# DESERT-VISION

# US 1

## 10 $GW_{el}$

**“Fusion-Power-Plant”**

**from DESERT-VISION for Google & Co.**

**– a safe, well-proven, $CO_2$-free Technology**

**80 Terawatt Hours a Year**

**plus 400 million m³ Freshwater annually**

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# Content

## Introduction

The increasing use of artificial intelligence presents a significant challenge to both energy consumption and climate protection.

The highest form of AI intelligence, known as ***"Singularity"***, would address these issues in an innovative and comprehensive manner.

It would select an energy source that combines the following attributes:

- Absolutely safe and risk-free
- Independent of terrestrial resource consumption
- Climate-neutral and climate-positive, actively contributing to climate stabilization
- Infinitely available from a human perspective
- Waste-free, producing no harmful by-products
- Free for all people to access and utilize
- Environmentally beneficial, fostering initiatives such as desert greening and land restoration

- Efficient and transportable with minimal energy loss
- Available around the clock (24/7), ensuring reliable base-load power
- Supportive of prosperity and security for millions of people
- And, above all, thoroughly proven

**For a *"Singularity"*, the choice would be unmistakable:**

the multifunctional thermo-solar power plants from **DESERT-VISION**, powered by the inexhaustible energy of the sun.

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**1) 90km cooling water pipe**

**2) 280km fresh water pipeline to Las Vegas**

**3) 500km ultra-high voltage direct current transmission (UHVDC) to Silicon Valley**

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## Our Solution

Instead of relying on unproven and potentially dangerous nuclear power plants, we are planning to build an innovative DESERT VISION power plant near Los Angeles.

This power plant will achieve an electrical output of 1 GW in the first expansion stage - equivalent to the output of a large nuclear power plant!

*Substation of a UHVDC Line*

The energy generated will be transmitted to Silicon Valley, approximately 500 kilometers away, via an Ultra-High-Voltage Direct Current (UHVDC) transmission line.

UHVDC technology is characterized by extremely low transmission losses.

Even over distances of 3,000 kilometers, losses are less than 10%.

On the shorter route to Silicon Valley, losses are reduced to less than 2%.

This ensures that almost all the energy generated at the **DESERT-VISION** power plant remains available after transmission – a level of efficiency that conventional alternating current (AC) lines cannot achieve over such distances.

Additionally, the UHVDC line provides ample transmission capacity to support future expansions of the **DESERT-VISION** power plant.

A single UHVDC line can easily handle over **6 GW of power**, allowing for a sixfold increase in the plant's capacity in future phases without requiring a second line.

Let’s now explore the exceptional performance of a **DESERT-VISION** power plant with a 1 GW capacity and examine how this project ensures an eco-friendly and safe energy supply for the region, without the risks associated with nuclear power plants.

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# Performance features 1GWel DESERT-VISION power station

- 1 GW electrical capacity,
- 8,000 operating hours per year
- **Total output up to 8,000 GWh ≙ 8,000,000,000 kWh per year**
- **Base-load capability enabled by thermal energy storage that allows operation for up to 48 hours without sunlight**
- Seawater desalination using waste heat from the power plant, producing up to 5,000 m³/h at 8,000 operating hours per year = **40,000,000 m³ annually**
- **$CO_2$ savings per year 4 million tonnes**
- Power plant size: 4 km by 4 km in length ≙ 1,600 hectares
- Usable area below the sun-protected solar mirror field: 1,500 hectares
- With a three-story structure of halls below the mirror field, this provides **an effective area of up to 4,500 hectares**

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# Seawater Desalination from Waste Energy

*Cooling water Cooling towers*

The **DESERT-VISION** Power Plant utilizes the waste heat from electricity generation for seawater desalination, actively contributing to sustainable water production.

By efficiently cooling the steam and condensing the cooling water, up to 5,000 cubic meters of fresh drinking water can be produced per hour from seawater.

With a planned operational runtime of 8,000 hours per year, this equates to an annual freshwater production of up to 40 million cubic meters – enough to sustainably meet the water needs of an entire region.

**Distribution and Use of the Produced Freshwater**

**Water for Agriculture:**

A portion of the produced freshwater will be used directly on-site to enable agriculture under the power plant's solar panels.

