

## HELIFEED GREEN ANTENNA

The Next Leap in Sustainable Network Innovation

### Meeting the Demands of Future Networks

As 5G-A deployment advances and 6G networks loom on the horizon, the need for network efficiency is critical. The Helifeed Green Antenna platform optimizes antenna performance while reducing energy consumption and lowering carbon emissions.

### Helifeed Green Antenna Platform Overview

Comba's Helifeed Green Antenna platform represents the next leap forward in antenna technology. With innovative design and cutting-edge advancements in key components, combined with eco-friendly manufacturing processes, this solution enhances antenna efficiency while promoting sustainable production and materials.

### Key Features



#### Enhanced Energy Efficiency

Highly modular integration with lower losses, optimized pattern, enhancing energy efficiency.



#### Sustainable & Eco-friendly

Eco-friendly production process with 100% recyclable materials.



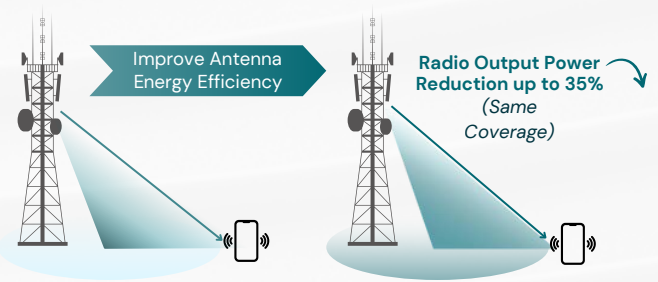
#### Unmatched Flexibility

Modular design and flexible port-to-port connection enabling rapid customization and fast portfolio development.

## Key Benefits at a Glance

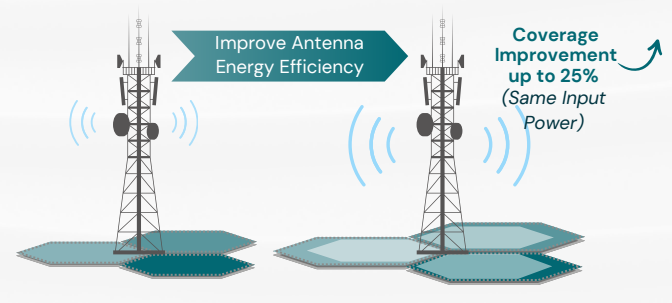
### ✓ Energy Savings and Lower OPEX

Energy savings reduce electricity consumption, which directly lowers network OPEX and decreases CO<sub>2</sub> emissions.



### ✓ Fewer BTS Sites and Lower CAPEX

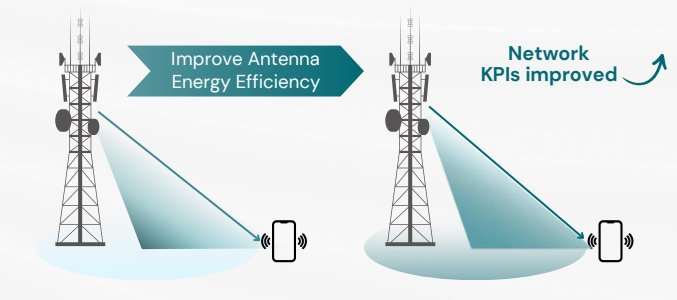
In a greenfield deployment, using a Helifeed antenna enhances coverage efficiency, reducing the number of required sites within the same area. This leads to significant savings in investment, land lease costs, and operational expenses.



### ✓ Network KPIs Improvement

Comprehensive enhancement of KPIs including:

- RSRP & RSSI
- SINR & CQI
- Downlink & Uplink data rates
- Traffic
- Low band spectrum saving

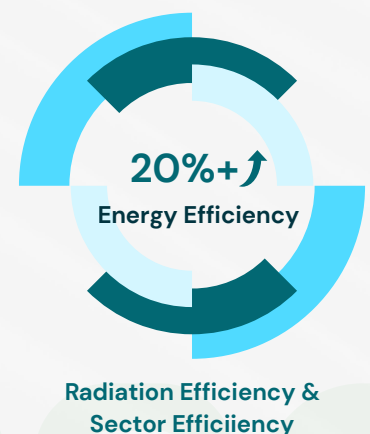
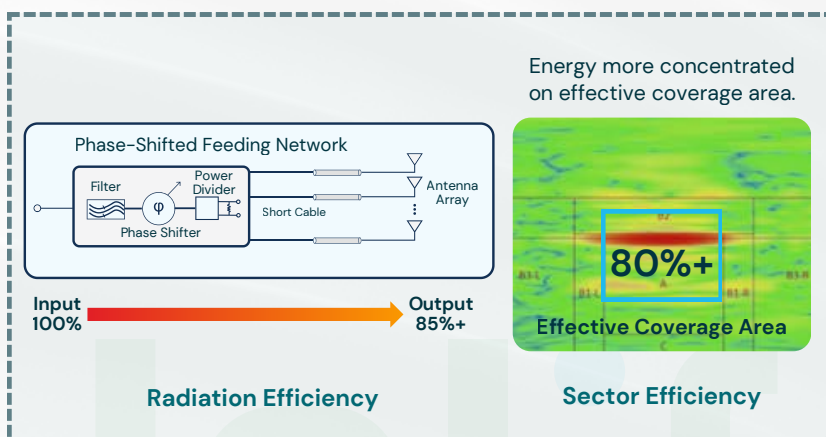


