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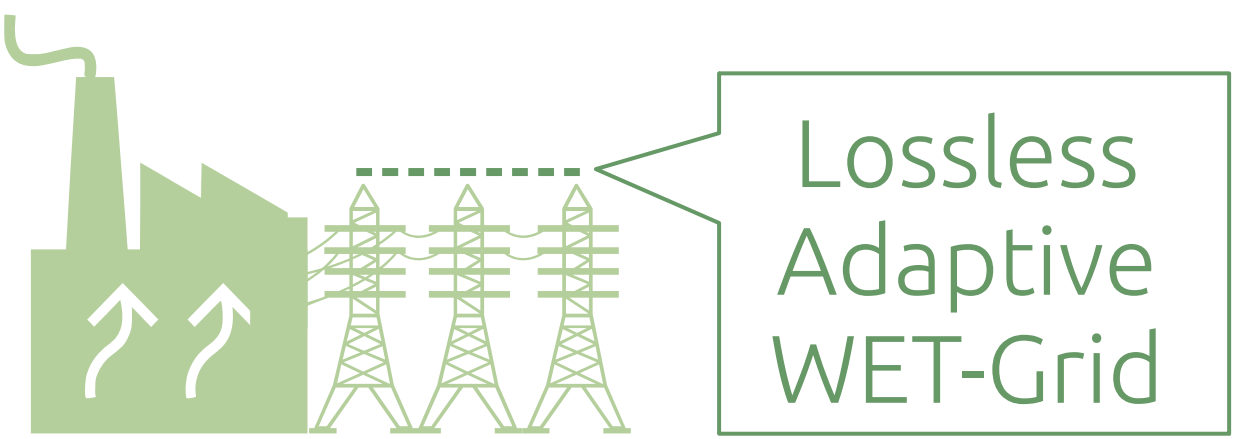
Decarbonisation, net-zero energy-grid, climate-neutral by 2050



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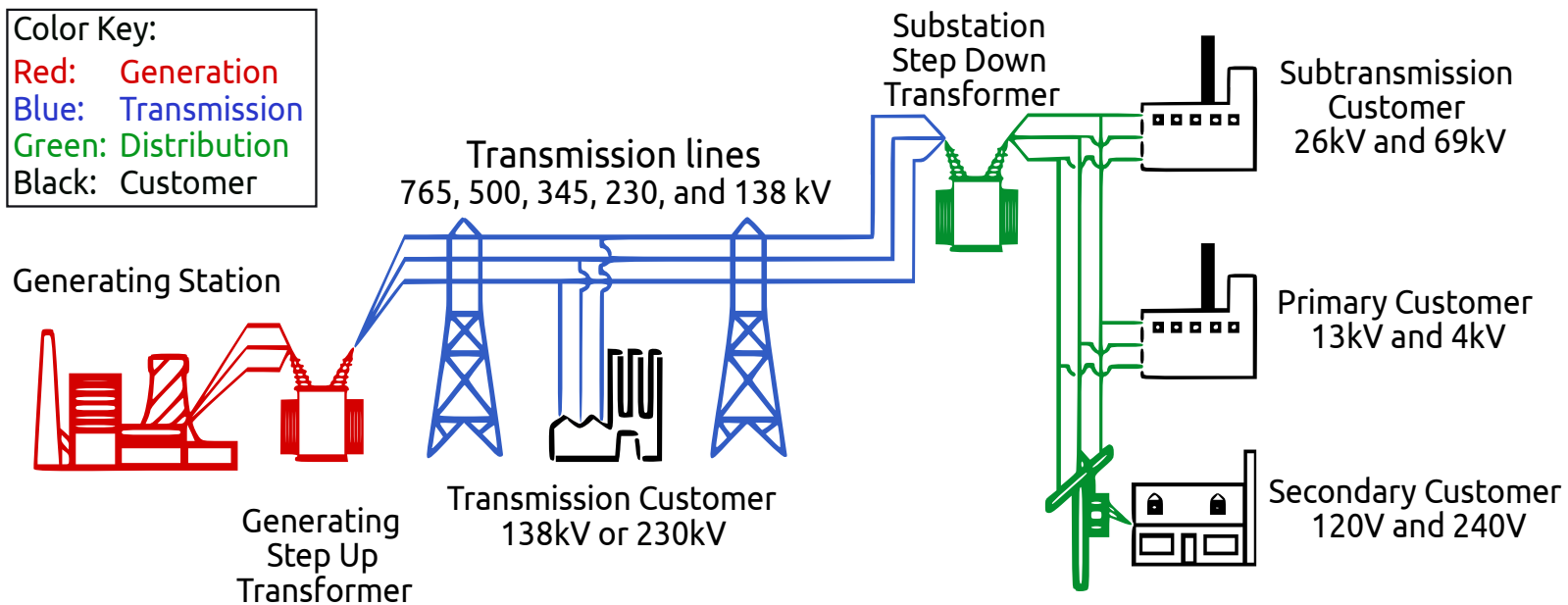
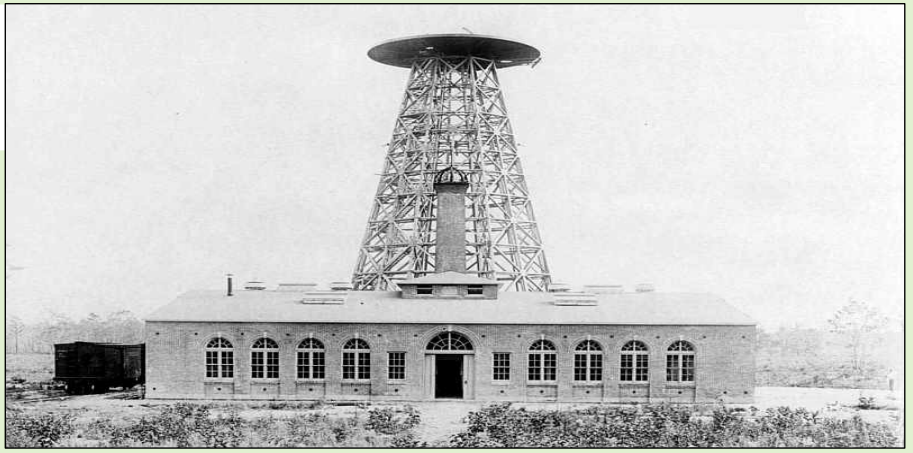
Problem: Grid Losses & Emissions

