



# **Strategy to Reach the APEC Goal of Doubling Renewable Energy by 2030**

**Terri Walters, Clean Energy Solutions Center**  
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# Clean Energy Solutions Center

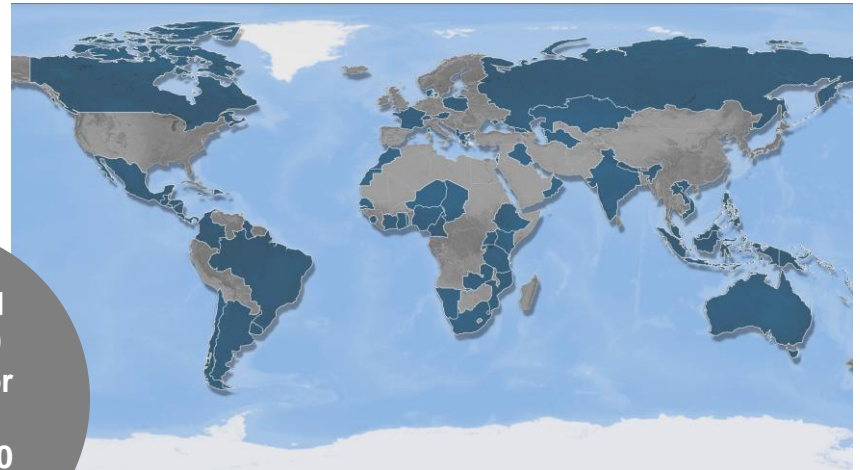
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We connect policymakers to a global network of 60+ energy experts for personalized and responsive technical assistance on **strategies, regulations, standards, financial incentives, and deployment programs** for of clean energy sectors and technologies:

- Energy Access
- Energy Efficiency
- Renewable Energy
- Finance
- Smart Grid
- Transportation
- Utilities

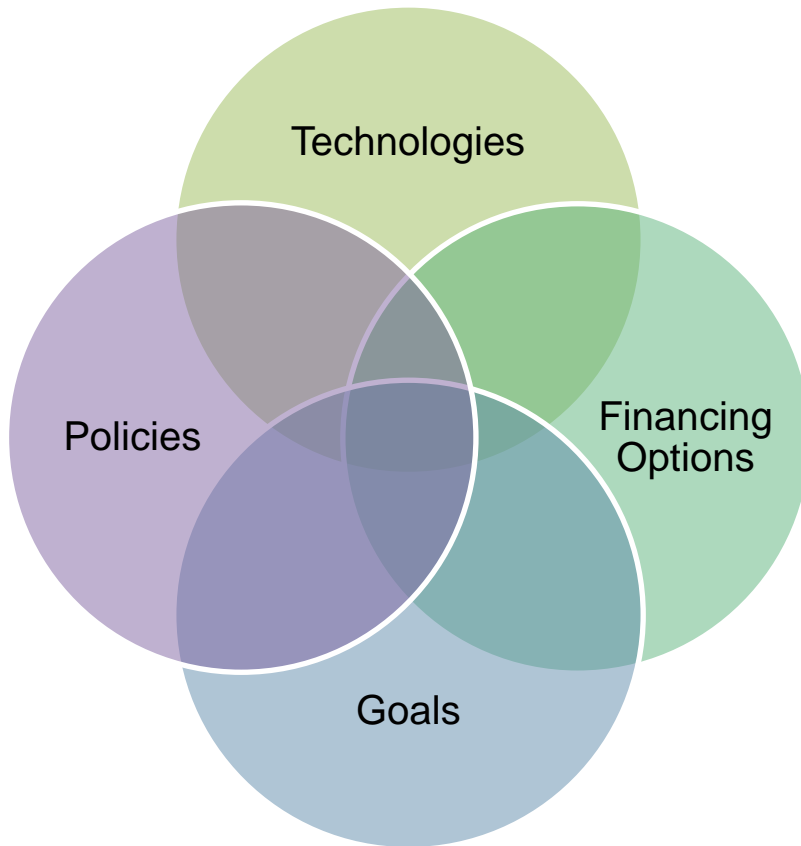
Responded to over 350 requests for assistance from over 80 countries.



