

# Instruments to attract small and medium scale RES investments

The Clinic Workshop “Renewable Energy in Central Asia:  
Potential for Small- and Medium-sized Solutions”  
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EU – Central Asia Cooperation on  
Water – Environment – Climate Change



This project is implemented by the consortium led by Stantec, with ELLE (Estonian, Latvian & Lithuanian Environment), ACTED, and KommunalKredit Public Consulting as the consortium partners.

## Why do renewable energy sources (RES) need support?

New, developing technologies need support until they are mature to compete with „old” technologies

Investment risk

Unfair treatment of RES – large subsidies to fossil fuel Energy versus small support to RES

Negative externalities (pollution, security of supply) of conventional energies



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## Why do renewable technologies need support?

**Climate change** – RES are major players in CO2 reductions

**Other pollutants** (SO2, NOx, PM) – RES are environmentally friendly

Availability for future generations/**Long term availability** – RES are renewed for future generations by definition

**Security of supply** / external dependency – RES are usually locally produced, and independent on Energy imports



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# Why do renewable technologies need support?

Many environmental projects are not profitable or their profitability is too low to attract attention/interest of the private sector

Thus, the governments have in principle two choices:

1. **Sticks** → to force implementation by regulation
2. **Carrots** → to financially support (directly or indirectly) investments of the private sector

In some cases, even relatively small assistance offered can tip the scales of decision-making towards more environment-friendly options (esp. in case of smaller companies)



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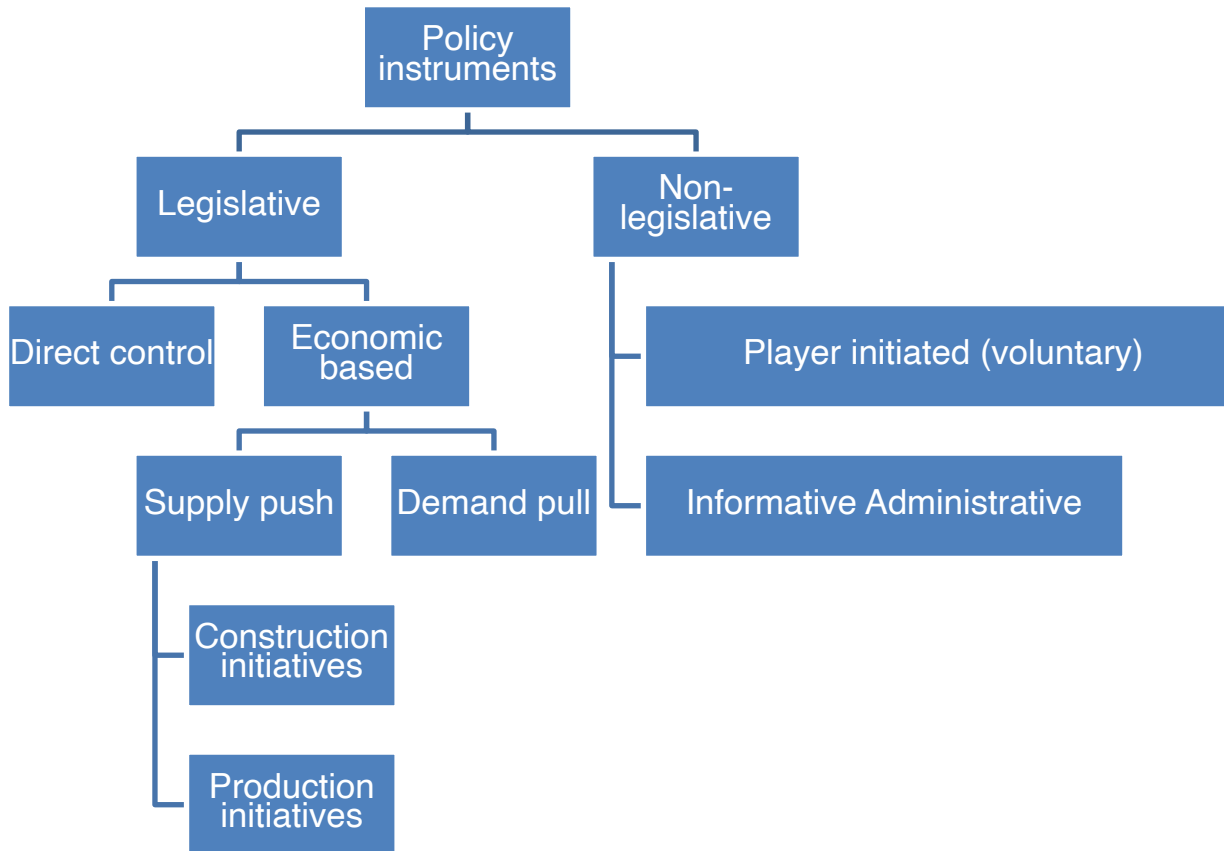
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# Classification of the RES supporting mechanisms



From Enzesbergerr at al., 2002



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## Informative & administrative

Mapping of resources, solar maps etc.

