

Renewable Energy for Island Tourism

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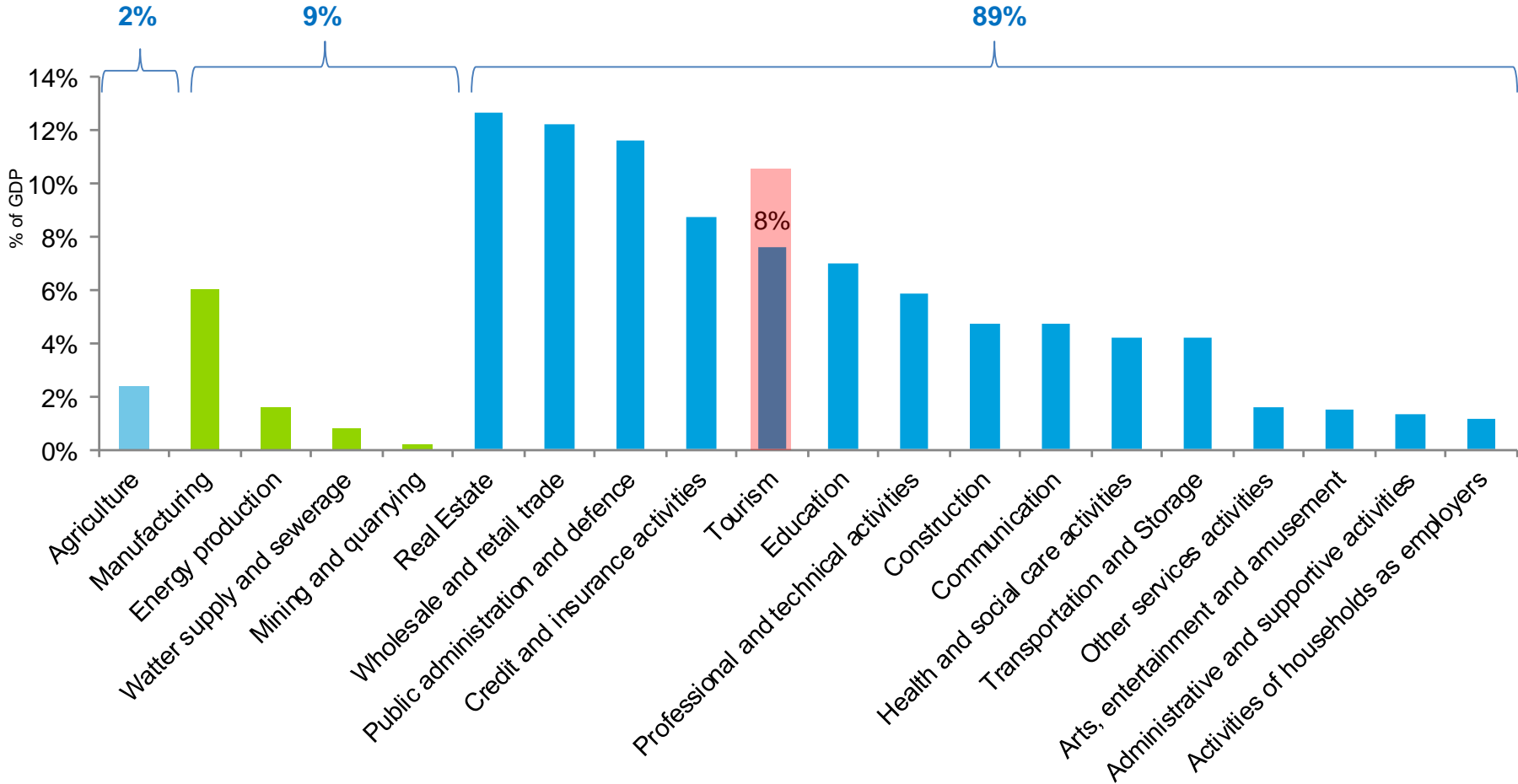
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Cyprus Economy – Importance of the Tourism Sector