This water will support the cultivation of fruits and vegetables, enhancing local food production in an otherwise arid desert region.

The management of the area beneath the solar field provides shade, protecting the water from evaporation, which further reduces water consumption and ensures efficient use.

**Supply to Las Vegas:**

The majority of the produced freshwater will be transported via a dedicated pipeline to **Las Vegas**, located about 300 kilometers away.

The city, located in a desert, suffers from chronic water shortages.

The supply of desalinated seawater will reliably and sustainably meet the growing water demands of the metropolis, significantly reducing its reliance on the already scarce natural water resources of the region.

**Environmentally Friendly Water Production from Waste Energy**

By using the waste heat from its power generation for desalination, the **DESERT-VISION** Power Plant creates virtually no additional energy burden for freshwater production.

This waste heat would otherwise be released into the atmosphere. Instead, it is used for the condensation of water vapor, maximizing the overall efficiency of the plant while minimizing its environmental impact.

Through this dual use of waste heat for freshwater production, the **DESERT-VISION** Power Plant creates significant added value for the region. It contributes to sustainable water production, promotes regional agriculture, and supports the growth of urban centers like Las Vegas. This innovative approach to resource utilization in the desert could serve as a model for many water-scarce regions worldwide.

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## Fruit and vegetable growing under the solar mirror field of a 1GW power plant

### Economic Potential of Agricultural Production

To illustrate the potential of this agricultural utilization, let's consider a sample calculation:

- **Estimated yield:**
  Approximately 116 tons per hectare per year.

- **Total production for 1.400 hectares:**
  1.400 hectares × 116 tons/hectare = approximately 163.000 tons annually.

- **Estimated selling price:**
  Conservatively estimated at USD 1 per kilogram.

- **Annual revenue:**
  163.000 tons × USD1/kg = 163 million USD per year.

**These figures highlight the enormous economic potential of this project.**

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## Onshore- Fish-Farming


**Onshore Fish Farms with Integrated Processing:**

A Sustainable Solution for Aquaculture

Onshore fish farms with integrated processing systems are increasingly essential to meet the growing demands for sustainable fish production, food safety, and environmental protection standards.

These innovative systems offer numerous advantages and address various challenges within the aquaculture industry.

Here are some key aspects that highlight the necessity of such facilities:

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- **Sustainable Fish Production**

  Onshore fish farms allow for controlled and sustainable fish farming.

  By utilizing closed systems, conditions for fish can be optimized, resulting in reduced use of antibiotics and chemical additives.

  These farms minimize impacts on surrounding ecosystems since they do not rely on wild fish stocks, thus avoiding overfishing.

- **Water and Resource Management**

  Onshore fish farms often employ recirculating aquaculture systems (RAS), which efficiently recycle and filter water.

  These systems significantly reduce water consumption and contribute to resource conservation. Moreover, they can be operated in conjunction with seawater desalination technologies, ensuring stable fish production even in water-scarce regions.

- **Quality Control and Food Safety**

  Integrated processing in onshore fish farms enables stringent quality control directly on-site.

  Fish can be processed fresh and immediately prepared for the market, minimizing transportation times and maximizing product freshness.

  This enhances food safety by reducing the risk of contamination during transport.

- **Integration of Value Chains**

  By incorporating processing facilities, onshore fish farms can cover the entire value chain within a single operation - from breeding to processing and marketing.

  This leads to cost savings by minimizing transportation and storage costs while keeping value creation local.
  Additionally, job creation in processing contributes to regional economic stability.

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- **Environmental and Climate Protection**

  Onshore fish farms can be designed to operate using environmentally friendly technologies.

  This includes the use of renewable energy, implementation of waste management systems, and reduction of carbon footprints.

  This is especially important at a time when the aquaculture sector faces pressure to become more sustainable and climate-neutral.

- **Nutrition and Food Supply**

  With a growing population and increasing demand for animal proteins, onshore fish farms are a key resource for meeting global food needs.

  They provide an efficient and sustainable method of fish production that is both nutrient-rich and environmentally conscious.

- **Adaptation to Market Needs**

  Onshore fish farms can respond more flexibly to market demands and consumer trends since production occurs closer to end consumers.

