



PAULOCARBON

**Agroforestry & Energy Income
from Paulownia**

by Robert W Jankowski & Magda Radke

Welcome to PauloCarbon

Agroforestry meets energy and climate finance.

In a world facing climate disruption, water scarcity, and declining farm profitability, PauloCarbon offers a nature-based, profitable solution:

Fast-growing Paulownia trees planted on idle or intercropped farmland deliver timber, biomass, and carbon offsets – while regenerating soil and protecting crops from drought.

We empower farmers to earn more, protect their land, and participate in the carbon economy – all through scalable, science-based agroforestry.





The Problem

- **Traditional farming is economically unstable due to fluctuating crop prices and climate risks.**
- **Drought and soil degradation reduce yields and profitability.**
- **Farmers lack access to carbon markets and decentralized energy solutions.**
- **Unused land remains idle while carbon farming potential is unused.**

Our Solution

PauloCarbon is an integrated agro-climate-energy model combining:

- 1. Paulownia plantations for:**
 - **Fast-growing biomass (2–3 years) for energy,**
 - **High-value construction-grade timber (8 years),**
 - **Shade and water retention benefits.**
- 2. Biomass valorization via GreenFlame gasification: syngas + biochar.**
- 3. Carbon credits from CO₂ absorption, sequestration in roots, timber and biochar.**
- 4. Water resilience – Paulownia reduces crop drought stress by increasing local soil moisture and rainfall retention.**



Key Benefits



- **Fast ROI: biomass harvest every 2–3 years; timber after year 8.**
- **Climate resilience: improved soil structure and drought resistance.**
- **Energy generation: direct use or sale via GreenFlame units.**
- **Carbon revenue: measurable, certifiable offsets.**
- **Soil health & biodiversity: strong root systems prevent erosion, support soil microbiome.**
- **Multistream income: biomass, timber, energy, carbon, honey (optional).**



Market Opportunity

- **2M+ hectares of idle land in Central & Eastern Europe.**
- **Paulownia absorbs 75 tons/ha/year for a 3-year rotation; for an 8-year rotation, a lower yield can be assumed – 60 tons/ha/year.**
- **EU push for regenerative agroforestry and nature-based solutions.**
- **Carbon credit markets: €40–100 per tCO₂, growing rapidly.**
- **Rising demand for lightweight, fast-growing hardwood for construction and furniture.**

Business Model

Revenue streams:

- **Sales of planting kits + technical support to farmers.**
- **Energy partnerships via biomass-to-syngas conversion (GreenFlame integration).**
- **Carbon credit aggregation and resale via verified registries (Gold Standard, Verra).**
- **Timber harvesting and B2B sales (construction, furniture).**
- **Biodiversity and soil carbon financing (impact investors, EU funds).**
- **Optional: honey production from Paulownia-flowering agroforests.**



Farmer Revenue Potential

Annual income per hectare (estimates):

- **Carbon credits:** $75 \text{ tCO}_2 \times \text{€}40\text{--}100 \rightarrow \text{€}2,800\text{--}\text{€}7,000/\text{year}$ in a 3-year rotation
- **Timber (averaged):** $\text{€}12,000 - \text{€}72,000$ gross revenue per hectare
- **over 8 years**
- **Wood chips :** managing 1ha in a 3-year cycle can supply 90–180t of wood chips; $\text{€}5,000 - \text{€}14,000$ per hectare (per 3-year cycle)
- **Biogas on 3-year biomass yield per hectare (90–180 t dry wood chips), the estimated output through gasification is:**

Min est.: $\sim 198,000 \text{ Nm}^3$ of syngas – Max estimate: $\sim 630,000 \text{ Nm}^3$ of biogas;
by sells 100% of the biogas, the annual revenue:
Min estimate: $\text{€}16,500$ per year – Max estimate: $\text{€}84,000$ per year

Total est. range: $\text{€} 15,000 - \text{€}42,000$ /ha/year

- **Honey (optional):** $500 \text{ kg} \times \text{€}10 \rightarrow \text{€} 5000/\text{year}$





Traction



- **Pilot Paulownia plantations active in Poland.**
- **Water retention and carbon performance verified on test plots.**
- **Strong farmer and municipal interest for degraded land conversion.**
- **Integration-ready with GreenFlame bioenergy system.**



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**Let's grow profit from the ground up.
Invest in trees, energy and carbon. Harvest impact and returns.**