## Advancing Energy Efficiency

The Helifeed Green Antenna improves energy efficiency by 20%+, ensuring efficient and enhanced coverage.

**Core Technology:** Ultra-low insertion loss phase-shifted feeding network paired with high-efficiency radiation dipoles.

**Integrated Design:** Combines phase shifters, power dividers, filters, and cables to minimize waste and maximize performance.



## Eco-Friendly Materials and Manufacturing

Comba integrates innovation with environmental responsibility:

**Sustainable Materials:** Lightweight, recyclable radome with a pollution-free production process.

**Eco-Friendly Manufacturing:** Replaces traditional electroplating with non-electroplating, pollution-free techniques, reducing energy consumption and eliminating harmful waste.

### Innovative Radome Design

- **Lightweight and Durable:** Low-density, robust materials
- **Sustainable:** Fully recyclable and environmentally friendly



### Eco-Conscious Processes

- **Green Packaging:** Long-cavity integrated feeding network
- **Eco-Optimized Components:** Non-electroplating radiation dipole

## Versatile Deployment Scenarios

The Helifeed Green Antenna excels across diverse environments:



### Low-Altitude Applications

Designed for drones and other low-airspace networks requiring precise and stable connectivity.



### Sub-Urban Coverage

Delivers reliable coverage to moderately populated areas, balancing cost-efficiency with broad connectivity.



### Urban Coverage

Deep coverage and optimized performance in high-density city environments with heavy network demand.



### Rural Expansion

Extends robust and reliable network access to remote and sparsely populated regions.



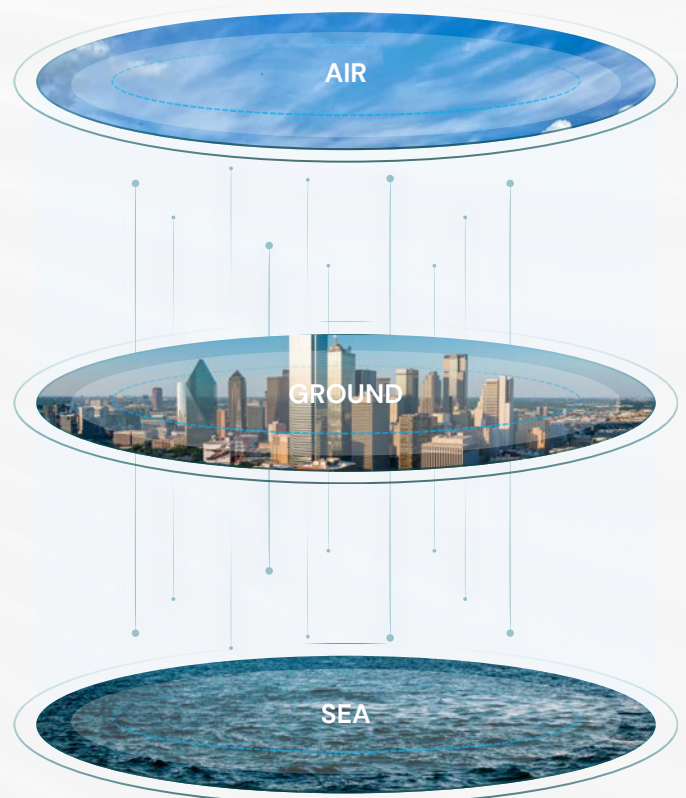
### High-Speed Railways

Provides seamless and stable connectivity for passengers traveling on fast-moving trains.



### Maritime Communications

Ensures efficient and reliable coverage for offshore platforms, ships, and coastal areas.



## Commitment to Sustainability

Comba is committed to accelerating the evolution of 5G-A and future networks. Through our innovative technology and next-gen products, we empower MNOs to build high-quality, energy-efficient, and low-carbon network infrastructures. With the Helifeed Green Antenna leading the way, we are shaping a sustainable, intelligent future, where every solution maximizes efficiency while minimizing environmental impact.

**Enabling Communication to Connect People.**

Visit our website or contact our representative for more information: [www.comba-telecom.com](http://www.comba-telecom.com)

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