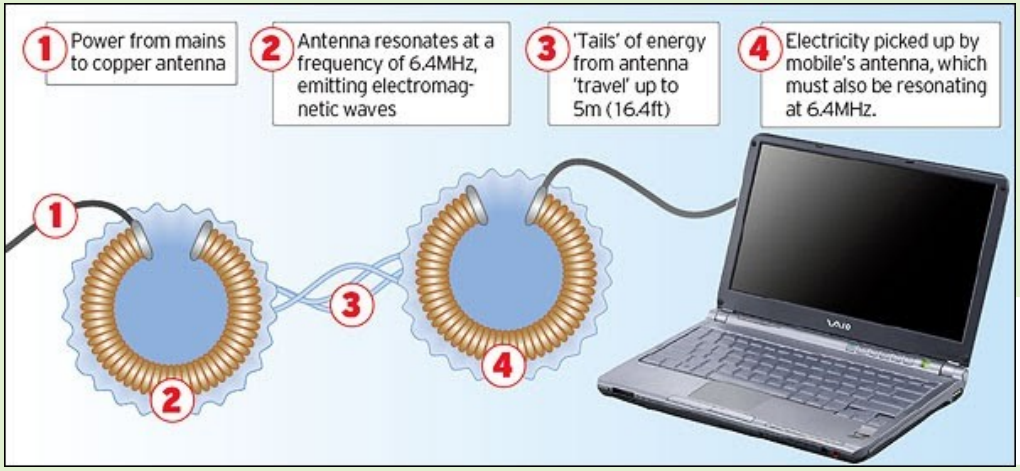


- *"Grid losses contribute to **95% of our CO2 footprint**." - TenneT B.V. (2022)*
- *"Germany's **27.02 TWh** grid losses cost USD **1.3 – 4.7 Bn annually**."* - IEA (2019)
- *"Global energy-grid transmission losses cost **USD 99 – 352 Bn per year**."* - IEA (2019)

Solution: Hybrid "**WET-Grids**"
(Grounded) Wireless Energy Transfers (WET)

1890s: Nikola Tesla presented **Million-Volt 42 km WET** and a magnifying transmitter used to build a WET energy-grid. After the investor found that Tesla could not charge users, the project funding was cut.





2007: The M.I.T. made WET over **2-meter** distance without a direct line of sight between the coils. The WiTricity M.I.T. spin-off filled 1300 patents and focused on **short-range** cases: charging phones in cars, EV-cars on parkings, etc.

2014: TWD outperformed the M.I.T. experiment with **a weak 5V current** and by enclosing grounded coils **into Faraday cages**, demonstrating that lossless WET either requires (passive) grounding or dynamic peering. In 2019, TWD has then been invited to the **Munich Security Conference** (attended by top policy-makers and military officials) to present its enhanced WET technology.

