

ASSESSING SOLAR POLICY AND STANDARDIZATION FRAMEWORKS FOR SAUDI ARABIA

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OUTLINE

- ❑ Solar Energy Policy
- ❑ Standardization Framework
- ❑ What is needed
- ❑ How to get there

SOLAR ENERGY POLICY

The Royal Decree No. A/35 April 17, 2010

- *“..there shall be established a scientific city to be called King Abdullah City for Atomic and Renewable Energy”*

K.A.CARE Mission

- *“...The driving force for making atomic and **renewable energy** an integral part of a national sustainable energy mix, creating and leveraging the competitive advantages of relevant technologies for the social and economic development of the Kingdom of Saudi Arabia...”*

SOLAR ENERGY TARGETS

- Reduce dependency on oil by deployment of solar energy to reach 41 GW by 2032
- 16 – 23% of the country consumption will be fulfilled by solar energy
- Save 361 – 523 MBOE/D

Solar PV

16 GW

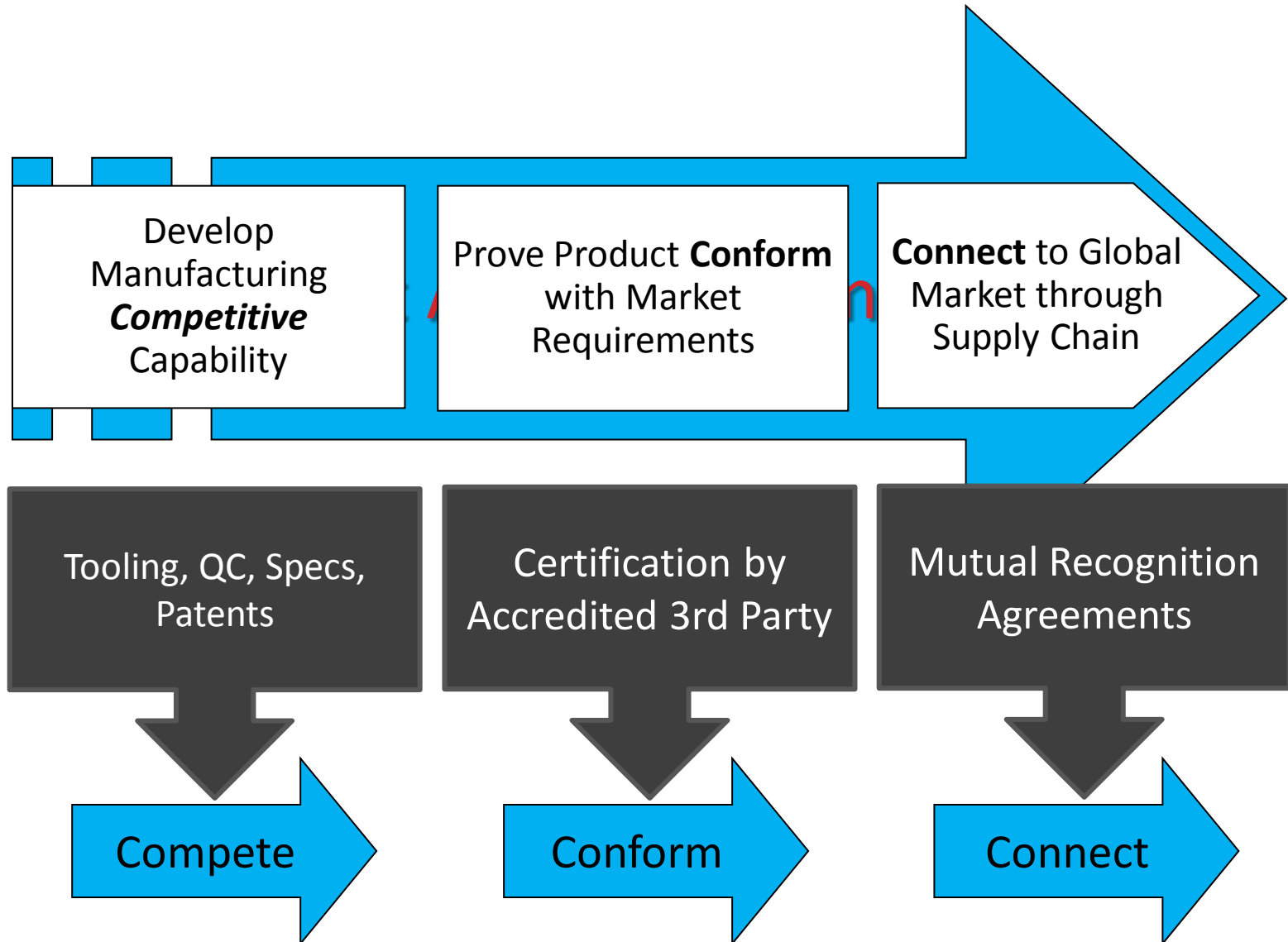
Solar CSP

25 GW

METHODOLOGY TO ACHIEVE TARGETS

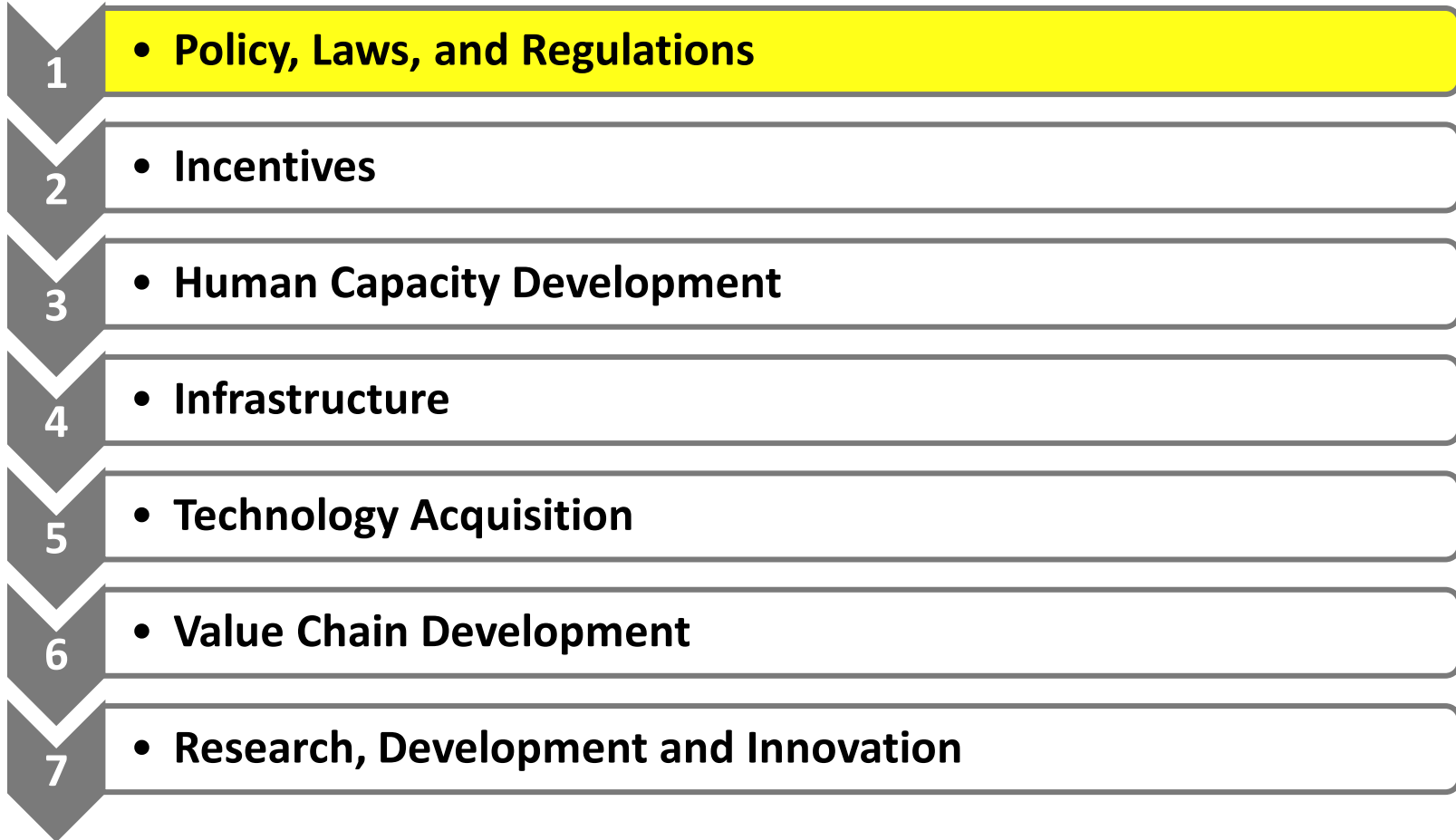
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Source: Information on this slide were obtained from UNIDO

IMPLEMENTATION ROADMAP



POLICY INSTRUMENTS

Legislative instruments	Laws & regulations
	Standards
	Codes of practice
Economic instruments	Feed-in Tariffs (FIT)
	Subsidies
	Tax Credits
Voluntary instruments	Voluntary agreements
	Programs & projects
	Research & development