  This allows for the cultivation of new fish species or the development of specialized product lines to meet specific consumer preferences.

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**Conclusion**

Onshore fish farms with integrated processing represent an innovative solution to the challenges faced by the modern fishing and aquaculture sectors.

They promote sustainable and efficient production, enhance food safety, and provide economic benefits to the regions where they operate.

In a time of resource scarcity and increasing environmental pressures, such systems are essential for ensuring responsible and future-oriented food production.

**Calculation Example: Tilapia Farming**

- **Yield:**
  Approximately 60 kg/m³/year.

- **Fish Farming Tanks:**
  Two stories, each 100,000 m², with 2 m deep tanks = **400,000 m³ of water**.

- **Annual Yield Calculation:**
  400,000 m³ × 60 kg/m³ = **24,000 tons/year**.

**Revenue Calculation:**

- **European wholesale price for fish fillet: Approximately USD 20/kg**

- **Revenue: 24,000 tons × USD 20/kg = USD 480,000,000.**

This example illustrates the significant economic potential of onshore fish farms, highlighting their role in not only meeting food demand but also contributing to local economies.

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# Production on site

The **DESERT-VISION** power plants are specifically designed **to produce up to 90% of the required components directly on-site**.

This local production allows the power plants to be built not only more efficiently and cost-effectively but also to be sustainably expanded and scaled.

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**Key products of local DESERT-VISION production:**

- **Linear Mirrors:**

  The production of linear mirrors is central to the functionality and efficiency of the **DESERT-VISION** power plants.

  A power plant with a 1 gigawatt (GW) capacity requires a total of 3.84 million of these mirrors.

  To meet this demand, 40 production lines for linear mirrors are set up to operate in parallel.

  With this production capacity, the plant's output can be increased by 1 GW each year.

- **Thermal Solid-State Heat Storage:**

  The heat storage systems play a key role in **DESERT-VISION** infrastructure by efficiently storing thermal energy and ensuring continuous energy supply even during periods without sunlight.

- **RO Filter Cartridges:**

  Special reverse osmosis (RO) filters are produced for desalination and seawater treatment.

  These are essential to continually expand desalination capacity and complement the thermal multi-stage desalination units.

Through this integrated on-site production, the **DESERT-VISION** power plants can develop independently.

Manufacturing essential components directly at the location reduces dependence on external supply chains, lowers costs, and strengthens the regional economy.

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# 10GW$_{el}$ DESERT-VISION Power-Plant


After the successful construction and commissioning of the 1 GW base module, the power plant can expand its capacity by **up to 1 gigawatt of electrical power (GWel) annually through its own production**.

It is projected that, upon full expansion, the plant will reach a maximum output of up to 10 gigawatts (GW), equivalent to an impressive annual energy production of up to 80 terawatt-hours (TWh).

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## ➢ Comparison with Existing Power Plants

To better belowstand the planned plant's capabilities, it's helpful to compare it to some of the world's most powerful power plants:

- **Kashiwazaki-Kariwa** Nuclear Power Plant in Japan:
  Operated by Tokyo Electric Power Company (TEPCO), this is considered the most powerful nuclear power plant globally, with an installed net capacity of about 8 gigawatts (GW).
  However, since the Fukushima incident in 2011, it has been largely offline, highlighting the inherent risks of nuclear power and the need for alternative energy sources.

- **Three Gorges Dam in China**: The largest hydropower plant in the world, with an installed peak capacity of 22.5 gigawatts (GW).
  Despite this impressive capacity, it currently generates only around 85 terawatt-hours (TWh) annually due to low water levels and significant technical challenges.
  The dam's reservoir covers a vast area of approximately **1,084 square kilometers, extends around 600 kilometers in length**, **and is between 1.1 and 1.6 kilometers wide.**
  At its highest water level, the reservoir reaches a depth of up to 175 meters. The construction of the dam required the resettlement of up to 1.4 million people, as numerous cities and villages had to be abandoned or relocated.