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Renewables Anywhere, Adaptive **WET-Grids**

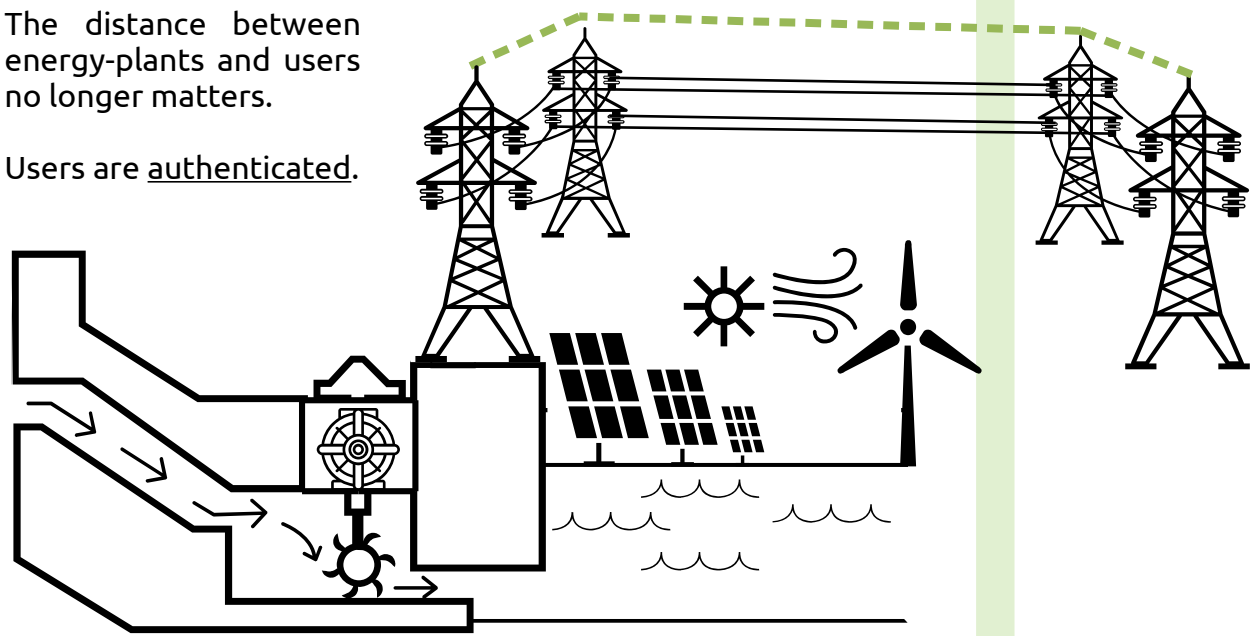
Hydro / Solar / Wind WET-Grid Power Stations

LOSSLESS WIRELESS TRANSFERS require less engineering with grounding, a service that energy-grid cables can easily deliver.

The distance between energy-plants and users no longer matters.

Users are authenticated.

Users FETCH the exact amount of energy they need ***on-demand*** **(not from a continuous flow ending in the ground)**.



LOSSLESS Energy Consumers

Interconnected WET-Grid Stations, all over the world, provide fail-safety and cumulative capacity.

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The Losses

*"Energy-grid transmission losses cost **USD 99-352Bn per year**."*
- IEA (2019)

*"Grid losses contribute to **95% of our CO2 footprint**."*
- TenneT B.V. (2022)

The **WET-Grid** Gains

1. **Lossless transfers** (wireless, "grounded" with cables)
2. **Traversing metal and water** (less accidents, no waste)
3. **Cheaper** (lossless, magnified, exact amount fetched)
4. **Redundancy** (self-adaptive N-providers to N-users)
5. **Risk-reduction** (less vulnerability, authenticated users)
6. **Harmless** (safe for life: no more stray waves)
7. **Decarbonization** (lossless energy-grid, so 95% less CO2)
8. **Net-zero** (fully with net-zero renewables)