% of Gross Domestic Product by sector of origin for 2013



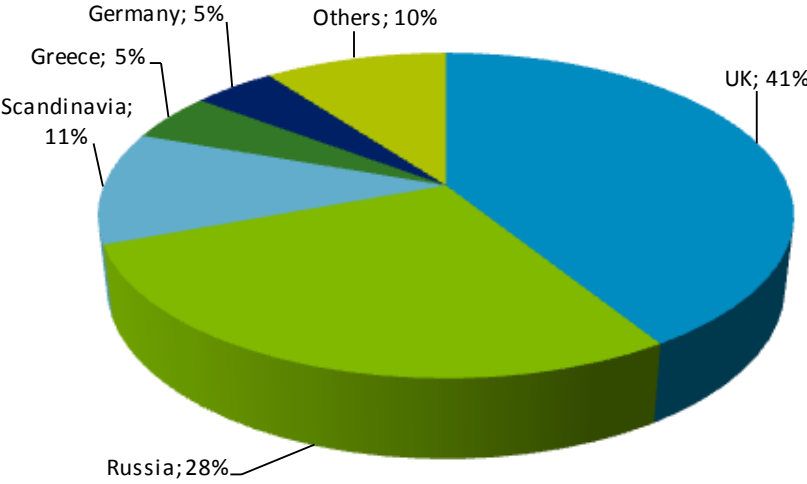
Tourism Sector Analysis

Accommodation industry capacity as at 31 December 2013

Description	Units	Beds
5 Star Hotels	25	11.464
4 Star Hotels	58	21.629
3 Star Hotels	78	15.861
2 Star Hotels	43	3.691
1 Star Hotels	21	1.030
Hotel Apartments	166	17.138
Tourist Villages, Buildings and Apartments	274	12.392
Tourist Villas	124	1.278
Other Facilities	11	194
Total	800	84.677

Source: Cyprus Tourism Organisation website

Tourist Arrivals by Country of Origin for 2013

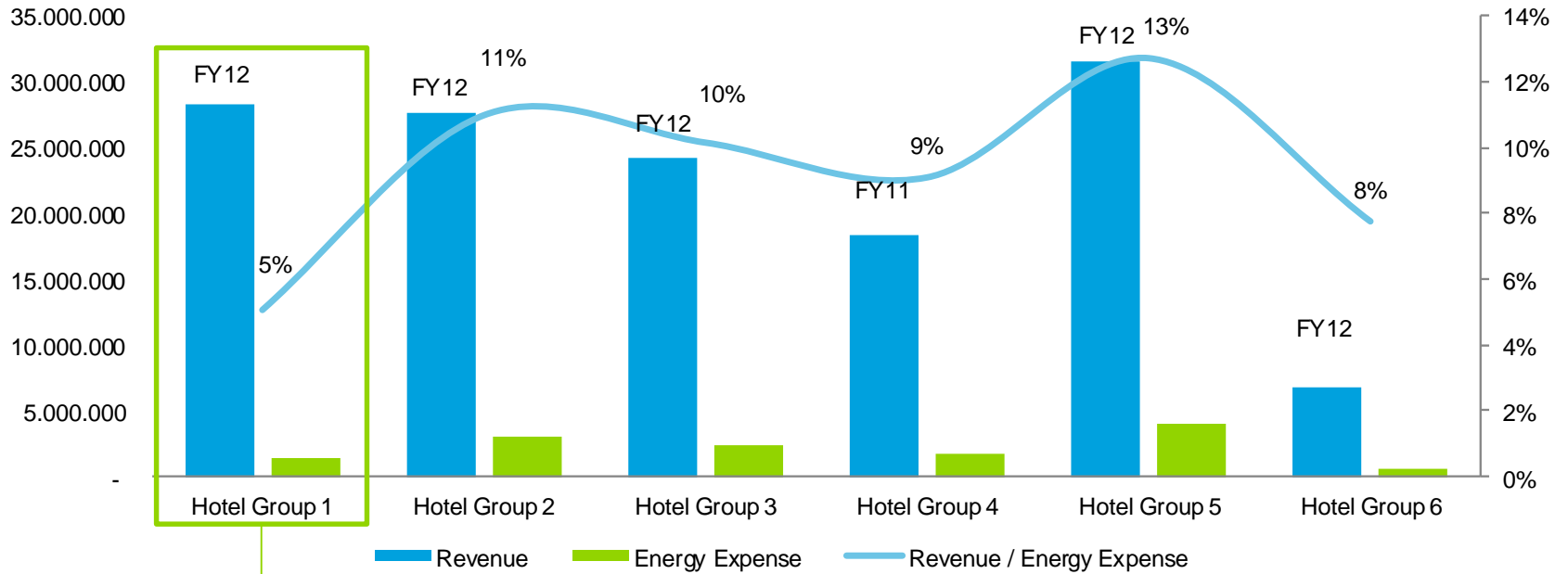


Source: Cyprus Statistical Service, 2013 Data



Effect of Energy Costs on Hotel Performance

Cyprus Hotels - Energy expense to revenue analysis



The use of Geothermal Energy for heating and cooling, has resulted in significant cost savings in energy costs for Hotel Group 1.