## ➢ Advantages of the DESERT-VISION Power Plant

In comparison, a **DESERT-VISION** power plant with a capacity of 10 gigawatts (GW) could provide up to 80 terawatt-hours (TWh) of electricity annually.
This means it would be capable of producing a similar amount of energy as the **Three Gorges Dam**, but with significantly less land usage.
While the **Three Gorges Dam** requires around 1,084 square kilometers for its reservoir, the **DESERT-VISION** plant would occupy only about 170 square kilometers.
The potential annual generation of 80 TWh would increase current electricity production by nearly 60%, which not only represents a significant boost in energy supply but also reduces dependency on environmentally harmful energy sources.

## Conclusion

In summary, the planned expansion of the **DESERT-VISION** power plant could not only meet growing energy demands, but also offer a sustainable and efficient alternative to existing methods of energy generation.

A comparison with existing nuclear and large-scale hydropower projects highlights the **DESERT-VISION** plant's advantages in terms of performance, land use, and potential environmental impact.

This could mark a crucial step toward a more sustainable and secure energy future.

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## Performance Data and Dimensions of the 10 GW Power Plant

- 10 GW electrical capacity
- 8,000 operating hours per year
- Total output up to 80,000 GWh ≙ **80 TWh ≙ 80,000,000,000 kWh**
- **Base-load capability supported by thermal energy storage, allowing operation for up to 48 hours without sunlight**
- **$CO_2$ savings per year 40 million tonnes**
- Seawater desalination using waste heat from the power plant:
  up to 50,000 m³/h with 8,000 operating hours per year,
  **totaling 400 million m³ annually.**
- Power plant size: 13 km by 13 km in length ≙ 16,900 hectares
- Usable area below the sun-protected solar mirror field: **16,000 hectares**
- With a three-story structure of halls beneath the mirror field, a calculated usable area of up to 48,000 hectares ≙ **480 million m² is achieved.**

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## Seawater desalination potential due to power shift

Simultaneous electricity generation and freshwater production from seawater are essential components of modern energy and water management.

Given the increasing challenges posed by climate change and global water scarcity, innovative solutions are critical to address these needs. **DESERT-VISION** power plants are designed not only to provide sustainable energy but also to incorporate efficient seawater desalination methods.

**Freshwater production is achieved through two primary processes:**

- **Multiple-Effect Distillation (MVC):**
  This process utilizes waste steam generated during electricity production to support water desalination, significantly boosting the plant's overall efficiency by eliminating the need for additional energy input for desalination.

- **Reverse Osmosis (RO):**
  A well-established technology characterized by high efficiency and low energy consumption.
  RO desalination involves passing seawater through a semipermeable membrane, separating water from dissolved salts and impurities.
  On average, RO technology requires about 3 kWh of energy per cubic meter of desalinated water.

**A typical example illustrating energy distribution:**

- If a 10-gigawatt plant experiences a reduced nighttime electricity demand of 50%, it could allocate 5GWh over 8 hours for RO desalination.

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**This would result in:**

- 5 GWh over 8 hours, equal to 40,000,000 kWh.
- With an energy consumption rate of 3 kWh per cubic meter, approximately 13 million cubic meters of freshwater can be produced within these 8 hours.
- Extrapolated over a year (365 days), this results in an **additional capacity of around 4.86 billion cubic meters of freshwater per year.**

Applied to a 10 GW plant, the potential freshwater volumes are significantly higher.

This would not only enhance water supply in desert regions but also boost agricultural productivity.

A stable and sustainable water supply enables farmers to implement more efficient irrigation systems and increase crop yields, thereby contributing to food security. Additionally, industries dependent on water, such as food processing, textiles, and chemicals, would benefit from stable water availability, fostering diversified economic growth in these regions.

The integration of water and energy production in **DESERT-VISION** plants thus promotes both resource conservation and economic growth, contributing to social stability in arid areas.

In conclusion, by combining MVC and RO technologies, **DESERT-VISION** plants provide a promising solution to the growing demand for electricity and freshwater.

The substantial volumes of freshwater that a 10 GW plant can produce hold the potential to transform a desert nation into a hub for agriculture and industry.

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## Fruit and vegetable growing under the solar field of the 10GW power plant

### Economic Potential of Agricultural Production

**To illustrate the potential of this agricultural utilization, let's consider a sample calculation:**

- **Estimated yield:**
  Approximately 116 tons per hectare per year.
- **Total production for 15.000 hectares:**
  15.00 hectares × 116 tons/hectare = approximately 1.740.000 tons annually.
- **Estimated selling price:**
  Conservatively estimated at €1 per kilogram.
- **Annual revenue:**
  163.000 tons × €1/kg = 1.74 billion € per year.