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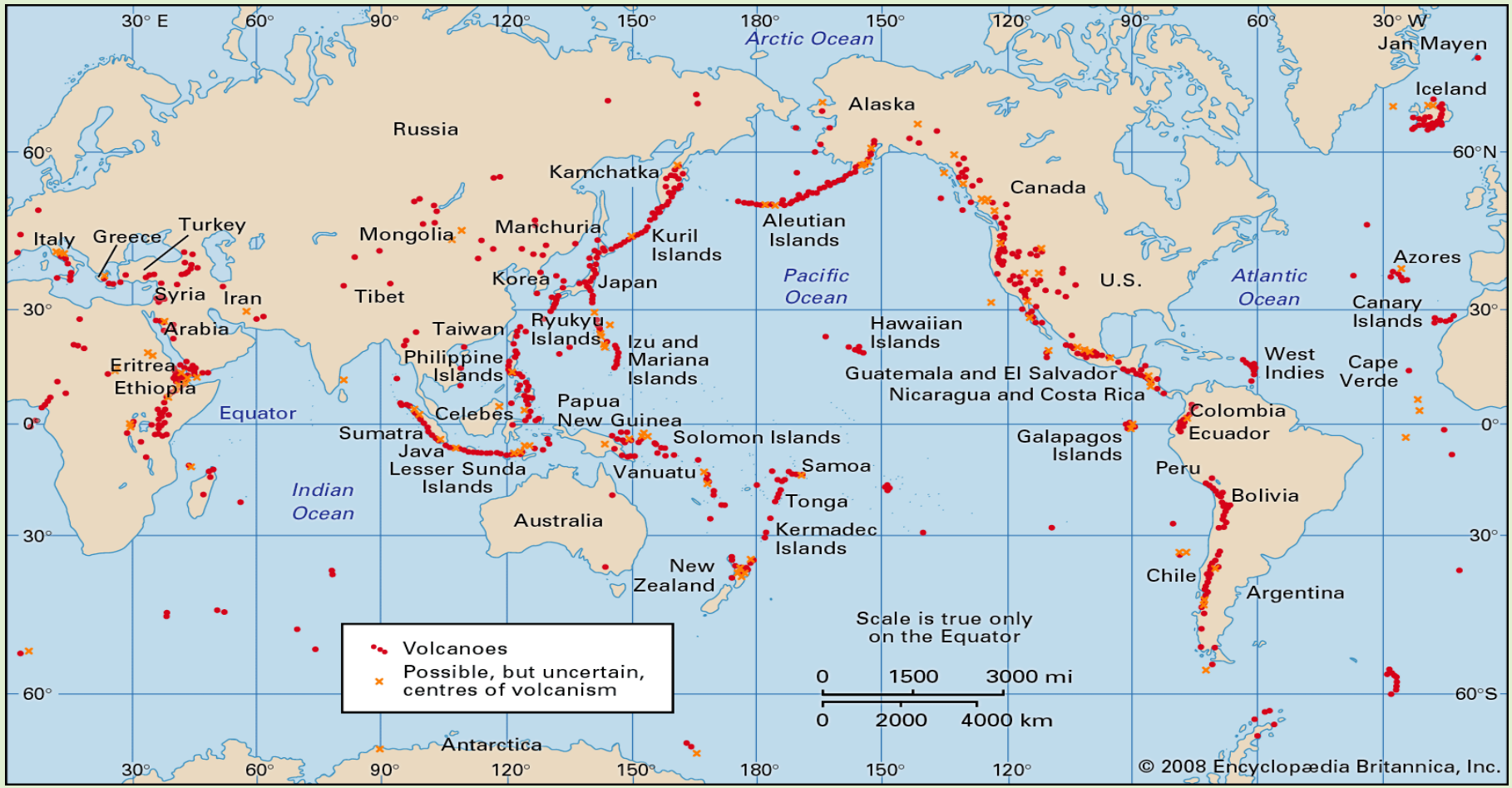
WET-Grid: The Global Net-Zero Solution

Volcanoes deliver **100%-renewable 24/7/365 durable energy** worldwide:



WET-Grid Proof of Concept

A demo is more convincing than any speech. So, before making a large project, it makes sense to demonstrate something new on a small case.

We will demonstrate lossless grounded WET between Faraday cages and beyond the near field, proving that no other solution can do that.

Q & A

CHF 15k

3 days

Validation

Next Step

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WET-Grid Use-Case Roadmap

WET Prototype Validation

You will check all the claims: (1) losslessly, (2) traversing metal & water, and (3) beyond the near-field.

1-3 months

Test Energy-Grid Segment

You will select an energy-grid segment to deploy a real-life test of TWD's WET-grid and give TWD its specifications.

3-6 months

WET-Grid Engineering

TWD will calculate antennas requirements (using the location and size of the energy-grid segment & the type of current).

1 month

WET-Grid Manufacturing

TWD will build and test the quality of the antennas to make sure they fit the requirements of the WET-Grid.

3-6 months

WET-Grid Test

TWD will supervise the transport and installation of the antennas on the energy-grid segment, and test the WET-grid.

1 month

WET-Grid Validation

You will validate the proper delivery and functioning of the WET-Grid segment.

