



Standards - Improving Quality & Efficiency for your Industry

George Kelly, ASTM E44

What We Will Cover



- About ASTM International
- Standards Development
- Global Acceptance and Use
- E44 PV Standards





Primary Objective:

...is to be the foremost developer and provider of consensus standards, related technical information, and services having globally recognized quality and market relevance

About ASTM International



ASTM International

- 111 year-old international not-for-profit organization that develops consensus standards – including test methods
- Participation open to all - 30,000 technical experts from across the globe

ASTM's Objectives

- Promote public health and safety
- Contribute to the reliability of materials, products, systems and services
- Facilitate national, regional, and international commerce

ASTM Standards

- Voluntary until referenced in a code, regulation or contract.
- Known for high technical quality and usability.
- Over 12,000 ASTM standards for more than 100 industry sectors
- 6,000 ASTM standards used in regulation or adopted as national standards around the world in at least 80 countries

International Standards



WTO / TBT Principles

Transparency

Openness

Impartiality and consensus

Effectiveness and relevance

Coherence

Consideration of developing nations



ASTM Principles

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“Constraints on developing countries, in particular to effectively participate in standards development should be taken into consideration in the standards development process.”

About ASTM International



Forum

- ❖ All stakeholders involved
- ❖ **Every member has equal say**
- ❖ Consensus-based procedures
- ❖ Private and public sector cooperation
- ❖ One vote **per organization**

Examples:

Manufacturers, Regulatory agencies, Associations, Professional societies, Professionals and Consultants, Academia, Research Institutions and laboratories

Balance of Interest

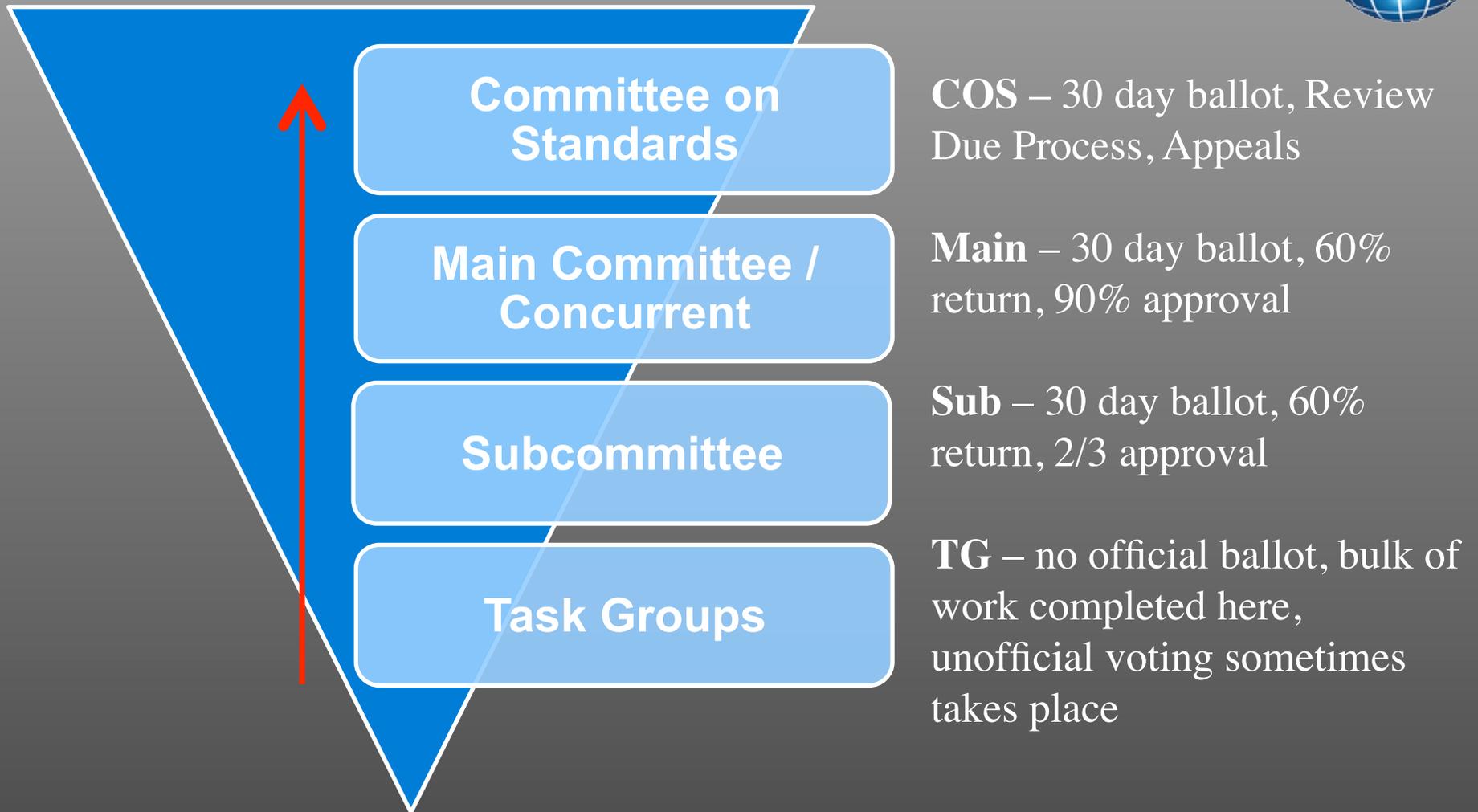


*Technical Committees are balanced.
No excess influence by any interest group.
Ensures market relevance of the content of standards.*