**These figures highlight the enormous economic potential of this project.**

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# The advantage of the sand-solid material stores

## Heat storage in DESERT-VISION Power Plants

Heat storage is a central challenge for the stability and reliability of modern energy systems, particularly in relation to renewable energy sources such as solar and wind power, which are weather-dependent.

While the storage of electrical energy in batteries, hydrogen, or other chemical storage forms is technically feasible, it involves high costs and significant effort. In contrast, thermal energy storage in sand-based solid-state storage, as used in **DESERT-VISION** power plants, offers a simple, highly efficient, and cost-effective alternative.

## Efficiency and Cost Advantages of Thermal Energy Storage

Sand-based solid-state storage utilizes the excellent thermal properties of sand to store large amounts of heat energy over long periods.

Storing energy in sand is not only significantly cheaper than battery systems, but it is also virtually maintenance-free and durable, as sand, as a medium, has no chemical or mechanical wear issues.

This makes the technology particularly attractive for desert regions and sunny locations where large amounts of solar energy are available.

## High Resilience and Independence from Sunlight

The **DESERT-VISION** sand-based solid-state storage systems are designed to ensure energy supply even during prolonged periods without sunlight.

Depending on location and sunlight availability, the sand storage can be sized to allow the power plant to operate autonomously for up to two weeks during cloudy periods or extended breaks in sunlight.

This high storage capacity makes the **DESERT-VISION** power plant resilient to weather fluctuations, ensuring a constant energy supply even during sunnier and cloudier phases.

**Flexibility and Grid Stability through Buffer Storage**

In addition to ensuring continuous energy supply, the sand-based solid-state storage systems also act as effective buffers to balance fluctuations in the electricity grid.

This is especially beneficial when the power plant is integrated into an energy system that experiences large fluctuations due to the input of other intermittent renewable energy sources, such as wind and solar farms.

By buffering excess energy during low demand and providing it during peak load periods, sand storage helps maintain grid stability and promotes consistent electricity supply.

**Resilience and Flexibility for DESERT-VISION Power Production**

The **DESERT-VISION** sand-based solid-state storage systems make the entire system highly resilient and adaptable.

They not only enable a flexible energy supply that can quickly adjust to changing grid demands but also ensure a high level of supply security, even in extreme weather situations.

These storage systems are therefore not only a critical component for energy security in regions with irregular electricity demand and fluctuating energy production but also a key technology for sustainable and long-term stable energy supply.

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**Summary**

The use of sand-based solid-state storage in **DESERT-VISION** power plants demonstrates that thermal energy storage can be a cost-efficient, scalable, and sustainable solution for modern energy systems.

It provides an ideal complement to renewable energy by balancing fluctuations, minimizing energy losses, and reducing dependence on expensive and complex battery systems.

With its high storage capacity and adaptability, **sand storage technology** represents an important step towards a stable and resilient energy future.

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# Resource distribution of the 10 GW DESERT VISION power plant

## Energy Distribution and Sustainable Power Supply from DESERT-VISION Power Plant

Once fully operational, the 10 GW **DESERT-VISION** Power Plant will ensure a targeted and sustainable distribution of the generated electrical energy to three key regions in **California** and **Nevada**.

This output, equivalent to the capacity of ten large nuclear power plants but emissions-free, will be distributed with minimal losses over large distances using advanced **Ultra-High Voltage Direct Current (UHVDC)** technology.

This technology allows the transfer of up to 6 GW of electrical power from the plant to **Silicon Valley**, while simultaneously supplying **Las Vegas** and **Los Angeles** with clean energy.

UHVDC technology ensures that energy supply to **Silicon Valley** is almost loss-free.

Specifically, the energy will be transmitted through a 500 km UHVDC line, with a loss of less than 2% - in stark contrast to traditional AC lines, which experience much higher losses over such long distances.

This guarantees that the **Silicon Valley** region, known as a global hub for **technology** and **artificial intelligence**, will be reliably and sustainably powered with enough clean energy.