LEGISLATIVE INSTRUMENTS

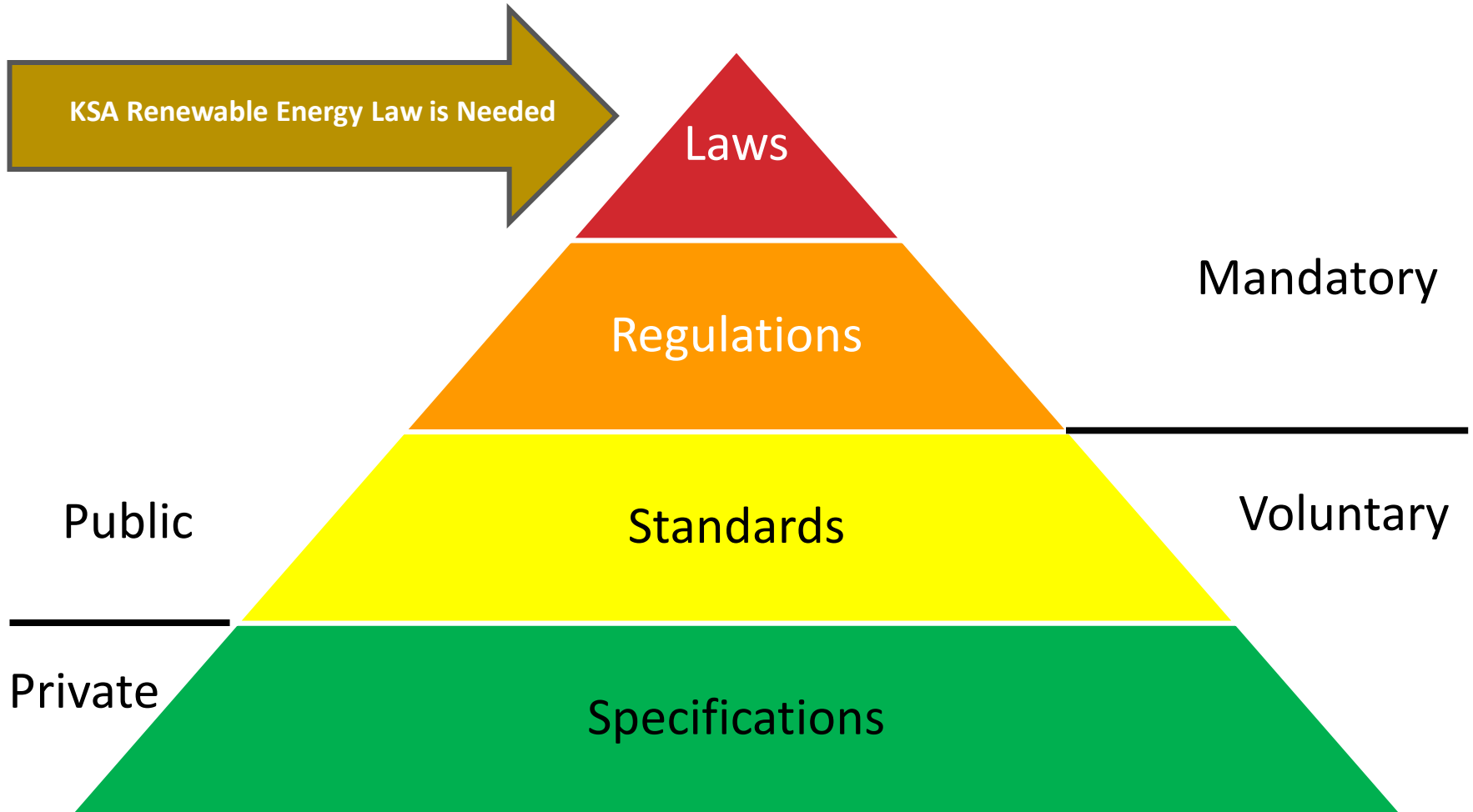
1. Laws & regulations:

- Law: legal rules that govern a specific action, process, product etc.
- Regulation: outlines how the law should be implemented

2. Standards: Standards are a documents established by interested parties that reflects their consensus, and are approved by recognized bodies for common and repeated use. (e.g. for equipment)

