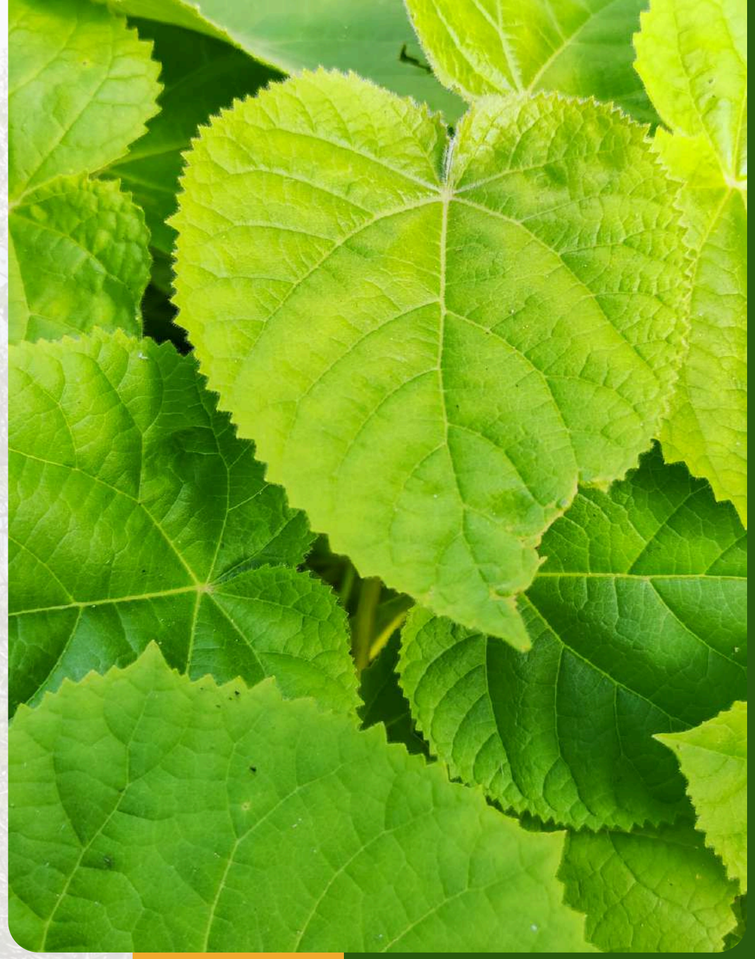
PAULOCARBON

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.

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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.

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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 CO_2 absorption, sequestration in roots, timber and biochar.**
4. **Water resilience – Paulownia reduces crop drought stress by increasing local soil moisture and rainfall retention.**

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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).**

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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 tCO_2, growing rapidly.**
- **Rising demand for lightweight, fast-growing hardwood for construction and furniture.**

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Business Model

Revenue streams:

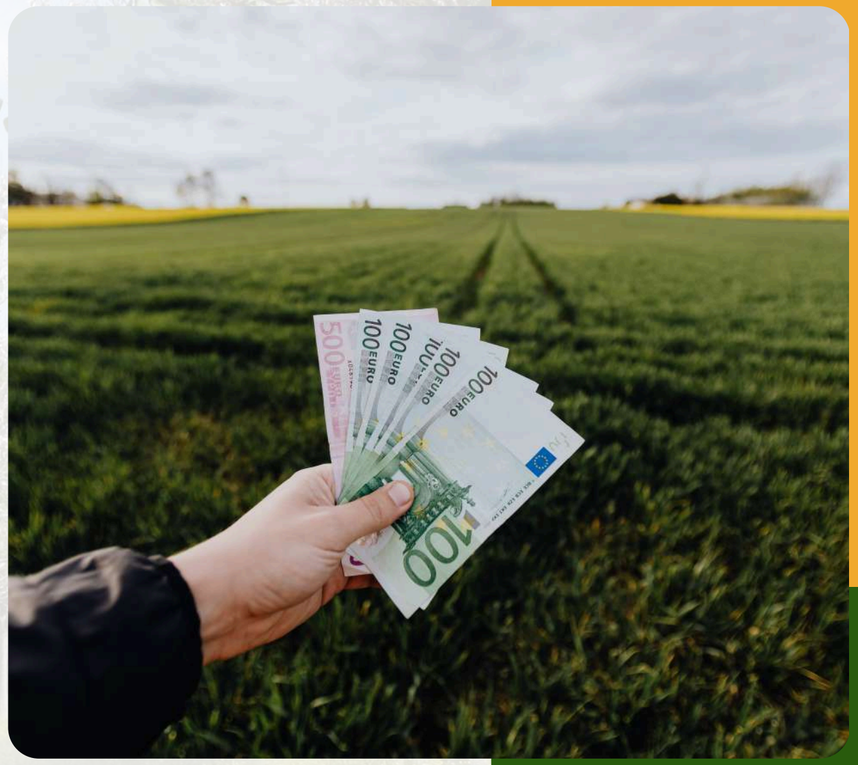
- **Sales of planting kits + technical support to farmers.**
- **Energy partnerships via biomass-to-syngas conversion (GreenFlame integration).**
- **Carbon credit aggregation and resale via verified registries (Gold Standard, Verra).**
- **Timber harvesting and B2B sales (construction, furniture).**
- **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 tCO_2 × €40–100 → €2,800–€7,000/year in a 3-year rotation**
- **Timber (averaged): €12,000 – €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; €5,000 – €14,000 per hectare (per 3-year cycle)**
- **Biogas on 3-year biomass yield per hectare (90–180t dry wood chips), the estimated output through gasification is:**

  Min est.: ~198,000 Nm³ of syngas – Max estimate: ~630,000 Nm³ of biogas; by sells 100% of the biogas, the annual revenue:
  Min estimate: €16,500 per year – Max estimate: €84,000 per year



Total est. range: € 15,000 – €42,000 /ha/year

- **Honey (optional): 500 kg × €10 → € 5000/year**

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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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Contact us for more details

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