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**1. Silicon Valley: 6 GW for the Heart of Tech and AI Industry**

Silicon Valley will receive approximately 6 GW of electrical power, which is equivalent to the capacity of six large nuclear power plants.

This amount of energy will fully meet the massive energy demands of the region, particularly the data centers, cloud service providers, and AI labs.

The use of UHVDC ensures that the energy is delivered nearly without loss, supplying the region with a stable, $CO_2$-free energy source.

This not only promotes sustainability but also supports the growth of the technology sector, as businesses in Silicon Valley rely on reliable, green energy.

The near-loss-free transmission means that Silicon Valley will benefit from a highly efficient, long-term stable energy supply, elevating the use of renewable energy sources and emission-free technologies to a new level.

With the **DESERT-VISION** Power Plant, Silicon Valley can further solidify its leadership in sustainable technology and research.

**2. Las Vegas: 2 GW for a $CO_2$-Free Desert Metropolis**

Las Vegas will receive 2 GW of electrical power, enough to meet the entire energy demand of the city, including the energy-intensive hotel and casino industries - emission-free.

This could position Las Vegas as a **"green City in the Desert"**, becoming a global pioneer for sustainable, $CO_2$-free urbanization.

UHVDC technology ensures that Las Vegas is reliably supplied with clean energy.

The near-loss-free transmission of energy over long distances ensures that the power reaches the city efficiently and eco-friendly, without the typical energy losses of conventional transmission lines.

### 3. Los Angeles: 2 GW for a Sustainable Energy Future

Los Angeles, the second-largest city in the USA, will also receive 2 GW from the **DESERT-VISION** Power Plant.

This energy supply will enable the city to meet its entire energy demand $CO_2$-free, helping California achieve its climate goals.

Los Angeles can continue on its path toward a **“green Future”**, transitioning to a fully sustainable energy supply.

Thanks to UHVDC technology, energy will be transmitted over long distances with minimal losses, which enhances the efficiency of the entire system and ensures the city receives a constant, reliable, and environmentally-friendly power source.

### Summary and Future Perspective

With UHVDC technology, the **DESERT-VISION** Power Plant ensures that the energy supply to Silicon Valley and the two metropolitan regions of Las Vegas and Los Angeles is almost loss-free.

This efficient technology allows up to 6 GW of electrical power to be transferred directly and nearly without energy loss to Silicon Valley, ensuring the region a stable, clean energy source.

At the same time, Las Vegas and Los Angeles benefit from $CO_2$-free, stable energy, supporting their long-term climate goals.

The **DESERT-VISION** Power Plant, with its 10 GW capacity, not only guarantees a significant reduction in $CO_2$ emissions in three of the largest and most energy-intensive regions of the USA but also demonstrates how advanced transmission technologies like UHVDC can elevate energy efficiency and sustainability to new heights.

This model could serve as a benchmark for future global energy projects, making a significant contribution to the energy transition.

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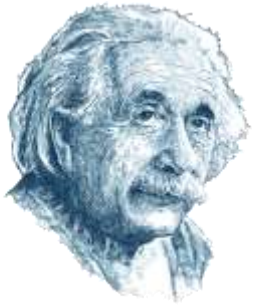
## Summary



***"You can never solve problems with the same mindset that created them."***

**With this quote from Albert Einstein, we want to open the summary with one of the most pressing questions of our time:**

How do we secure the energy supply of the future – safely, sustainably, and economically?

Currently, we are witnessing a renewed debate about the use of nuclear power plants.

There is no doubt that nuclear energy is an immense source of power – perhaps even the strongest in the universe.

However, this power comes with risks that are not only difficult to calculate but potentially catastrophic.

The dangers are so great that no insurance company is willing to insure a nuclear power plant today.

In addition, there are numerous other challenges – from the disposal of highly radioactive waste to the finite uranium resources, to the immense costs, making nuclear energy one of the most expensive energy sources.

**This raises a crucial question:**

Why should we take these risks again and potentially multiply them when there is already a far better alternative?

**The answer is clear:**

**DESERT-VISION** multifunctional thermo-solar power plants.

This innovative technology also harnesses "atomic firepower" – but with a crucial safety advantage: a safety distance of 150 million kilometers.

