW



Each member's household :

- 4kwp
- 6.000kwh/year
- 1.440€/year Saving

For Example!

ANNUAL PRODUCTION

3.600 MWh



2.100 tn CO2



ENVIRONMENTAL AWARENESS

RESILIENCE

Virtual Net Metering

MEMBERS

- Plastika Kritis S.A. 20%
- Employees
- Business partners
- Local Charity Foundations/Energy Vulnerable



Devotion

PRIDE



ESG



BUSSINESS ETHICS





SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

ESG

1 NO POVERTY

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BRAND ACTIVISM

BUSSINESS ETHICS

What we need



- **Vision - Target – Plan – Timeline - KPIs**

- **Synergies**

- **Energy Coaching from specialists**

- **Grid, licencing, legal framework**

- **Funding**

Grants, loans, guarantees, tax incentives, subsidies.

New models of Energy Projects Financing as an ESCO Service

- **Improve ourselves to become worthy of what we are asking**

- **Innovation, Technology, Diffusion, Brain, Field force**





Counting emissions

Greenhouse gas emissions by source sector, EU, change from 1990 to 2020 (million tonnes of CO₂ equivalent and % change)



Note: Source sectors as defined in greenhouse gas emission inventories.
Source: European Environment Agency (EEA) republished by Eurostat

ec.europa.eu/eurostat



THE SPECTATOR





The European Green Deal



National
Energy and Climate
Plan

Framework Attitudes

- Targets continuously reconsiderated
- Legal framework
- Fines & Incentives
- Funding for testing and maturing new technology
- New financial schemes
- New criteria for business compliance evaluation