1. Codes: give practical advice / guidance on how to comply with regulations (e.g. Building Code)

POLICY FRAMEWORK FOR INNOVATION



OUTLINE

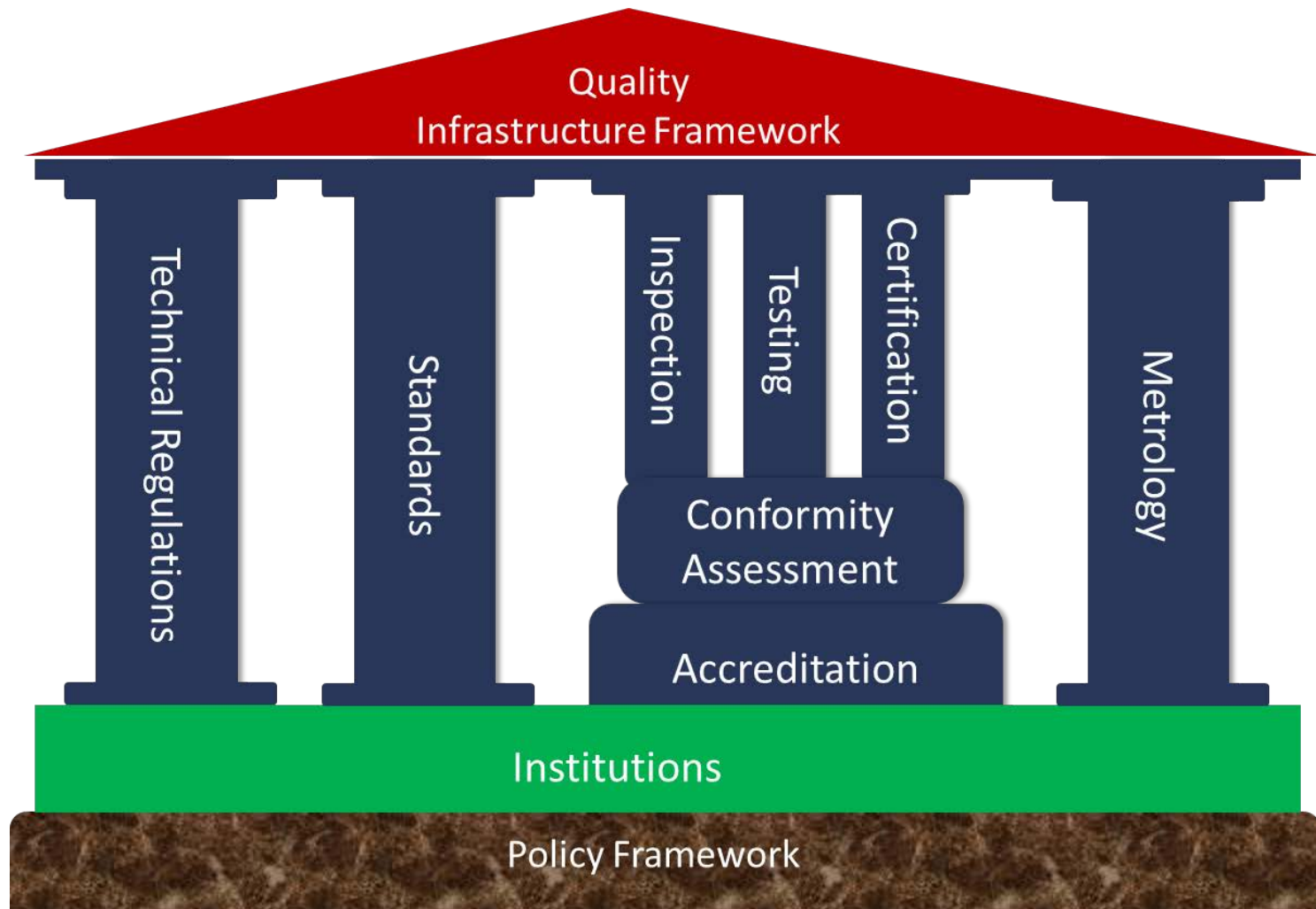
✓ Solar Energy Policy

Standardization Framework

What is needed

How to get there

STANDARDIZATION FRAMEWORK



TECHNICAL REGULATIONS

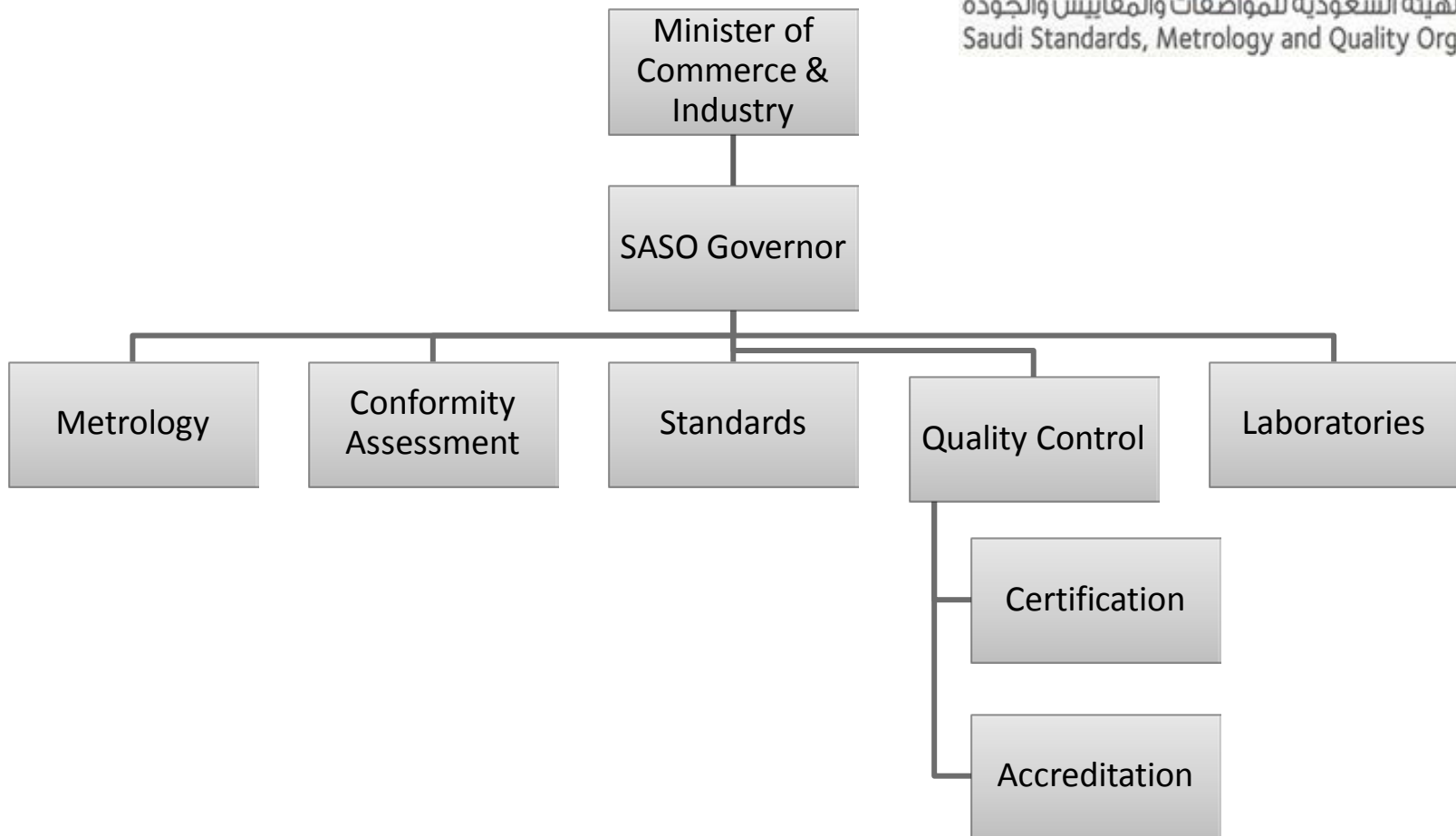
1. **Scope** - A statement of the products or product areas that are covered by the technical regulations.
2. **Essential Health and Safety Requirements** - such as *human health or safety, animal or plant life or health or the environment*. The manufacturer / dealer / supplier / distributor should comply with the requirements of the technical regulations.
3. **List of referenced Standards** - that correspond as a whole or partially to the requirements.
4. **Conformity Assessment Procedures** – to explain how compliance is demonstrated. Specify the conditions under which manufacturer/suppliers can make a choice if more than one option is provided for. Such options are, for instance, *supplier's declaration of conformity, third party certification or inspection*.
5. **Market Surveillance** - withdraw products from the local market if these are not in compliance and put sanction against manufacturer / supplier who doesn't conform with the Technical Regulations.

