

Understanding Turkey's Solar Incentives: A Guide to YEKDEM and YEK-G for PV Manufacturers

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Content Partner: J. v. G. technology GmbH

Turnkey solar module production lines — since 1997

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Technical Overview: Turkey's Solar Incentives, YEKDEM, and YEK-G for PV Manufacturers



Created as part of the PVKnowHow Knowledge Network



Prepared by J.v.G. Technology GmbH



European specialists in turnkey solar module production lines

Key Project Data

Turkey

Market

Target geography for local
PV manufacturing
investment

2

Policy Pillars

YEKDEM (feed-in tariff) +
YEK-G (green certificate
system)

10yr

FiT Duration

Guaranteed feed-in tariff
period under YEKDEM

5yr

Domestic Bonus

Additional local content
incentive period on top of
base FiT

📄 Market: Turkey · Policy Framework: YEKDEM + YEK-G · Incentive Type: Feed-in tariff + domestic bonus + certificates · Investment Focus: Local PV manufacturing · Strategic Advantage: Domestic content incentive · Source: PVKnowHow / J.v.G. Technology GmbH

Turkey's Renewable Energy Policy — Strategic Context

National Commitment

- Turkey ranks 11th globally and 5th in Europe in installed renewable energy capacity (2024)
- Foundational law (Law No. 5346) introduced in 2005; significantly expanded in 2011
- Net-zero target by 2053 — solar is a cornerstone technology
- Renewable capacity surpassed 50% of total installed capacity by 2020

Why This Matters for Manufacturers

- Policy direction has remained consistent across administrations
- Incentive mechanisms create structured, predictable demand for solar modules
- Local content rules make domestic manufacturing strategically advantageous
- Both major political blocs support renewable expansion

YEKDEM – The Feed-In Tariff Mechanism

What It Is

- YEKDEM = Renewable Energy Resources Support Mechanism
- A government-guaranteed fixed price per kWh fed into the national grid
- De-risks renewable investment by ensuring predictable revenue for 10 years
- Applies to a range of project sizes — not only large auction-based projects

Who It Applies To

- Renewable energy power plant operators holding a YEK certificate
- Facilities commissioned between 1 July 2021 and 31 December 2025
- Commercial, industrial, and utility-scale installations are eligible
- Application submitted to EPDK (Energy Market Regulatory Authority)

Impact on Module Manufacturers

- Stable demand for solar power plants → stable demand for modules
- Developers have guaranteed revenue → stronger purchasing commitment
- Direct pathway via domestic content bonus (see next slide)
- Applies to commercial and industrial installations — diverse module market

Domestic Component Bonus – The Manufacturing Incentive

How It Works

- An additional payment on top of the base YEKDEM feed-in tariff
- Power plants using locally manufactured equipment receive a higher guaranteed price
- Solar base FiT (TRY 32c/kWh) + domestic production incentive (TRY 8c/kWh)
- Bonus duration: 5 years, running alongside the 10-year base FiT
- Products must be certified as domestically produced to qualify

Tiered Incentive Structure

- Incentives are tiered – not all-or-nothing
- Assembling modules with local frames, glass, and junction boxes qualifies for a partial bonus
- Manufacturing solar cells domestically unlocks a higher tier
- Goal: progressive vertical integration of Turkey's solar supply chain
- Minimum domestic value threshold: approximately 55% based on government contribution list

YEK-G — The Green Certificate System

Primary Function

- YEK-G certifies and tracks the renewable origin of electricity
- Creates a tradable "green attribute" for power plant operators
- Provides a secondary revenue stream on top of the FiT payment
- Aligns Turkey's market with global corporate sustainability standards

Market-Based Mechanism

- Unlike YEKDEM, YEK-G operates as a market instrument, not a fixed tariff
- Corporations with renewable energy procurement targets purchase certificates
- Adds a modern, demand-driven layer to Turkey's incentive framework
- A robust certificate market signals sector maturity — positive for long-term investment

Impact on Module Manufacturers

- Increases overall financial attractiveness of new solar projects
- Drives additional demand for modules beyond FiT-supported projects
- Manufacturers benefit indirectly: more plant builds = more module orders
- Reinforces the value of the entire solar ecosystem

Currency Shift: From USD to TRY — What Changed?