**The Clean Energy Solutions Center has committed 120 hours of expert policy support to APEC to develop strategies to double the regional RE usage by 2030.**

# Factors in Expanding Renewables

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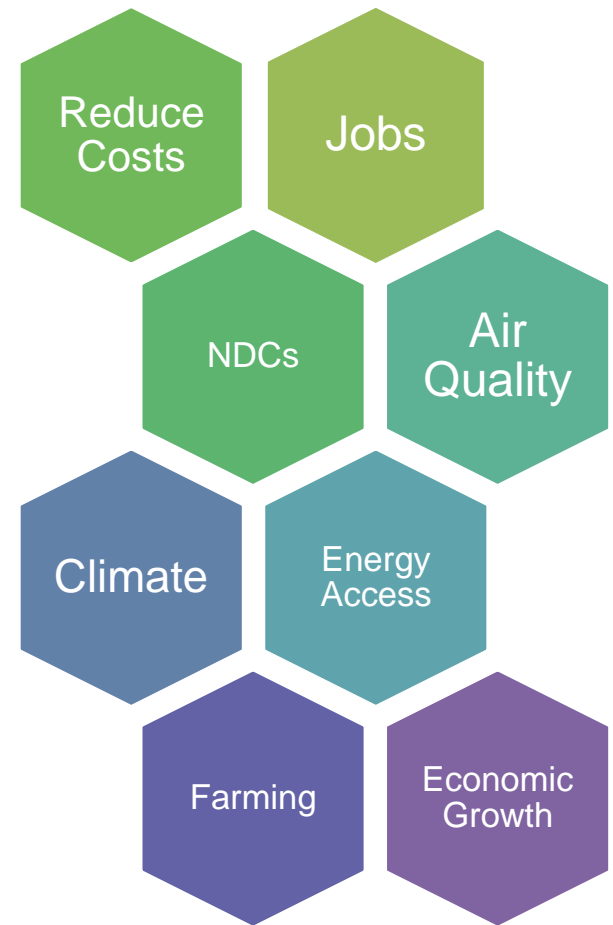


- Expanding RE relies on a number of factors beyond technical potential.
  - These vary by economy and often between national and subnational level.
- Technology options depend on resources and infrastructure
- Policies enable expansion at each level of supply chain, but may vary by market and technology
- Finance policies needed to enable investment. Can mitigate risks, provide incentives and underpin the investment climate. Newer markets have more risk.
- For policymakers to move forward aggressively to solve above, RE expansion must align with broader economy goals.

# Goals: Why Increase Renewables?

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- Renewable energy can provide solutions to a number of issues
  - RE is very broad: important to understand motivations to determine how to proceed
  - Successful policy design is tailored to each specific market and its unique conditions.
- Competing Priorities
  - So many targets via APEC, SE4All, RPS, Paris Agreement, etc.
  - Targets mean very little without enforcement.
  - Look at opportunities to leverage off other initiatives' targets and avoid duplication
- APEC could help economies with programs to use RE in meeting sustainability goals.
  - i.e., fulfilling NDCs, supporting sustainable agriculture or increasing access to clean energy services



# Thoughts on Strategy

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- Each economy will have different RE use, technology and policy opportunities, and coalition of interests to move this forward.
- Region wide goal means that not each economy will contribute equally. And not all sector will contribute equally.
- Think through mechanisms on how more aggressive adopters can get assistance from other economies. Helps everyone meet their goals.
- Motivations for increasing RE use vary dramatically. Change takes political will. Best opportunity is where RE provides a solution to a political or economic problem
- RE Goal is percentage of energy usage, so needs to be closely aligned with energy efficiency policies/projects.