EU TAXONOMY

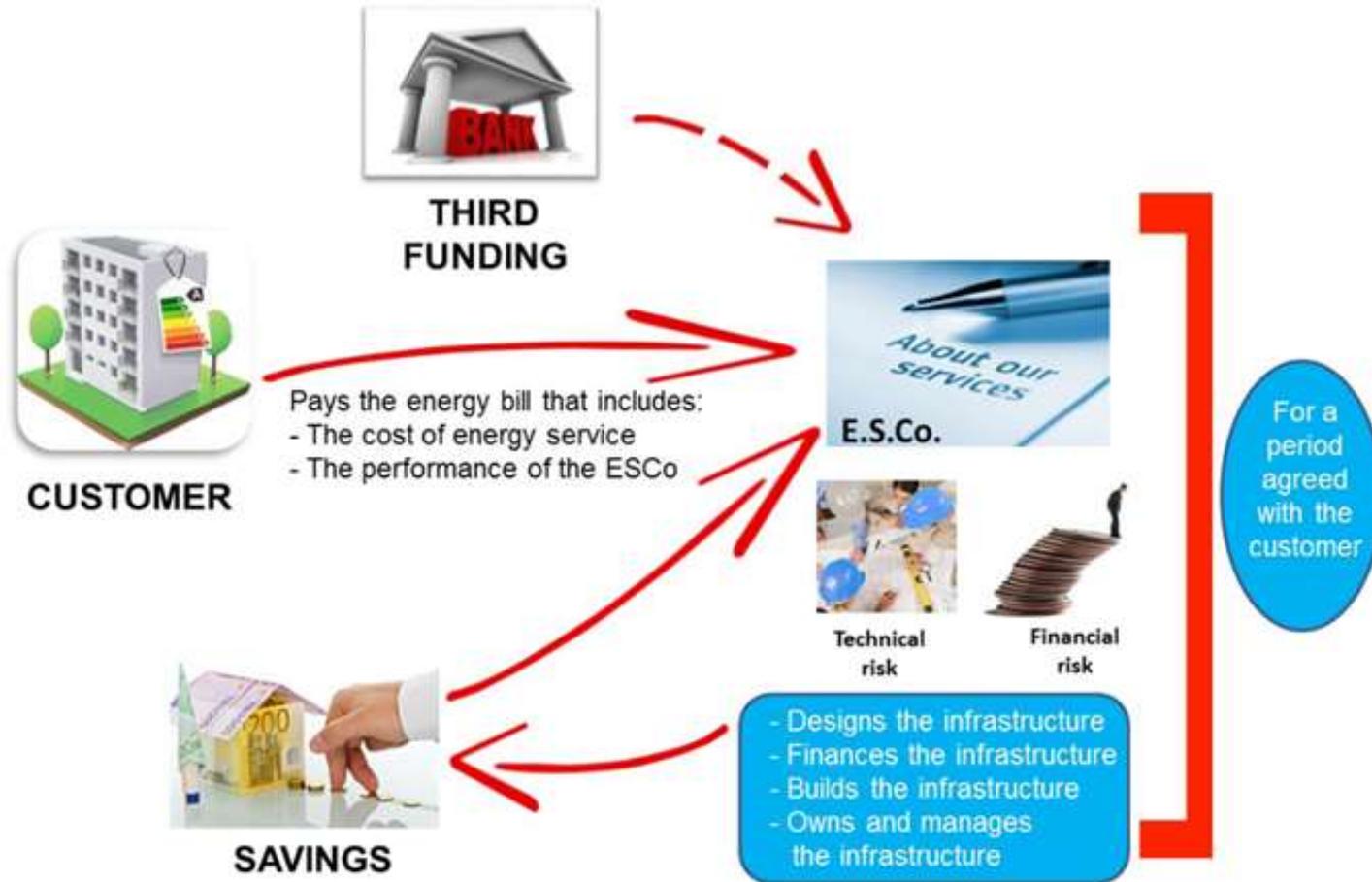


ESG





Most agreements between customers and ESCOs are underpinned by energy performance contracts (EPCs). The EPC commits the ESCO to installing the necessary equipment, provides a performance guarantee and establishes the terms of any upfront or ongoing payments, which are intended to be less than the financial savings realised by the project. The two most common types of EPCs are referred to as a (1) shared savings or (2) guaranteed savings model.



Energy Performance Contracting (EPC) is a form of 'creative financing' for capital improvement which allows funding energy upgrades from cost reductions. Under an EPC arrangement an external organisation (ESCO) implements a project to deliver energy efficiency, or a renewable energy project, and uses the stream of income from the cost savings, or the renewable energy produced, to repay the costs of the project, including the costs of the investment. Essentially the ESCO will not receive its payment unless the project delivers energy savings as expected.

To achieve

- Resilience, mitigation of energy vulnerability.
- Prosperous, sustainable.
- Brain remain / regain, Innovation.
- Role of Consumer is strengthened, prosumer, consciousness
- Scattered energy production.
- Empowerment of energetic participation of local communities.
- Social coherence
- Local Communities, Islands – Technology – Financial tools
- Increase awareness for Environmental Protection.
- Experiential learning for new generations.
- Economy, Social, Environment.





Ένα με
το μέλλον

With 70 years of history and eyes on the future!



The beginning

The Public Power Corporation was established on 7 August 1950 with the aim to generate electricity using domestic energy sources and distribute it throughout the country.



Ένα με
το μέλλον

With 70 years of history and eyes on the future!



The electrification

Electricity soon reached every corner of the country, radically changing people's daily lives.



Ένα με
το μέλλον

With 70 years of history and eyes on the future!



Protecting the environment

Driven by a strong concern for environmental issues, PPC is rehabilitating the natural landscape in the areas where lignite mining is completed.



Ένα με
το μέλλον

With 70 years of history and eyes on the future!



