Clean energy training in Central Asia – lessons learned and recommendations

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Tetra Tech

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Tetra Tech

- Founded in 1966
- $2.6 billion in revenue in 2013
- 14,000 employees worldwide
- Worked in more than 135 countries in 2012
- Publicly-traded on NASDAQ as TTEK
- Specializes in water, natural resource, environment, infrastructure, energy

Donor-assistance clean energy training in Central Asia as a tool for identifying clean energy investments

TETRA TECH

- EBRD Kazakhstan Energy Efficiency Fund (KazEFF) and follow-up assistance
- UNDP energy efficiency programs – efficiency lighting, energy efficient building standards, efficient district heating systems
- USAID Central Asia Energy Efficiency Support and Climate Change Mitigation Programs
- EU Sustainable energy programme for central Asia: renewable energy sources and energy efficiency (RES & EE)

Need for clean energy training in Central Asia

- Wide gaps between expanding demand and outdated power generation and transmission systems
- Ambitious national plans for improvements in energy efficiency and renewable energy generation – urgent need for bankable EE projects
- Significant lack of trained clean energy professionals in the government and private sectors

How clean energy training is delivered by donor programs

- Stand alone 1-2 days open training events
- Week-long events with pre-tests, completion tests and certification
- Training with on-site practical experience (e.g., express energy audits) and follow-up
- Academic programs (BSc and MSc)

Lessons Learned and Recommendations – Training Mode

- (1) Short-term "stand alone" training is useful when a training subject (e.g., energy efficiency project finance) is just introduced in the beginning but becomes less effective after the initial wave of workshops is completed – overlaps accumulate and audience becomes tired of repetitions
- Recommendation: switch to structured training programs with clear objective and measurable results:
  - Certification training – participants receive one of widely recognized international certificates
  - Practical experience becomes part of training (e.g., energy audits, preparation of investment projects, etc.)

Lessons Learned and Recommendations – include local content

- (2) Theoretical "one-size fits all" training has limited value as it may not be useful in specific national/regional circumstances
- Recommendation: Each clean energy training (except "101") needs to be tailored to local political and business environment to become useful to participants, who want to use it in real life:
  - EE project development training should incorporate:
    - Deep understanding of national regulations (or the lack of such) in the areas of energy efficiency, technical standards and public funding
    - Recognition of national financial sector situation , including prevailing interest rate, capital markets, tax code, country risk profile for investors
    - Understanding of national/local capacity for EE project development and implementation, including technical, financial, legal service providers; technical infrastructure, availability/costs of major equipment categories, etc.

Lessons Learned and Recommendations – rigorous follow-up

- (3) Lack of follow-up/monitoring/evaluation leads to repetition of “generic” training with limited value
- Recommendation: Each training program needs to include rigorous follow-up, evaluation and assistance to trainees in using acquired skills in developing and implementing clean energy projects and measures, including:
  - Assessing what share of trainees actively uses acquired skills (desired levels – over 70%)
  - Inviting trainees to take part in follow-up EE projects to further improve their skills
  - Offering re-training if/when new (advanced) training programs become available.

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