1 month

WET-Grid Deployments

You will exercise the TWD distribution agreement to progressively deploy the WET-Grid technology on more sites.

1 month

Next Step

WET-IoT with remote power fetched from WET-Grids.

Total Costs (CHF): 3 – 5 millions
Total Duration: 11 – 19 months

Uncertainties: (1) regulation, (2) energy industry cooperation, (3) third-parties' execution.

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TWD's Founder

Pierre G. Gauthier

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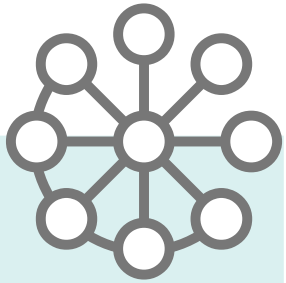
B.Sc. Computer Science, Telecoms (1992)

1-page CV
11-page CV

TWD Industries AG	**Engineering, R&D**	**1998 - 2023**
R&D	*Various products from mass-market (280m licenses deployed in in 138 countries) to custom solutions*	25 years
THALES	**External Contractor, R&D**	**1996 - 1997**
Thomson Microsonics (submarine radars)	*CAO/CAD software to design and automatically invert complex electronic components to generate their mask*	2 years
FMN Holding Group	**R&D Director**	**1994 - 1995**
FMN-50 (industrial product)	*Industrial PVC Cards printing solution with a 2.5-ton printer, a software to create and manage a database of persons (acquiring photos, signatures, fingerprints)*	2 years
SPC (Nasdaq: SPCO)	**Software Engineer**	**1992 - 1994**
Superbase (mass-market product)	*Integrated database development platform, with a multimedia UI and a scripted programming language*	3 years



TWD's History (280m RA licenses deployed in 138 countries)

SLIMalloc (2020+)

As a memory allocator (either used by one application or system-wide) SLIMalloc first offered a faster and flawless design – safe against memory allocation errors and against system errors (both were handled without corrupting memory so programs could keep going instead of crashing). In 2023, SLIMalloc increased its memory-safety coverage to the system, third-party libraries, and applications to deliver "memory safety" to the C/C++ programming languages – the root cause of 70-90% of all vulnerabilities for decades, according to the NSA.

Global-WAN (2010+)

Global-WAN was (and still is) the only Level-2 distributed VPN relying on full "post-quantum" (a decade before NIST PQE standards) or full "unconditional" security (safe forever by preserving the whole key-space and therefore the algebraic plausibility of any potential key and plaintext).

G-WAN Application Server (2009+)

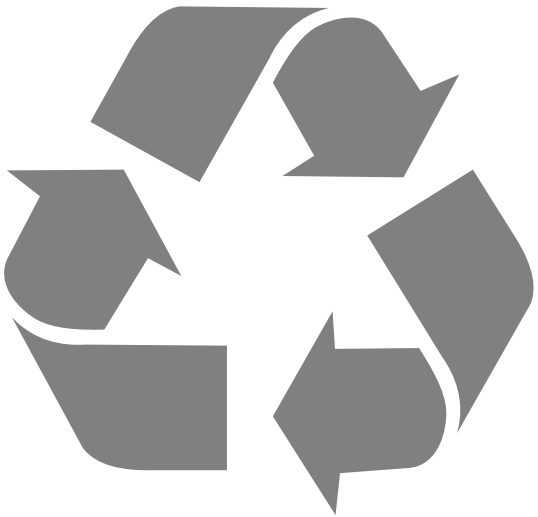
G-WAN, in its first version, was 4x faster (for static contents and 430x for dynamic contents) than Microsoft IIS 7.5. Two years later, Linux G-WAN became much faster and more scalable – despite offering servlets (in 18 scripted languages: C, C++, Java, C#, etc.). The more features the slower and most unsafe servers usually are but G-WAN used less CPU/RAM than NGINX (a mere Web server) - and had no vulnerabilities (another unique feat for a server).

RA Directory Server (2003-2009)

The patented DS (Directory Server) allowed small businesses and large accounts deploy RA without configuring routers and firewalls, manage access rights, deploy and inventory assets – without any setup (unlike Intel "LAN-Manager"). It also allowed people to "recycle" RA licenses so that any newly deployed slot would replace the oldest slot (among the slots marked as available for recycling – others being "fixed" slots).

Remote-Anything (1998-2009)

As a Desktop-Sharing and file-transfer application (competing with HP Carbon-Copy, Symantec PCAnywhere, and Traveling Software Laplink), RA was much smaller (one single 50 KB executable file), much faster (even on slow links), and much safer (no vulnerability in its lifetime).



Questions & Answers