How foreign investors should prepare (and what to prepare) to be able to fulfill and pass the government's local content (TKDN) requirements?
Apamsi’s Profile

Indonesian Solar Module Manufacturers Association (APAMSI)

Is an association of solar module manufacturers which has integrated production facilities and testing equipment for converting solar cells into solar modules.

All Members of APAMSI are PV Module Manufacturers. Established since August 2010.

Vision
As a strategic partner for government and stakeholders to provide solar power at a competitive price, affordable, and environmentally friendly.

Mission
• Strengthening domestic solar module producers and their derivative products
• Empower people to use solar energy widely
• Ensure the availability of solar energy products throughout Indonesia

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Production Capacity (MWp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adyasolar</td>
<td>PT Adyawinsa Electrical &amp; Power</td>
</tr>
<tr>
<td></td>
<td>PT Azet Surya Lestari</td>
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<tr>
<td></td>
<td>PT Len Industri (Persero)</td>
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<td></td>
<td>PT Surya Utama Putra</td>
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<tr>
<td>iSOLAR1</td>
<td>PT Swadaya Prima Utama</td>
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<tr>
<td>Wika INTRA ENERGY</td>
<td>PT Wijaya Karya Industri &amp; Energi</td>
</tr>
<tr>
<td>SANKEINDO</td>
<td>PT Sankeindo</td>
</tr>
<tr>
<td>SOLARQUEST</td>
<td>PT Deltamas Solusindo</td>
</tr>
<tr>
<td>ICA SOLAR</td>
<td>PT Indodaya Citra Lestari</td>
</tr>
<tr>
<td></td>
<td>PT Jembo Energindo</td>
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<tr>
<td></td>
<td>PT Sky Energi Indonesia</td>
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</tbody>
</table>

Business Development and Promotion Sector
Chairman: Carolus Boromeus (Sky)
Secretary: Yohan (ICA)

Field of Institutional Relations, Regulation & Arbitration
Chairman: Ganda Yudha (Len)
Secretary: Anshar (Adyawinsa)

Human Resources Development, Standardization, and Competence
Chairman: Budi Prasetyo (Wika)
Secretary: Budiman (SUP)
Producs dan The superiority

International Certificate :
- IEC 61701 : 2011 (Salt mist Corrosion Testing)
- IEC TS 62804-1 : 2015 (PID testing)
- IEC 62716 : 2013 (Ammonia Corrosion Testing)

Solar Modules

<table>
<thead>
<tr>
<th>Solar Module Development</th>
<th>Bidirectional Inverter 15kW-1P</th>
<th>Batt S Charger 65A-240V</th>
<th>Bidirectional Inverter 5kW-1P</th>
<th>Grid Tied Inverter 5kW-1P</th>
<th>PLTS DC Grid Semiflexible PERC</th>
<th>PLTS Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>91 – ‘00</td>
<td>‘00–’10</td>
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</tbody>
</table>
PLTS Challenging

Some market regulation have improved, but have not been effective

How much incentives can help, if the market is not yet created?

Market Regulation

- LD*
- HP*
- LF*

Negative Cycle

Price, interest, tenor,

Economic of Scale

Solar module (Solar cell and Non Solar cell)

Import Raw Material
CKD vs FG almost the same

Local Raw Material
CKD > FG 3-4 times

How make this market opportunity come true

Market related prices

High interest, collateral must be assets, short tenor

60% of the Domestic Content upstream is inhibited

The price of domestic PV is more expensive than Chinese products

PP 79 /2014 about National Energy Policy and Perpres 22/2017 about National Energy General Plan

- PLTS 2025 target : 6,5 GW (Rp.45.5T)
- PLTS 2050 target : 45 GW (Rp 300T)

Komitmen Global
Target Paris Agreement:
Keep global temperature rise to no more than 2°C, and aim for it to be 1,5°C

Komitmen Nasional
Amanat UU No 16 Tahun 2016 about Endorsement Paris Agreement. Reduce emissions GHG according NDC on 2030:

- 29% from BaU (own abilities)
- 41% dari BaU (International assistance)

Komitmen Sektor Energi
Current Position, Development Plans, and Challenges in the PV Industry Supply Chain in Indonesia

Upstream Industrial Development Plan:

- Business Opportunities
- Absorb Labor
- Efforts to reduce the national electricity BPP
- Limited capacity of domestic entrepreneurs
How foreign investors should prepare

- Establishing upstream manufacture with a suitable capacity economic of scale
- Sharing market abroad to maintain business continuity so that the domestic market is stable
- Manage and guarantee the supply chain so that prices are competitive
- Collaboration with testing and certification agencies to increase the capacity of testing laboratories
- Bringing funding with low interest rates, long tenors, and light conditions to stimulate the domestic market for the public and developers

Foreign and domestic cooperation is required for products with domestic products of more than 60% whose prices are competitive, the quality is internationally certified, and the market is sustainable.
THANK YOU