ROLE OF PROSUMERS

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Who and what is a Prosumer?

- “Prosumer” = [electricity] producer + consumer
- Consumer-installed small RE systems, particularly rooftop solar panels, for electricity needs:
  - excess power produced is sent to the network
  - in exchange, consumer draws energy from network when own system is under-producing
- An electricity billing mechanism for non-dispatchable energy sources
  - allows consumers who generate their own electricity to use that electricity at another time, instead of when generated: eg. monthly or annual rollover net-metering
- Rooftop solar one of many transformational technologies – form of distributed generation
- Net-metering is more an energy efficiency measure or incentive – allows an electricity consumer to “store” energy in the delivery network
- Net-metering – in early days meter ran in reverse; today greater importance is placed on securing the capability of metering flows in both directions

Benefits of allowing prosumers

- Has become attractive as the costs of small-scale RE generation have become affordable for small-scale investors. Range of benefits:
  - lowers costs for electricity consumers
  - provides distribution network with local, cheaper RE-sourced electricity it can deliver to other consumers
  - assists in meeting EU directives and national targets for the introduction of RES electricity
  - alleviates scarce generation capability and delivery congestion
- Recently some markets have become saturated – concerns about over-abundance of RE injected in networks
- Pricing policy can be an issue:
  - requiring utilities to buy excess solar energy from prosumers at or near retail prices makes it costly for other consumers
  - the times when prosumers sell to a utility may not coincide precisely with the utility's demand, resulting in some of the energy having less value or little offsetting benefits
  - opportunity costs incurred when prosumers sell without paying the taxes and fees paid by typical electricity producers

Policies and legislative frameworks

- No best practise and no standard model applicable across countries that have adopted net-metering – policies towards net-metering vary widely
- As new physical power sector planning and operational modalities have emerged, legislative and contractual frameworks, and regulatory models, must adapt
    - net-metering policies enable and foster private investment in RE
- Incentives, eg. California Building Standards Commission approved solar installation requirements for all new houses; streamlined or expedited permitting process for residential rooftop solar energy systems of less than 10KW
- Compare with FiT for utility scale solar
- EU issued Policy Guidelines that contain recommendations for good practice
- Serbia has a unique opportunity to develop a model precisely tailored to its own needs

Serbia's energy legal/regulatory framework and market structure

- Serbia's energy sector is bound by EU energy legislation promoting the use of RES and encouraging energy efficiency
- Serbia is successfully incorporating EU energy legislation into its legal framework and has partially implemented EU legislative requirements
- The Energy Law is comprehensive, and Serbia has a well-developed legal and regulatory framework for larger-scale RES developments but does not include specific rules enabling net-metering – ie. small-scale developments, at the household and SME level
- The structure and scope of Serbia's primary laws and regulations provide a basis for introducing net-metering to enable small investors to benefit from investment in RE:
    - amendments to the Energy Law coupled with specific regulations in metering and connection rules applicable to prosumers would be sufficient
    - no need for Serbia to pass legislative or regulatory instrument dedicated to the introduction of net-metering

Barriers to introducing net-metering

- For Serbia, the main difficulties to overcome in introducing a successful net-metering scheme are:
  - relatively high capital cost to Serbians of purchasing and installing a suitable solar rooftop generation system
  - inexpensive electricity – will the savings gained by producing electricity for self-consumption justify this capital cost?
  - whether or not the price paid to prosumers for excess electricity supplied to the network will also be sufficient to assist in justifying this cost
  - categorization of producer-consumers under present law as “entrepreneurs” imposes significant cost and compliance obligations that may deter consumers from engaging in net-metering

Impact of COVID-19

- COVID has slowed or halted legislative and regulatory proceedings, and had a massive impact on volume of new solar projects, especially rooftop solar
  - both supply chain and delivery (panels, smart meters)
  - construction of network connections
  - freezing of rate increases
  - financial strains on consumers and governments
- Occurring in what is an inevitable growth industry of the future at a time where consumers can benefit from huge decreases in solar costs – install rooftop solar before the next pandemic!

Prosumer models – key elements

- Net-metering models have varying characteristics. Key elements:
  - method of metering net-energy and calculating balances
  - metering and billing periods
  - quantities of netted energy allowed to be injected into the network
  - pricing models
  - institutions responsible for administration of the net-metering system
  - applicable taxes and levies
  - permitting and licensing requirements
  - (other) support mechanisms