NATIONAL STANDARDS BODY

SASO



الهيئة السعودية للمواصفات والمقاييس والجودة
Saudi Standards, Metrology and Quality Org.



REGIONAL STANDARDS BODY

GSO

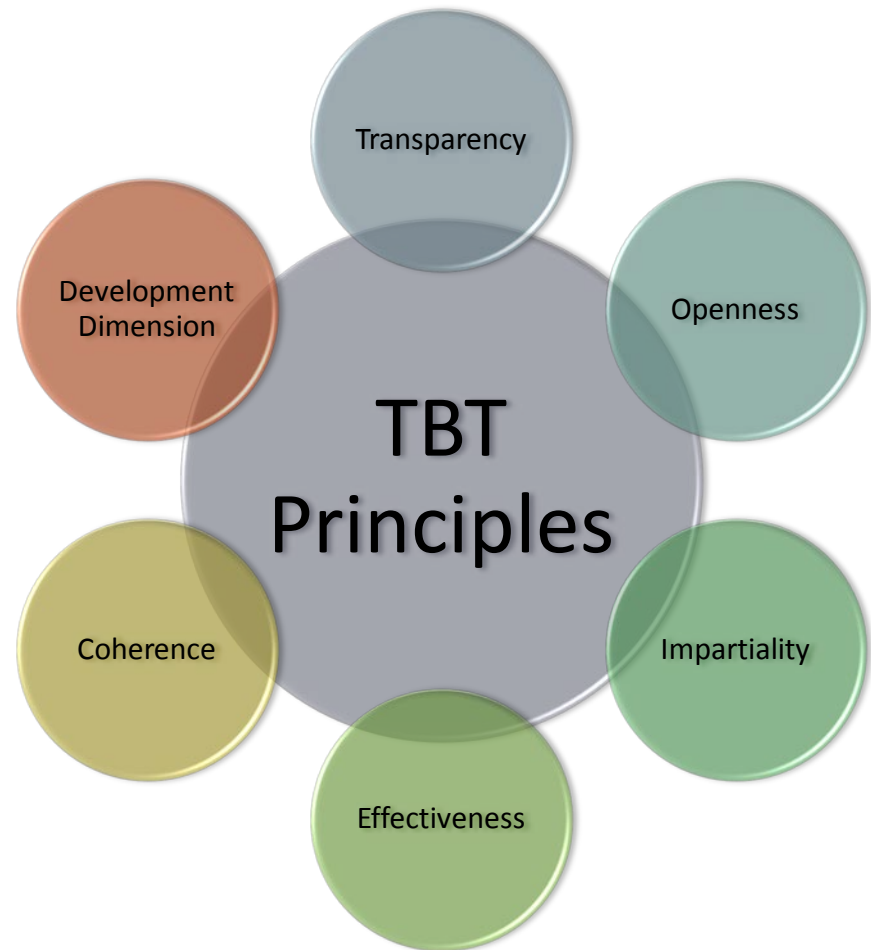


GSO is a the GCC Standardization Organization responsible for:

- Developing Standards and Technical Regulations.
- Developing Conformity Assessment Procedures, legal and industrial Metrology, Quality and other related standardization activities on the GCC level.
- Facilitating regional (GCC countries) as well as international trade through elimination of technical barriers to trade.
- Assisting GCC Industries through harmonization of Standards and Conformity Assessment procedures with trading partners.