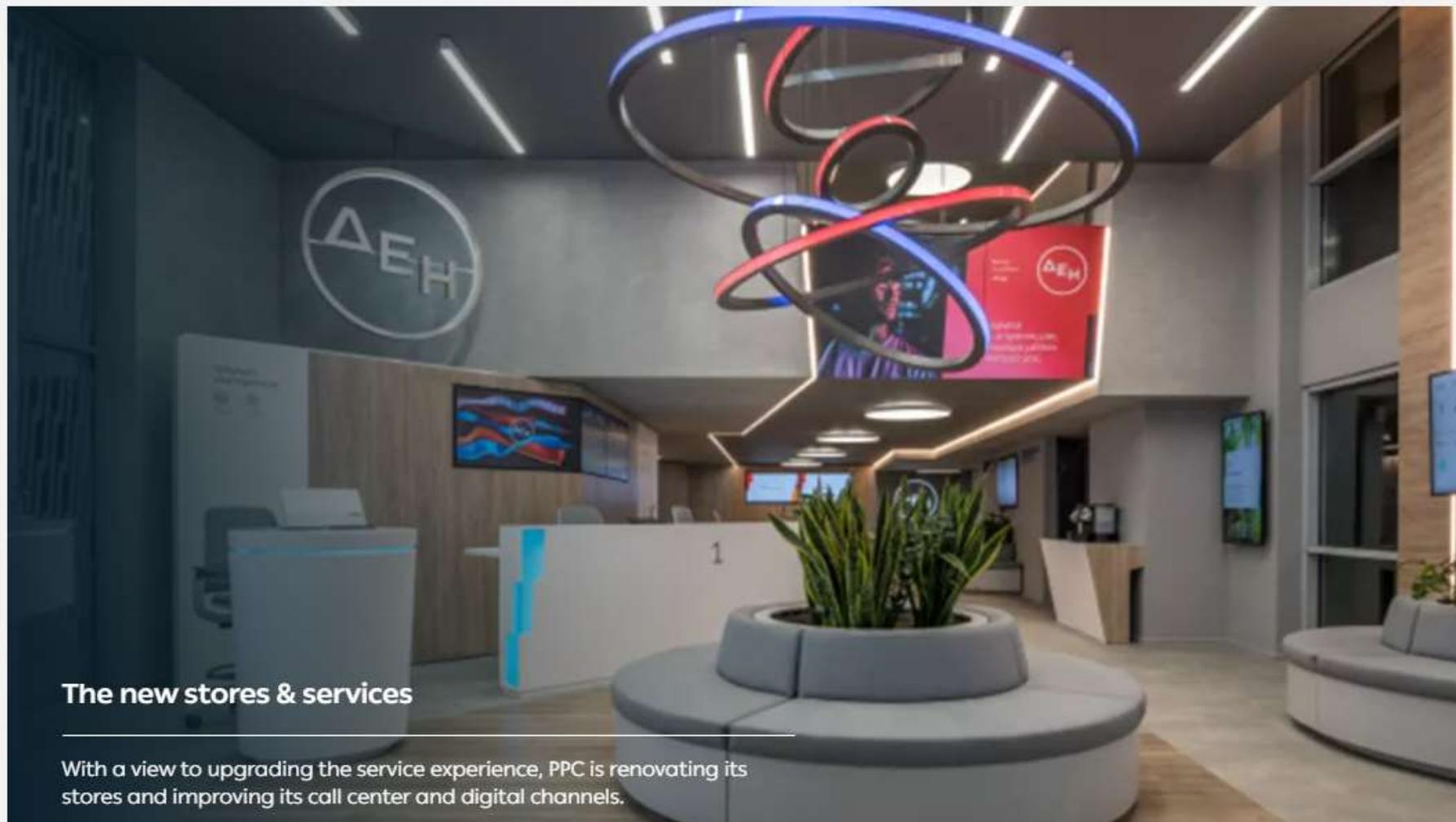
Shift to Renewable Energy sources

PPC Renewables S.A. has taken up the baton of managing renewable energy projects, with the aim of developing the sector as much as possible.



Ένα με
το μέλλον

With 70 years of history and eyes on the future!



The new stores & services

With a view to upgrading the service experience, PPC is renovating its stores and improving its call center and digital channels.



Ένα με
το μέλλον

With 70 years of history and eyes on the future!





Ένα με
το μέλλον

PPC

We are the leading electricity producer and supplier in Greece, and for 70 years we have been a driving force for the development of our national economy.

PPC is redefining itself in order to meet the challenges of the energy transition through the implementation of its strategic priorities.

The first phase of the next day.

PPC is re-inventing itself in order to be aligned with the energy transition through the implementation of the following strategic priorities:

- Its own **“Green Deal”** in generation through the fastest in Europe lignite phase-out plan, with parallel ramp-up of RES as the new dominant generation technology.
- **Digitalization and operational efficiency** to capture cost and revenue efficiencies across all business activities.
- **“Customer centricity”** with the repositioning of the Retail business further expanding product portfolio with the introduction of new value-added services and new business areas, such as e-mobility.



Ένα με
το μέλλον

Sustainable Development

We are committed to continuously strive to improve the financial, environmental and social value we create.