1 Phase 1 — USD-Denominated FiT (Pre-2021)

Original YEKDEM tariffs set in US dollars — e.g., USD 133/MWh for solar

Attractive to investors; highly profitable after market price decline in 2015 — drove significant capacity growth 2016–2019

2 The Shift — Presidential Decree No. 3453 (January 2021)

New YEKDEM tariffs denominated in Turkish Lira (TRY) for facilities operational from July 2021

Driven by lira depreciation and fiscal pressure on the national grid — tariff costs had grown unsustainably

3 Inflation Adjustment Mechanism

TRY tariffs subject to quarterly escalation: CPI + PPI + USD/EUR exchange rate components

USD caps apply — TRY prices cannot exceed the equivalent USD ceiling at any quarter

4 2023 Revision — Enhanced Indexation

From June 2023: escalation formula updated monthly; floor and ceiling prices indexed to USD

Aims to restore currency risk protection for investors while maintaining TRY payments

Why Incentives Create Demand for Local Production

1

FiT Guarantees Revenue

YEKDEM ensures project developers receive a predictable price — de-risking project finance and driving consistent module procurement

2

Bonus Rewards Local Equipment

Developers using domestically certified modules receive a higher FiT — creating a direct price premium for locally manufactured products

3

Manufacturer Benefits

A certified local factory gains a structural competitive advantage — its modules are more valuable to Turkish project developers than imported alternatives

□ A proven turnkey manufacturing concept integrates this incentive logic from day one — helping new entrants structure a factory investment that is aligned with the domestic content certification requirements.

Incentive Comparison: YEKDEM vs. YEK-G

Criterion	YEKDEM	YEK-G
Type	Feed-in tariff (fixed price guarantee)	Green certificate (market-based instrument)
Beneficiary	Renewable power plant operators	Power plant operators + corporate buyers
Duration	10 years (+ 5-year domestic bonus)	Market-driven, ongoing
Currency	TRY (with USD cap & quarterly escalation)	Market price (certificate trading)
Impact on Manufacturers	Direct: domestic content bonus creates price premium for local modules	Indirect: increases overall solar project demand
Stability	Government-guaranteed floor & ceiling	Market-dependent; growing corporate demand

FAQ Highlights — Key Questions Answered

Do I need to manufacture every component locally?

- No — the domestic content incentive is tiered
- Partial bonus applies when using local frames, glass, or junction boxes with imported cells
- Higher tier unlocked by also manufacturing solar cells in-country
- Minimum threshold: ~55% domestic value based on government contribution list

Is foreign ownership eligible for the domestic bonus?

- Yes — ownership structure is not the deciding factor
- Eligibility is based on production location and certified domestic content value
- A foreign-owned factory producing in Turkey can qualify

How stable is the policy framework?

- Turkey has maintained consistent renewable energy policy direction since 2005
- Both major political blocs support renewable expansion
- Mechanism specifics evolve (e.g., USD → TRY) but overarching commitment is intact
- Quarterly escalation clauses and USD caps provide investor protection against inflation

Strategic Importance of Local PV Manufacturing in Turkey

Demand Foundation

- YEKDEM creates stable, policy-backed demand for solar power plants
- Consistent module procurement driven by guaranteed developer revenues
- Market extends beyond large auctions — commercial and industrial segments also eligible

Competitive Advantage

- Certified domestic modules command a higher price in the Turkish market
- Imported modules face a structural price disadvantage for YEKDEM projects
- First-mover local manufacturers gain long-term positioning in a growing market

Industrial Strategy Alignment

- Turkey's policy explicitly targets vertical integration of the solar supply chain
- YEK-G adds a market-based demand layer, increasing overall project economics
- Turnkey factory entry — from an experienced European provider — reduces ramp-up risk

- ☐ An experienced European turnkey provider integrates domestic content certification requirements into full-line process methodology — reducing the learning curve for new manufacturers entering Turkish production.

About the Content Partner

J. v. G. technology GmbH – The DESERT Company

Founded in 1997 in Bavaria, Germany. Family-owned engineering company specializing in turnkey solar module production lines.

More than 90 factory projects delivered worldwide.

On-site team training included – no prior manufacturing experience required.

Key areas:

Turnkey PV manufacturing lines | DESERT Technology® |
TÜV-certified module designs | Factory planning to production

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