STANDARDS DEVELOPMENT PRINCIPLES

- **Transparency** - information is accessible.
- **Openness** - participation is open.
- **Impartiality and Consensus** - decisions through consensus.
- **Effectiveness and Relevance** - respond to regulatory and market needs, and scientific and technological developments in various countries.
- **Coherence** - *avoid duplication of, or overlap with other international standards.*
- **Development Dimension** - Constraints on developing countries to participate is taken into consideration.



SOLAR STANDARDS ACTIVITIES

- **International**

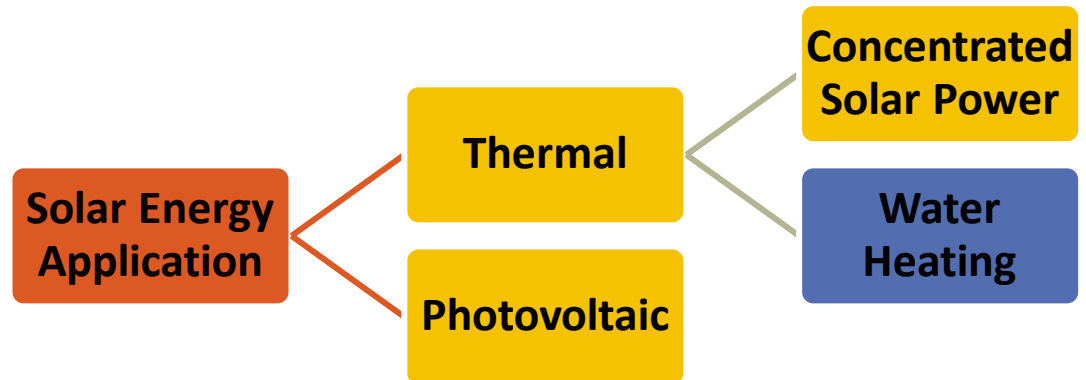
- ISO/TC 180 Technical Committee for Standardization for Solar Energy
- IEC/TC 82 Technical Committee for Standardization of Solar PV Energy
- International PV Quality Assurance Task Force