Commitment to international ESG criteria

Our strategic philosophy is "Creating Shared Value", in other words creating and measuring the shared value between the company, society and the environment.

We approach Sustainable Development in perfect alignment with our business model and its transformation needs, investing in integrated, innovative and high-quality services and products.

We aim to create a better working environment and mutually beneficial relationships, based on economic growth, environmental care and social welfare.



Ένα με
το μέλλον

Environment

We are committed to environmental protection as a basic pillar on the way to achieving a sustainable growth model.

Climate change

We take substantive action to combat climate change and its impact.

Strategy & Actions for the Environment

The environmental dimension is integral to every facet of our strategy. Aside from complying with community and national environmental legislation, PPC takes additional initiatives to reduce its environmental footprint across its activities, with particular emphasis on lignite mining and power plant areas.



Ένα με
το μέλλον

myΔΕΗ

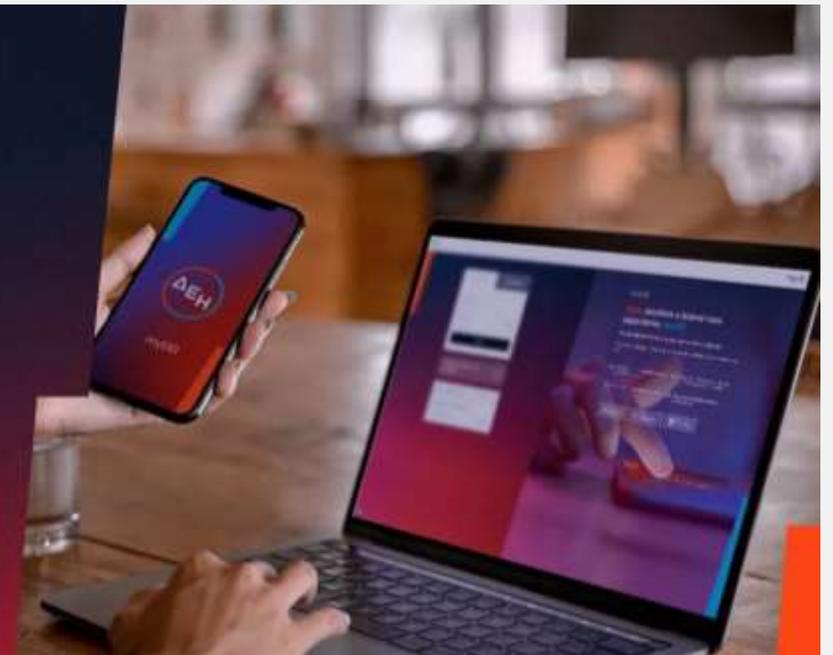
A new digital PPC world

Sign up to myDEI in three simple steps and manage your energy consumption and your bills easily and quickly.

- ✓ Get instant access to your account and bills
- ✓ Review your transaction history and enjoy easy-payment methods
- ✓ Submit your meter reading online
- ✓ Discover personalised energy-saving advice



Enter myDEI



ΔΕΗ myEnergyHeatPump

PPC myEnergy HeatPump: All-around heat pump solutions by PPC

- ✓ Consultation on the purchase of a heat pump
- ✓ Collaboration with leading brands of the market, Daikin and LG Electronics
- ✓ PPC electricity product
- ✓ €500 reward as an incentive to save energy

More





Ένα με
το μέλλον



PPC myEnergyCoach: Your digital consultant that helps you save energy!

 myEnergy

Enter PPC myEnergy!

A new world of tips, products, and solutions that helps you learn everything you need to know about home sustainability, energy saving, and energy management.



What is **KPI**

Key Performance Indicators



The New Leadership

KPI

Keep people interested

Keep people informed

Keep people involved

Keep people inspired

Not Only
But Also



"WE ARE THE
FIRST
GENERATION
TO FEEL THE
EFFECT OF
CLIMATE
CHANGE AND
THE LAST
GENERATION
WHO CAN DO
SOMETHING
ABOUT IT"

-BARACK OBAMA



**LET'S DO
SOMETHING**



Special issues in Energy
Financing and Risk
Management



Dimitris Kollias
New Energy Activities Unit, PPC