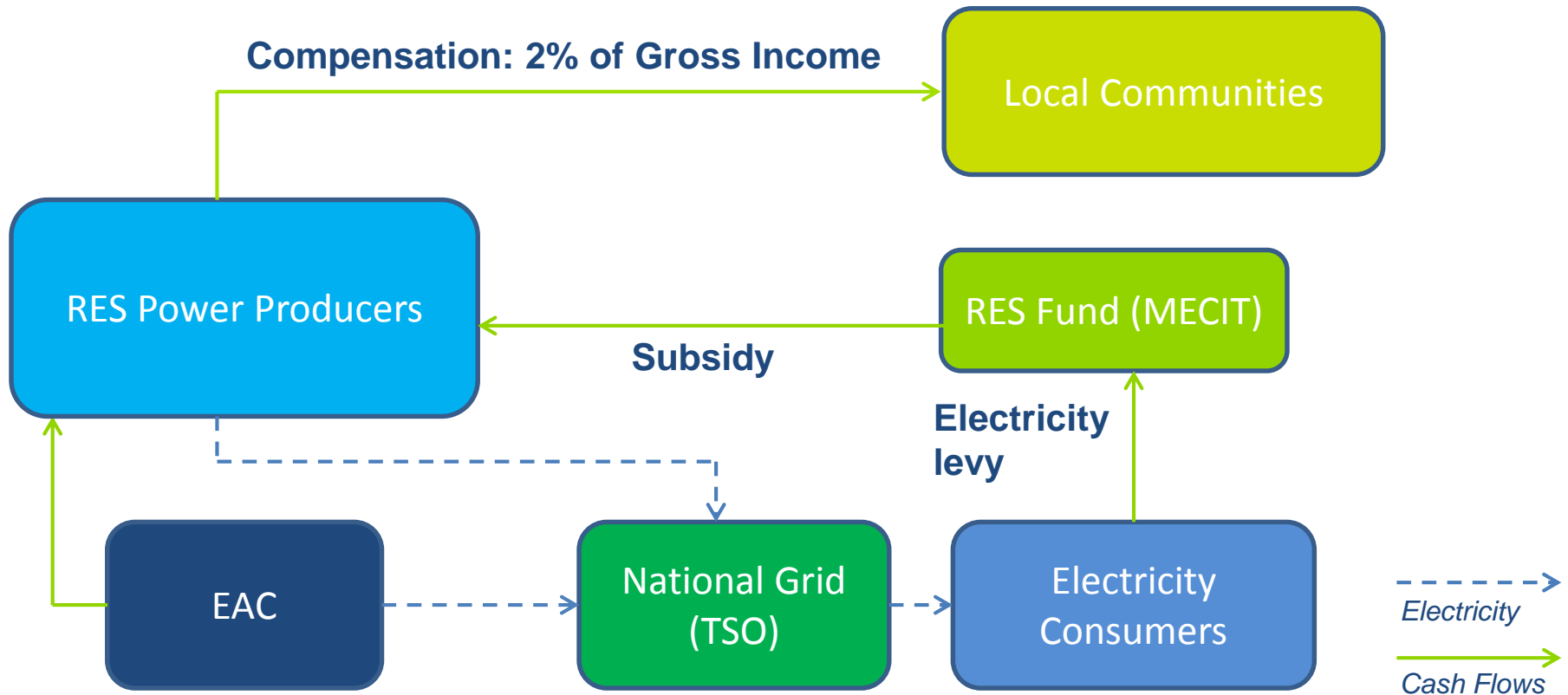
Cyprus RES Framework – 2010 National Action Plan

- ❖ The Government of Cyprus has issued a National Action Plan in 2010 for the promotion of RES and Energy Saving;
- ❖ The National Action Plan is under implementation through various support schemes, the most recent* of which are the following:
 - ✓ Support Scheme for Electricity generation from RES installations. The schemes provide stable feed-in tariffs for 20 years (Wind, PVs, Biomass, CSP).
 - ✓ Support Scheme for heating/cooling from RES. The schemes provide subsidies
 - 15-40% for companies and
 - 40-55% for households/natural persons.(Solar, Geothermal heat pumps, biomass utilization)
 - ✓ Support Scheme for Energy Conservation The schemes provide subsidies
 - 15-40% for companies and
 - 30% for households/natural persons(Thermal insulation, Heat recovery systems, Building Management Systems, etc.)