- **Regional / GSO**

- Nothing

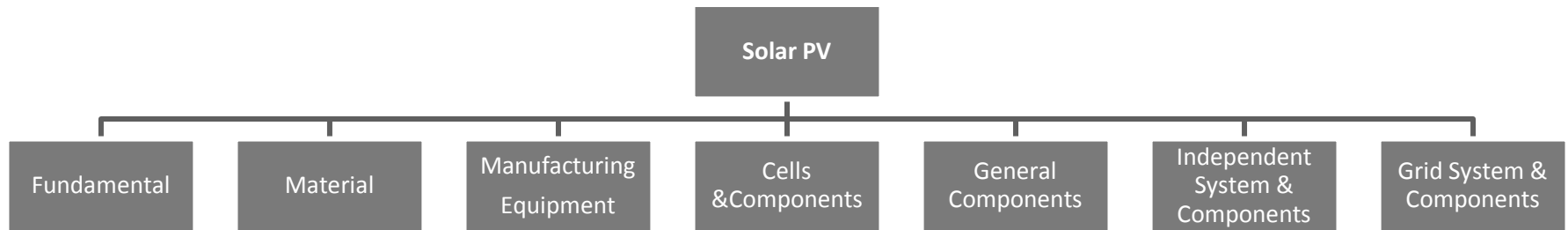
- **National / SASO**

- Nothing



STANDARDS WORK STRUCTURE

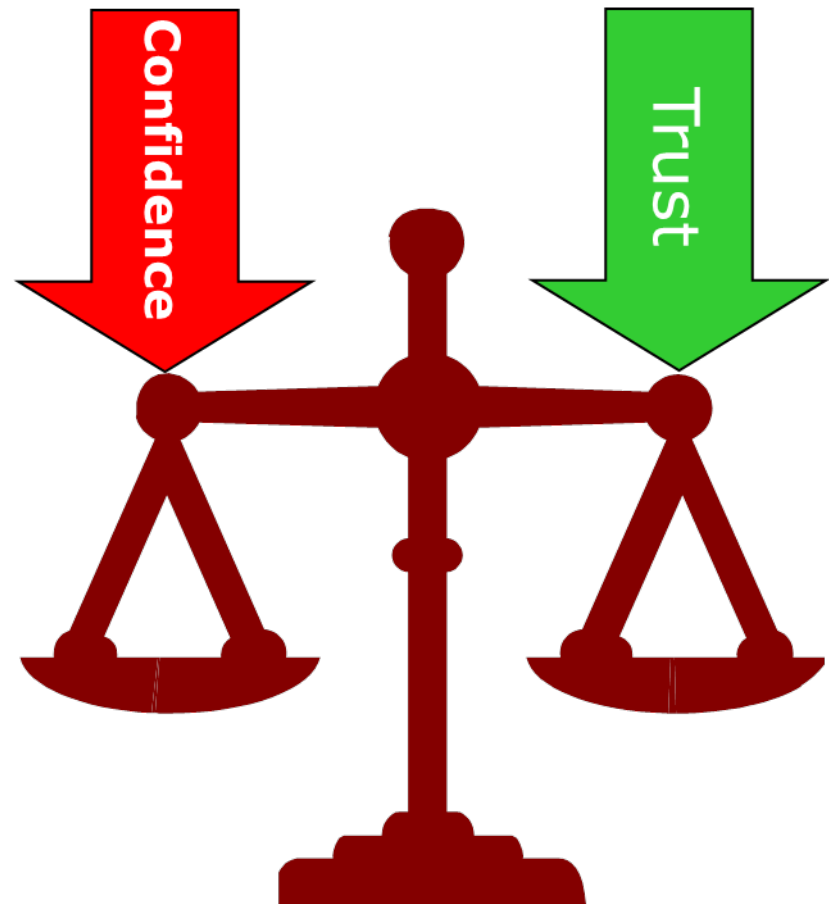
SOLAR PV



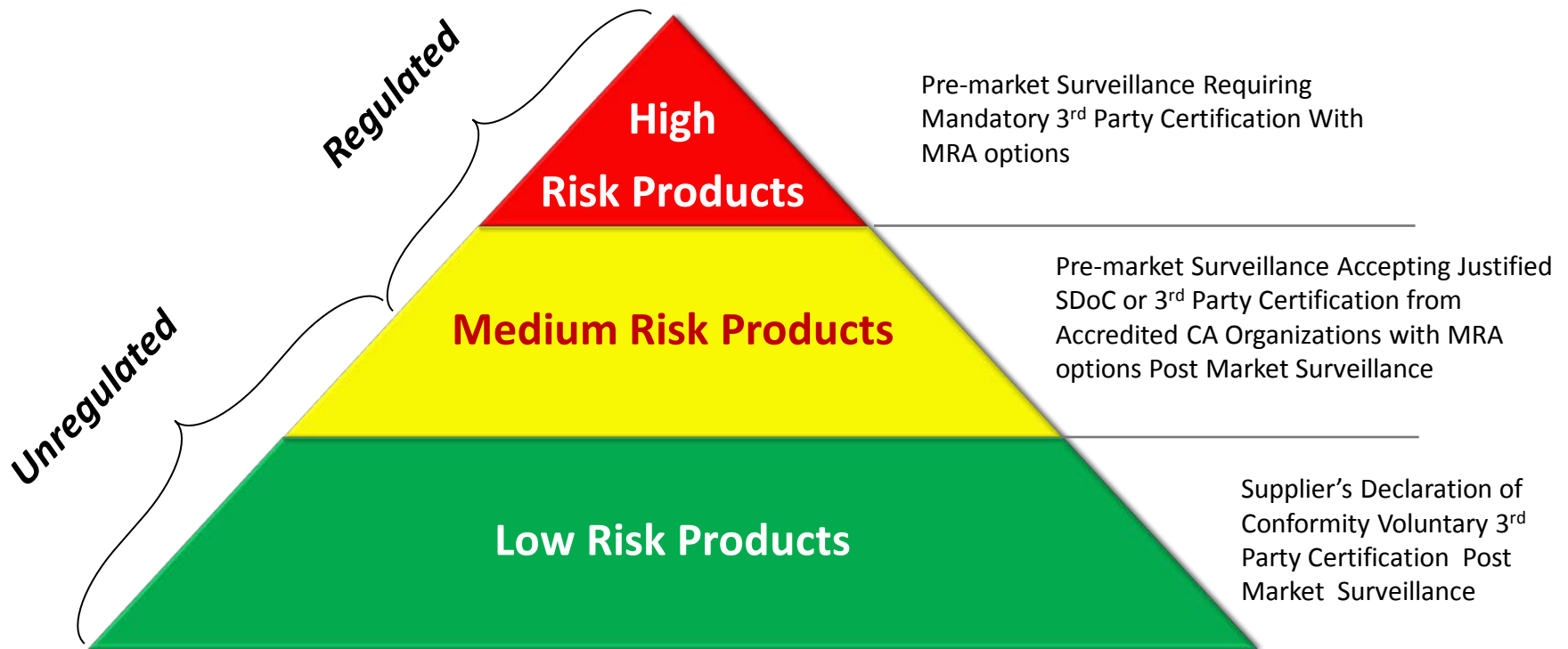
CONFORMITY ASSESSMENT

TRUST BUT VERIFY

- CA provides a way for consumers (and regulators) to gain confidence in the products and services offered by suppliers and differentiate between them
- CA is a way for legitimate suppliers to build confidence in their products or services and differentiate themselves from competitors
- This “process” – known as **Brand Building** – is critical to business survival because it ensures ongoing commerce









