


	<b>Description: UNIFIL Solar Panels</b>
<p><b>Picture or Logo</b></p>	
<p><b>Purchasing Authority</b></p>	<p>Procurement Action by UNIFIL Procurement Section Requisitioned by CITS (Communications and IT systems).</p>
<p><b>Contract Title</b></p>	<p>Solar Panels. Purchase of Solar Panels with accessories 9FIL-200426 &amp; 9FIL-200725 9FIL-200426 was issued on 10 Dec 08 and received on 26 Feb 09 9FIL-200725 was issued on 0 May 09 with delivery due date on 25 Sep 09.</p>
<p><b>Sustainability Criteria</b></p>	<p>Following instructions from UN HQ for 2008/2009, Missions should explore the possibility of using alternative environmentally friendly power sources for CITS equipment. Several forms of "eco Friendly" electricity production equipment are in the market now, some of them quite promising while some others still on preliminary research status. Most Missions should target to generate at least 15% of the total electricity used by Communications and IT systems by non-fossil fuel energy sources by the end of FY08/09".</p>
<p><b>Cost Implications</b></p>	<p>PO# (9FIL-200426) US\$226,650.00 PO# (9FIL-200725) US\$253,325.00 In a total of US\$479,975.00. The cost of 1KW produced by Solar Panels vrs. Diesel Generator: Calculation for Solar Panels provided by the CITS:</p> <p>The calculations is purely theoretical and based on data for Athens (No data available for Lebanon in the calculator used), the output will increase the further south the PV panels is installed. The value is very conservative, it is expected that the cost recovery will be around 15 years, the calculated cost recovery is 21.8 Years.</p> <p>The calculations are based on 3 PV panel banks, total of 100 PV panels.</p> <ul style="list-style-type: none"> <li>-The total DC KW rated output is 19.95 Kw</li> <li>-The DC to AC conversion factor used is 0.77</li> <li>-This will give an effective output 15.4 Kw (This will most like increase, due to more effective inverters)</li> <li>-The annual Energy production is calculated to be 31687 KW/h (Base on 6.12 KWh/m2/day)</li> </ul>

	<p>-The cost to produce 1 Kw/h in UNIFIL is at the moment 25.6 Cent US</p> <p>-The calculated annual return is 25.6 C x 31687 KW/h = 8100 \$US</p> <p>The power output warranty for these PV panels is 20 Years the total return in 20 years (assuming no changes to fuel cost and any other variables) = 162235 \$ US</p> <p>-----</p> <table> <tr> <td>The cost of 100 PV panels is</td> <td>127.500 \$US</td> </tr> <tr> <td>4 x Inverter is</td> <td>18.000 \$US</td> </tr> <tr> <td>6 x Solar trackers</td> <td>31.800 \$US</td> </tr> </table> <p>Total system cost is: 177.300 \$US.</p>	The cost of 100 PV panels is	127.500 \$US	4 x Inverter is	18.000 \$US	6 x Solar trackers	31.800 \$US
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<b>Challenges &amp; Solutions</b>	Not available.						
<b>Benefits for the Organization</b>	<p>The expansion of the CITS UNIFIL solar energy production capacity will assist UNIFIL CITS to reach its renewable power generation target.</p> <p>Solar energy is also an important energy source when other energy systems fail and will therefore form part of the Section's redundancy capacity.</p> <p>The exact percentage which would be gained after installation, however cannot be determined at this point and only can be reported once usage statistics is available to conduct such analyses.</p>						
<b>Lessons Learned</b>	<p>Inability of Systems Contract with Danimex to satisfy the current Mission's requirement.</p> <p>Realization that not only CITS, but entire Organisation should take greening initiatives more seriously.</p>						
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