**2013 Schemes*

Support Scheme for Energy Production – RES Fund

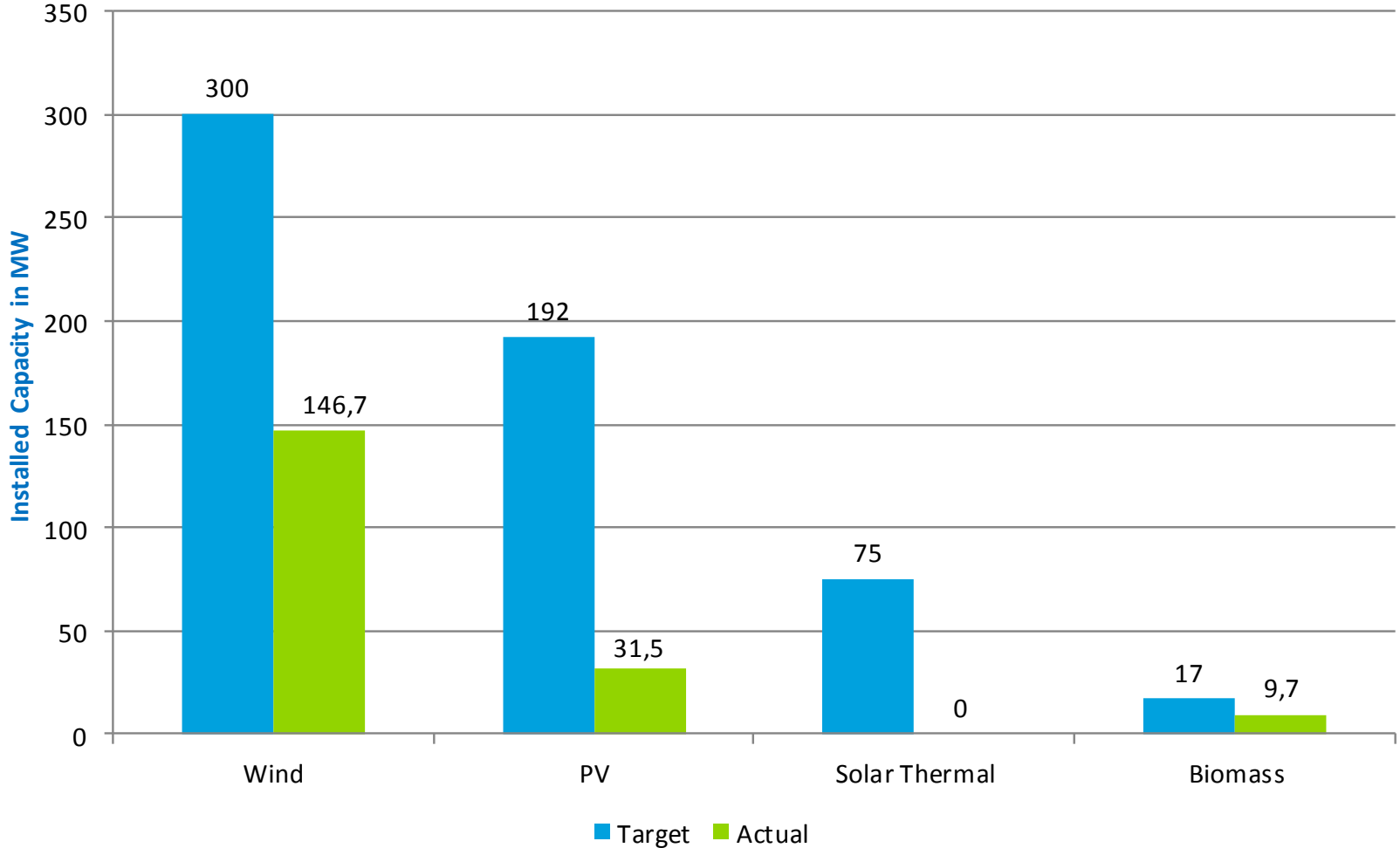
- ❖ A Special Fund has been created aiming at support of RES and Energy Saving investments in Cyprus. The revenues of this fund are coming from the consumers paying an additional levy which is currently at 0,50 eurocents per kWh.