# Overall Planning Process to Increase RE

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- Data Evaluation to Identify Options for RE Technology Portfolio
  - APERC and IRENA modelling lays the groundwork for what is possible
- APEC Strategy Development
- Identify Policy and Financing Mechanisms to Transition Markets to RE
- Studies of grid operations and other RE infrastructure to clarify technical path forward.
- Policy Framework and Program Design and Implementation

# Expanding RE Markets

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- Easiest to move forward on same technology solutions.
- Development of new markets is complex
  - More so if attracting private investment
  - Whole supply chain needs available financing and supportive policies
  - Develop framework for market – standards, certification, training of various market actors

# Initial Thoughts on Strategy

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- Develop a framework for how the overall process will work
- Develop individual action plans for each economy.
  - Identify technology and sector priorities in meeting RE goals
  - Assess related RE targets in each economy and identify opportunities for integration
  - Identify needs and obstacles to expansion of priority markets
    - PPFS/Agriculture markets are an example



# Approach Strategy by Sector

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- Sector approach (both regionally and in each economy) allows policymakers to break RE goal into more manageable pieces
  - Sectors may be governed by different entities
- For each sector, identify potential expansion target and subsector priorities.
  - Identify decision process, including available data, existing regulatory structure, positive and negative incentives RE expansion
  - Gaps assessment: Review the required supply chain in each targeted subsector and identify missing elements in capabilities, technology solutions, regulatory obstacles and available financing.
  - Develop policy and program plan to address each gap.
- Identify opportunities for joint sector approach and bring together experts from both to identify issues/opportunities
  - Electric vehicles power to/from grid
  - Combined heat and power applications

# Electric Sector

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- Opportunities to expand RE on the grid
  - Policies drive use – either incentives or removing barriers:
    - Standards to require certain level
    - FITs or Tenders to encourage RE development
    - Access to grid – including transmission & distribution – for new RE projects
    - Reduction in cost of wind, PV driving development in many areas
  - Grid integration studies can enable safe increase in intermittent RE penetration of grid.
- Assess potential for baseload RE generation and joint thermal/power applications
  - geothermal, ocean, biomass, MSW, anaerobic digestion

# Transportation Sector

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- New technologies are increasing opportunities in transport
  - Define subsectors – autos, fleets, public transport, fleets
  - Infrastructure issues may drive adoption
  - Efficiency is key opportunity (fuel economy standards)
  - Expansion of EV use will require broader RE electric use.
- Identify opportunities to align fuel subsidies with RE expansion priorities.

# Heating and Cooling Sector

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- Policies and programs have largely focused on other sectors in most regions
  - Large opportunities for creativity and regional approaches
- Focus on opportunities within subsectors: residential/commercial different scale than industrial.
  - Ground source heat pump potential vastly underutilized
  - Priorities for roof space for PV vs. solar thermal
- Process heating tackles large existing loads:
  - Opportunities for Combined Heat and Power at many levels

# APEC – A Strategic Approach

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- Recognize competing pressures and targets
  - Align direction of APEC goal with other economy targets and commitments
  - Clarify expectations of Doubling goal
    - It's a moving target based on growth, so consider clarification of each economy's commitment
- Look for specific value APEC can provide
  - Identify and tackle regional obstacles
    - Especially in areas without as much newer areas of technology use
    - Areas not well resolved in region: creative financing models, thermal policies, training & certification, etc.
- Assist each economy with an individual path forward that reflects local priorities

# CESC Support for APEC Doubling RE Goal

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- Strongly support the work of APERC to inform the goal and decisions
- Solutions Center can help develop an outline of strategy
- Improve potential for adoption and success by tailoring RE solutions to each economy
  - Some commonalities, but RE resources and energy needs vary by economy
  - Need to look beyond just energy policy.
    - Especially finance, but many other areas



# THANK YOU!

**Terri Walters**  
**Senior Policy Advisor**  
**Clean Energy Solutions Center**  
[terri@katevanconsulting.com](mailto:terri@katevanconsulting.com)  
**+1 303-817-4733**