Our sun, which has reliably provided thermal energy for 4.6 billion years, is a truly proven "Proof of Concept," and it will continue to do so for at least another 5 billion years.

**DESERT-VISION** thermo-solar power plants rely on state-of-the-art technologies to use the immense energy of the sun efficiently and safely.

In combination with low-loss UHVDC (Ultra High Voltage Direct Current) lines, this solution provides the opportunity to sustainably and economically supply entire continents – such as America – with solar power.

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**Advantages of DESERT-VISION technology:**

- The safest power supply: No risk of nuclear meltdowns or radioactive accidents.
- The most affordable power supply: The "fuel" – sunlight – is free and virtually inexhaustible.
- Reliable baseload capability: Thanks to thermal storage, the plants can provide energy 24/7.
- Flexibility: The thermal storage and parallel seawater desalination plants allow for precise, adjusted power supply to the grid.
- Rapid amortization: Multiple uses, extremely low operating costs, and virtually unlimited lifespan make these plants economically unbeatable.
- Sustainability: No harmful waste or emissions, unlike fossil or nuclear plants.
- And much more.

**Ready for the future:**

The **DESERT-VISION** power plants are not only a solution to today's energy problems but also for the challenges of tomorrow.

In particular, the rapidly growing electricity demand due to the increasing use of artificial intelligence and digital technologies can easily be met with this technology.

With **DESERT-VISION**, we are building on the most reliable energy source our planet knows. It is time to leave old ways of thinking behind and put the power of the sun to work for sustainable and secure energy supply.

The future belongs to the sun – and with it, the **DESERT-VISION** multifunctional thermo-solar power plants.

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# Consortium-Partners

## Strategic Partnerships for the DESERT-VISION Solar Power Projects

The successful implementation of a complex project like the **DESERT-VISION** solar thermal power plant in **US** requires collaboration with experienced and reliable partners across various sectors.

Below is a brief overview of some of the key partners involved:

- **Deutsches Zentrum für Luft- und Raumfahrt (DLR)**
  - Germany's national center for aeronautics and space, energy, and transportation research.
  - **DLR** is engaged in both fundamental and applied research and development, positioning itself as one of the leading organizations globally in these areas.

- **Fraunhofer-Gesellschaft**
  - Europe’s largest organization for applied research and a global leader in developing practical, innovative technologies for industry.
  - With over 70 institutes and research facilities in Germany, **Fraunhofer** covers a wide array of research focuses, from materials science to information and energy technologies.

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- **Schott AG**
  - An internationally operating company specializing in the production of specialty glass and glass ceramics.
  - **Schott** is recognized as a leader in glass and glass ceramic technologies, providing specialized glass and coatings for solar thermal power plants.
- **Siemens Energy**
  - A global player developing, producing, and marketing steam turbines for power generation and industrial applications.
  - **Siemens Energy** invests heavily in research and development to advance new technologies and improvements in steam turbine design.
- **Deutsche Meerwasser-Entsalzung (DME) GmbH**
  - A company focused on the development and implementation of desalination technologies.
  - **DME** invests in innovative solutions to enhance desalination technologies and reduce operational costs, which is crucial for ensuring a reliable freshwater supply in arid regions.
- **SOTA-DOMUS. Inc**
  - A company specializing in innovative construction solutions, particularly in energy-efficient and sustainable buildings.
  - **SOTA-DOMUS** provides the foundational material for the **DESERT-VISION** linear mirrors through its advanced panel technology, which allows for the construction of buildings situated below the solar mirrors.

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## ➢ Additional Partners

- The project will also involve various other stakeholders, including local businesses, government entities, and international experts, all contributing to the successful execution and sustainability of the **DESERT-VISION** initiative.

### Conclusion

These strategic partnerships are essential to ensure that the **DESERT-VISION** solar power plant benefits from cutting-edge technologies, innovative solutions, and industry best practices.

By leveraging the expertise of these organizations, the project is positioned to achieve its goals of sustainability, energy independence, and economic growth in **Californian und Nevada**.

# Links

**DESERT-VISION**

**DESERT-VISION Projects**

**DESERT-VISION Questions and Answers**

**SOTA-DOMUS**