Source: Cyprus Institute of Energy, Energy Service - MECIT

Support Scheme for Energy Production – Installed Capacity

RES Projects in Cyprus – Installed Capacity*



*Until March 2014 – Targets are subject to revision

Source: Cyprus Energy Regulatory Authority

Other schemes for the promotion of RES

- ❖ The Government of Cyprus through its Ministry of Interior, offers the following RES related incentives:
 - ✓ a 5% increase in the building coefficient for the real estate development of certain new real estate projects, if the entire energy requirements of such projects are covered by the use of RES;
 - ✓ implementation of a special scheme, under which foreign investors are offered Citizenship by Exemption in the Republic of Cyprus, provided such investors make direct investments of at least €5m in :
 - Government bonds, or
 - Financial assets of Cyprus companies or Cypriot organisations, or
 - Real Estate, Land Development and Infrastructure Projects, including **RES projects**, or
 - Purchase or Creation or Participation in Cyprus businesses or companies, or
 - Deposits in Cypriot Banks

Or in a combination of the above

The required threshold of the investment is reduced to €2,5m if the investors participate in a Special Collective Investment Scheme with a total investment value of at least €12,5m

Barriers of RES schemes

- ❖ The following factors constitute the main barriers for the promotion and development of RES Projects in Cyprus:
 - ✓ Lack of proper project finance and high financing cost;
 - ✓ Grid stability;
 - ✓ High initial investment costs;
 - ✓ Complex and time consuming licensing procedures; and
 - ✓ Low public awareness.



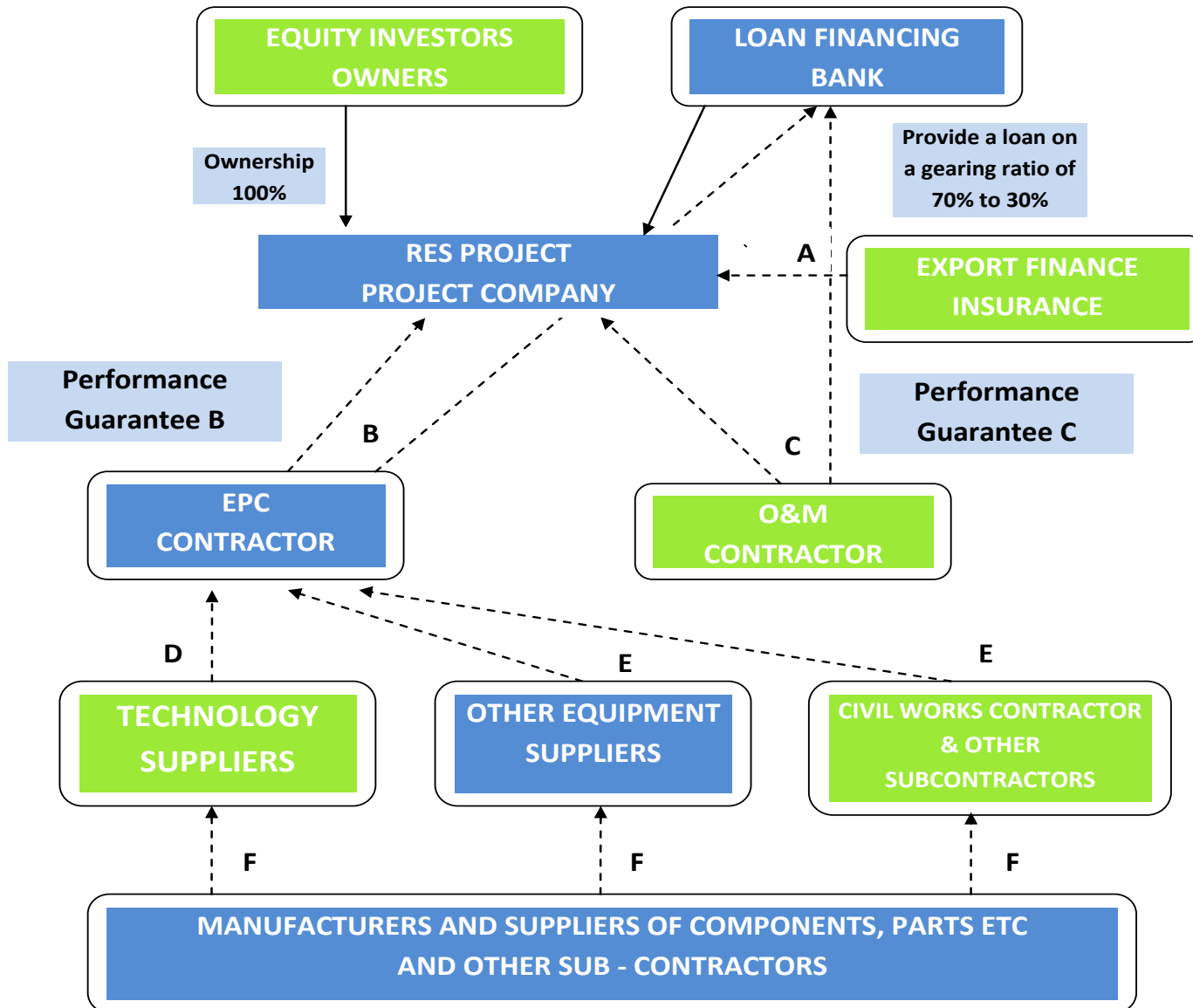
Financing of RES Projects in Cyprus - Issues