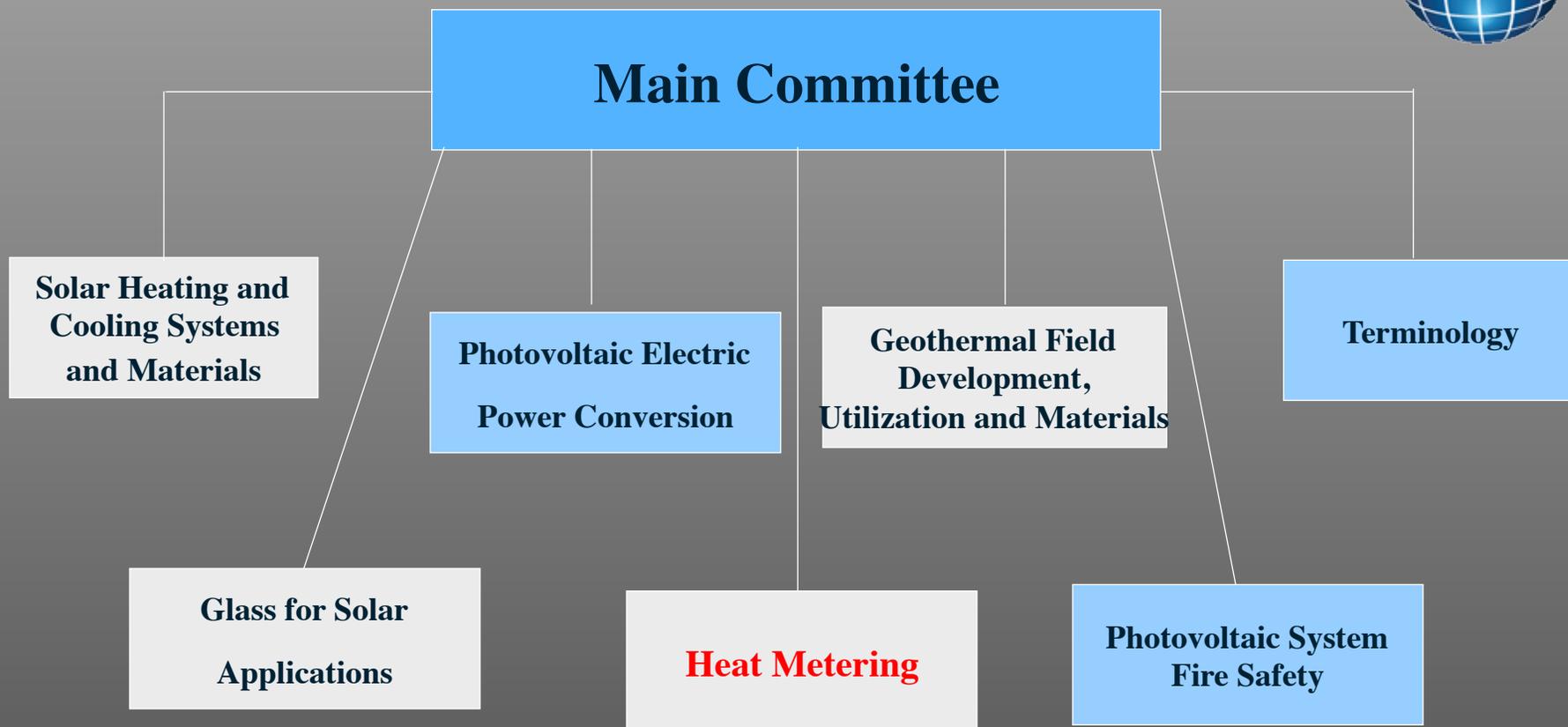
ASTM E44, Solar ABCs, Oct 2014, Las Vegas



ASTM Balloting Scheme



Creating E44 Standards



Subcommittee E44.09

Photovoltaic Electric Power Conversion



Formed in 1978

- ❖ 24 published standards
- ❖ 100+ members

Scope:

- ❖ Evaluating the design and performance of PV power systems.
- ❖ Include all components necessary for
 - conversion,
 - conditioning,
 - storage,
 - control,
 - distribution of power

E44.09 Primary Standards



Key Standards Covering:

- ❖ E1036 Test Methods for Electrical Performance of Nonconcentrator Terrestrial Photovoltaic Modules and Arrays Using Reference Cells
- ❖ E1125 Test Method for Calibration of Primary Non-Concentrator Terrestrial Photovoltaic Reference Cells Using a Tabular Spectrum
- ❖ E2527 Test Method for Electrical Performance of Concentrator Terrestrial Photovoltaic Modules and Systems Under Natural Sunlight
- ❖ E2766 Practice for Installation of Roof Mounted Photovoltaic Arrays on Steep-Slope Roofs
- ❖ E2848 Test Method for Reporting Photovoltaic Non-Concentrator System Performance
- ❖ E2939 Practice for Determining Expected Capacity and Reporting Conditions for Photovoltaic Non-Concentrating Systems **NEW SEPT 2013**

Other Photovoltaic Standards



E44.44 PV Fire Safety

- ❖ E2908 Guide for Fire Prevention for Photovoltaic Panels, Modules, and Systems

E44.01 Terminology

- ❖ E772 Terminology of Solar Energy Conversion

New Standards Under Development

- ❖ WK38365 Test Methods for Ultraviolet Conditioning of Photovoltaic Modules or Mini-Modules Using a Fluorescent Ultraviolet (UV) Lamp Apparatus
- ❖ WK43549 Practice for Installation Commissioning Operation and Maintenance Process (**ICOMP**)

How to Get In the Know?



Become a Member:

- 24 hour online access to ballots, meeting minutes and agenda
- Networking and roster access
- Free copy of the ASTM standards for \$75 annual membership

Notifications:

- Sign up for free email alerts
- Electronic News releases

Task Group Participation:

- Open Meetings
- Online Collaboration Areas

Locations



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