CONFORMITY ASSESSMENT RISK-BASED MODEL



Product Classification Pyramid

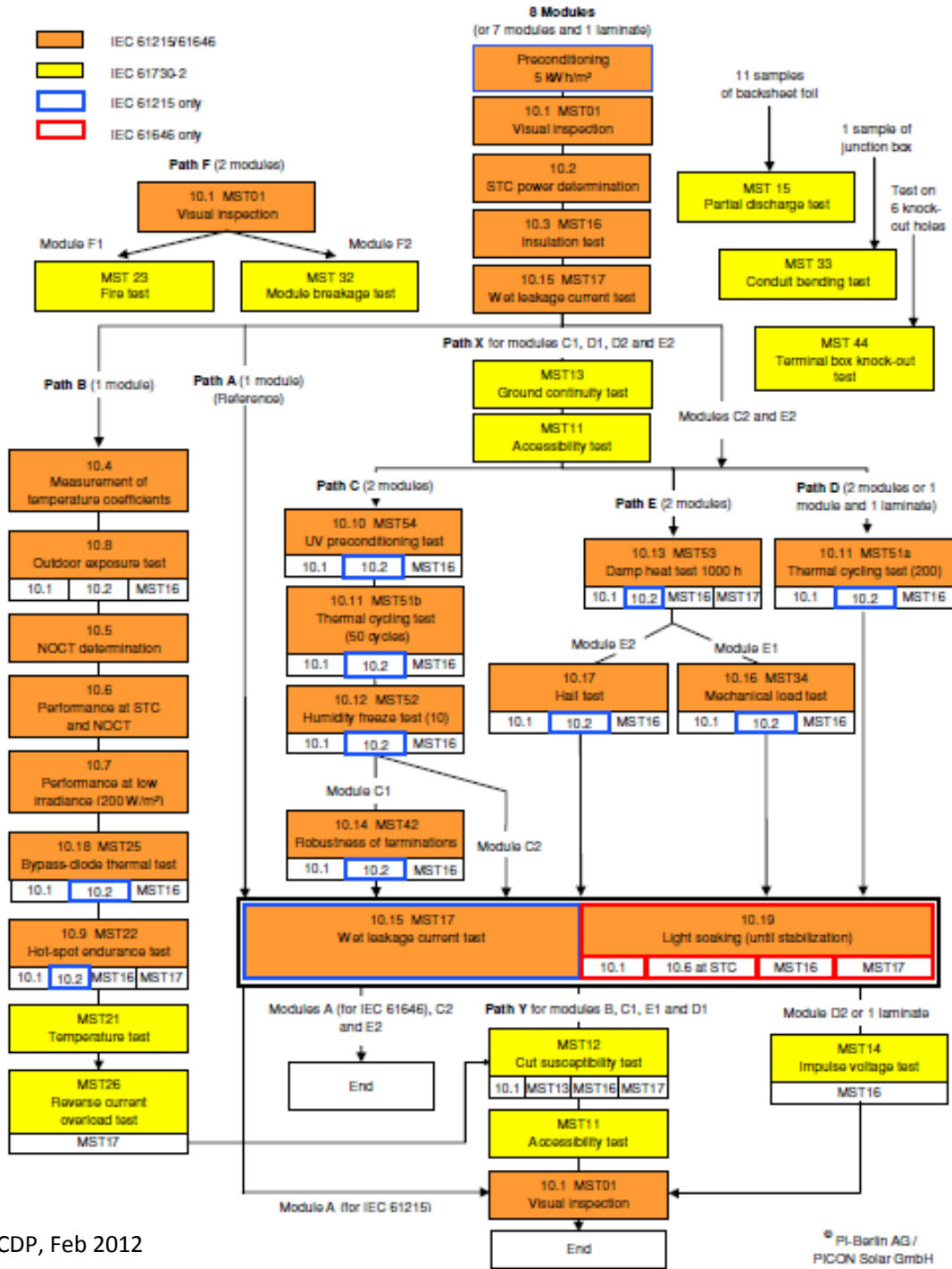
INTERNATIONAL COMPARISON

PV CERTIFICATION SCHEMES

Location	Implementer	Scheme	Rating (1)
Australia	Clean Energy Council (CEC)	IECEE CB scheme	
California	California Energy Commission (CEC)	TEST report according to UL 1703 & IEC standards from lab accredited by ILAC	
Ontario	Ontario FIT program	Local content of 60 % mandatory to become eligible for the FIT program.	
France	Centre Scientifique et Technique du Bâtiment (CSTB)	Technical Experimental Assessment	
China	China General Certification Center (CGC)	Golden Sun Mark Certification	
U.S.	Underwriters Laboratories	UL 1703 & IEC 61730	

(1) Rating is based on PICON Solar GmbH study for NICDP, Feb 2012

TEST SEQUENCE ACCORDING TO IEC 61215 & IEC 61730



(Rating is based on PICON Solar GmbH study for NICDP, Feb 2012)

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- What is needed next
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WHAT IS NEEDED NOW

- **Develop the Law on Renewable Energy**
 - Health, Safety, and the Environment
 - Incentives for Industry
- **Enhance participation of technical experts in standardization activities of solar PV and CSP**
- **Establish a Conformity Assessment scheme that meet the social and economic conditions of the GCC region and industrial development needs**
- **Create Awareness, and**
- **Build capacity in quality infrastructure for solar energy industry**

HOW TO GET THERE

- **Establish a Coordination Program for solar energy testing and certification.**
- **Establish Solar Quality Working Group on performance and reliability testing and certification of CSP and PV solar technologies.**
- **Establish regional solar energy testing laboratory for quality and reliability of solar systems.**

A world map in light gray with a grid. A thick red arc curves over the top of the map. A red location pin is placed in the western United States, with a thin red line extending from it towards the bottom left. The text "STANDARDS ASSOCIATES" is centered over the map.

STANDARDS ASSOCIATES

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THANK YOU

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