Administrative procedures, easy connection to the grid

Technical Assistance and capacity building

Information campaigns



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# Construction incentives

## Public financial support:

- grants
- soft loans
- Partial financing of the investments – for example connection to the grid, land purchase and preparation

## Tax support:

- Accelerated depreciation
- Tax deduction



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## Demand pull

Green certificates that can be sold on the market together with a quota system

Tax deduction for purchase of the green power



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## Green certificates

Quota obligations based on Tradable Green Certificates are generation-based, quantity-driven instruments. The government defines targets for RES deployment and requires a particular party in the electricity supply chain (for example, the generator, wholesaler or consumer) to fulfil certain obligations. Once defined, a parallel market for renewable energy certificates is established and their price is set following demand and supply conditions (forced by the obligation). Hence for RES producers, financial support may arise from selling certificates, in addition to the revenues from selling electricity on the power market.



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# Production incentives

Net metering

Net billing

Feed-in Tariff

Tenders or auctions for long-term power sales contracts



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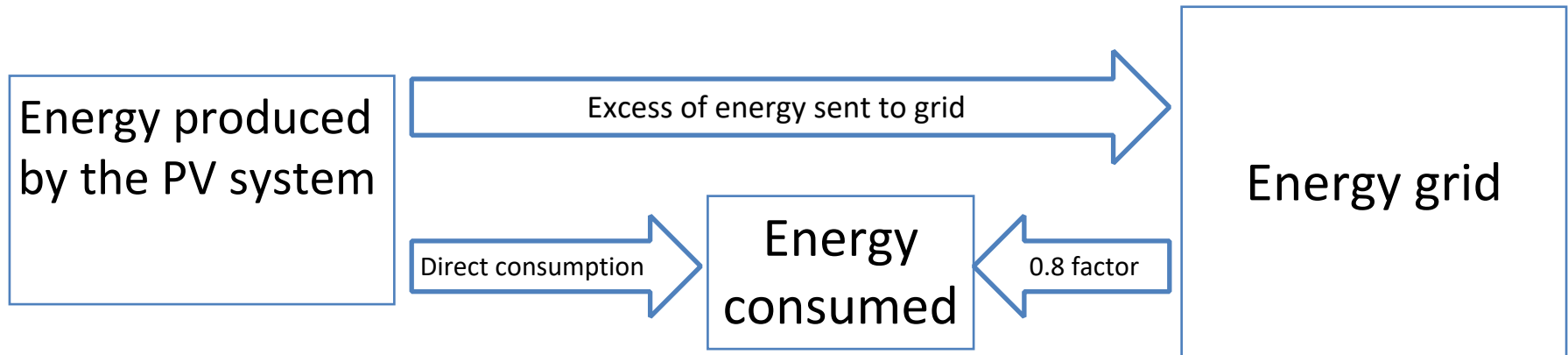
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## Net metering

Net metering is mechanism for small energy producers that produce mainly for own use. If they have no energy storage, they can send energy to the grid and then, within the agreed period (one year) consume it. Thus the grid is treated as a storage of the energy. What is produced over the consumption, is lost for the producer. Often not 100% of the supplied energy can be consumed, but 0.8 or 0.7 factor.



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**Feed-in tariffs (FITs)** are generation-based, price-driven incentives. The price per unit of electricity that a grid operator is legally obliged to pay for electricity from RES producers is determined by this system. Thus a government regulates the tariff rate. It usually takes the form of either a **fixed price** to be paid for RES production, or an additional **premium** on top of the electricity market price paid to RES producers (**Market + premium**). Besides the level of the tariff, its guaranteed duration represents an important parameter for an appraisal of the actual financial incentive. FITs allow technology-specific promotion, as well as an acknowledgement of future cost reductions by applying dynamic decreasing tariffs.

The costs are usually reflected by the tariff for electricity (= consumers pay for it)



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## Tenders or auctions

Tendering systems are quantity-driven mechanisms. Financial support can either be investment-focused or generation-based. In the first case, a fixed amount of capacity to be installed is announced and contracts are given following a predefined bidding process, which offers winners a set of favorable investment conditions, including investment grants per kW installed.

The generation-based tendering systems work in a similar way; but instead of providing up-front support, they offer support in the form of a 'bid price' per kWh for a guaranteed duration.

The generation-based tendering works like FIT but the guaranteed price or premium is decided on competition.



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**Indirect strategies** to make RES production more competitive  
Eco taxes on electricity produced with non-renewable sources;  
Taxes/permits on CO2 emissions; and  
The removal of subsidies previously given to fossil generation.



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# Thank you!



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