- ❖ RES Projects may be financed through the following methods:
 - ✓ Project financing for large scale projects offered by commercial banks, the European Investment Bank and other private financing institutions (i.e. fixed income funds);
 - ✓ Owner equity, private equity funds, listing of project company shares on a regulated stock exchange;
 - ✓ European Financing Programs and Grants (i.e. NER300 or successor schemes); and
 - ✓ Through agreements with Energy Saving Companies (“ESCOs”) – Mainly for Energy Conservation.

- ❖ The major drivers of high financing costs for RES Projects in Cyprus are the following:
 - ✓ The perceived high sovereign risk has a direct effect on the interest rates available to RES Projects; and
 - ✓ The majority of RES Projects in Cyprus are small in scale (i.e. up to 10MW), which does not attract low cost project financing from large international credit institutions



Financing of RES Project - Structure



Financing of RES Projects in Cyprus - Requirements

- ❖ In order to be properly financed, RES Projects should have the following:
 - ✓ Adequate Project Internal Rate of Return (Unleveraged);
 - ✓ Stable Feed-In Tariffs over a long period;
 - ✓ Performance guarantee from the suppliers of the technology and the EPC Contractors (Engineering Procurement and Construction);
 - ✓ Internationally competitive interest rates;
 - ✓ Optimum gearing ratio (i.e. debt to equity ratio) for the project, so as
 - To maintain the loan at levels that can be adequately serviced; and
 - To allow adequate returns for equity investors in the project.
 - ✓ Debt repayment period that is in line with the nature and life of such projects



Financing of RES Projects in Cyprus - Suggestions

- ❖ The European Union, through the European Investment Bank, to provide a RES funding facility to the Government of Cyprus for offering project finance to RES Projects, either through a Governmental Organisation or through commercial banks in Cyprus at competitive terms; Reduction in tariffs and cost to consumer
- ❖ In addition to the above, through the promotion of regulated collective investment schemes for RES projects, it may be possible to:
 - Accumulate more equity for investments
 - Accumulate more small and medium size projects under such a scheme and
 - Loan/Debt financing more easy to be secured.



Grid Stability Issues and Recommendations

- ❖ The national grid system in Cyprus sets technical limitations on the number of RES Projects that may be (accommodated) / connected to it:
 - ✓ Limitations due to the lack of interconnections to the trans-European electricity networks;
 - ✓ Limitation to the amount of intermittent renewable energy that may be connected to the electricity system;
- ❖ The above issues may be overcome by:
 - ✓ Promoting the private initiative of installing an electrical interconnection between Cyprus, Greece and Israel known as the «Euro Asia Interconnector» project;
 - ✓ Implementing a smart meter/smart grid roll out by the Electricity Authority of Cyprus (i.e. Advanced Metering Infrastructure);
 - ✓ Considering the use of a pump-storage system;
 - ✓ Promoting the development of RES Projects that facilitate the storage of energy and/or projects that have continuous production on a 24-hour basis;
 - ✓ Promoting the installation of small-to-medium size units spread throughout the grid for better management, although this may have a negative effect on the ability to obtain competitive financing for such projects, unless they are under a collective investment scheme.

Other recommendations

- ❖ The Government may set additional criteria for the licensing of new tourism projects, that will require such projects to cover a certain percentage of their energy needs through the use of RES i.e. similar to an earlier scheme for covering the water needs of Golf Courses through investments in desalination plants.
- ❖ Such projects will not necessarily have to have their own RES installations, but they should be able to subscribe or have a commitment to purchase from a larger and more efficient RES station or even subscribe in a fund which will invest in RES.
- ❖ The new RES Projects that will result from the above will aim to cover the additional demand created from new tourism projects and will not compete with other existing projects.

