

**പതിനാലാം കേരള നിയമസഭ**

**അഞ്ചാം സമ്മേളനം**

നക്ഷത്രചിഹ്നമിട്ട ചോദ്യം നമ്പർ : 336

11.05.2017 ൽ മറുപടിയ്ക്ക്


**സൗരോർജ്ജ നയം**

ചോദ്യം		ഉത്തരം
<p>ശ്രീ. എൻ. വിജയൻ പിള്ള " കെ. സുരേഷ് കുറുപ്പ് " പി.ടി.എ. റഹീം " ജോൺ ഫെർണാണ്ടസ്</p>		<p>ശ്രീ. എം.എം.മണി (വൈദ്യുതി വകുപ്പു മന്ത്രി)</p>
<p>(എ) സംസ്ഥാന സൗരോർജ്ജ നയത്തിന്റെ കാതൽ വ്യക്തമാക്കാമോ;</p>	<p>(എ)</p>	<p>സംസ്ഥാനത്തെ സൗരോർജ്ജ ഉല്പാദനം വർദ്ധിപ്പിക്കുകയെന്ന ലക്ഷ്യത്തോടെ 25.11.2013-ലെ സ.ഉ(പി)നം.49/2013/ഉ.വ പ്രകാരം സൗരോർജ്ജ നയം രൂപീകരിച്ചിട്ടുണ്ട്. ഉത്തരവിന്റെ പകർപ്പ് അനുബന്ധമായി ചേർത്തിരിക്കുന്നു. സംസ്ഥാനത്തിന്റെ സൗരോർജ്ജ സാധ്യതകൾ പരമാവധി പ്രയോജനപ്പെടുത്തുന്നതിനു വേണ്ടിയാണ് കേരളത്തിന്റെ സൗരോർജ്ജ നയം പ്രഖ്യാപിച്ചിട്ടുള്ളത്. സൗരോർജ്ജ നയത്തിൽ 2017 ഓടെ 500 മെഗാവാട്ടും 2030 ഓടെ 2500 മെഗാവാട്ടും സൗരോർജ്ജ വൈദ്യുത ഉല്പാദനശേഷിയാണ് ലക്ഷ്യമിട്ടിട്ടുള്ളത്. നിലവിൽ വീടുകളിലും മറ്റും ഉപയോഗിക്കുന്ന ഇൻവർട്ടറുകൾ സൗരോർജ്ജത്തിലേക്ക് മാറ്റുക, ഉപയോഗയോഗ്യ മല്ലാത്ത പ്രദേശങ്ങളിലും, കനാലുകൾ, ജലസംഭരണികൾ, ക്യാനികൾ തുടങ്ങിയവയിലും സൗരോർജ്ജ പ്ലാന്റുകൾ സ്ഥാപിക്കുക, സൗരോർജ്ജ പദ്ധതികൾ നടപ്പാക്കുന്ന സ്ഥാപനങ്ങളെ എംപാനൽ ചെയ്യുക, സൗരോർജ്ജ സംവിധാനങ്ങളുടെ ബാലൻസ് ഓഫ് സിസ്റ്റം (പാനൽ ഒഴികെയുള്ള ഉപകരണങ്ങൾ) നിർമ്മിക്കാൻ പ്രോത്സാഹനം, സൗരോർജ്ജ വൈദ്യുതി ഉല്പാദന സംവിധാനം, സൗരോർജ്ജ വാട്ടർ ഹീറ്ററുകൾ, സൗരോർജ്ജ സ്റ്റീം പാചകം എന്നിവ അനുയോജ്യമായ സ്ഥലങ്ങളിൽ നിർബന്ധമാക്കുക, സൗരോർജ്ജ പ്രോജക്ടുകളുടെ ഫണ്ടിംഗിനുള്ള വഴികൾ തുടങ്ങി ഒട്ടനവധി കാര്യങ്ങൾ സൗരോർജ്ജ നയത്തിൽ പ്രതിപാദിക്കുന്നുണ്ട്. 2000-നും 3000-നും ഇടയിൽ ചതുരശ്ര അടി തറ വിസ്തീർണ്ണമുള്ള എല്ലാ പുതിയ ഗാർഹിക കെട്ടിടങ്ങളിലും 500 വാട്ട് സോളാർ വൈദ്യുതി പ്ലാന്റും 3000-നും മുകളിൽ</p>

		<p>ചതുരശ്ര അടി തറ വിസ്തീർണ്ണമുള്ളവയിൽ ചുരുങ്ങിയത് 1000 വാട്ട് സോളാർ പവർ പ്ലാന്റും സൗരോർജ്ജ നയം വിഭാവനം ചെയ്യുന്നുണ്ട്.</p> <p>2000 സ്ക്വയർ ഫീറ്റിൽ അധികം തറ വിസ്തീർണ്ണമുള്ള ഗാർഹിക കെട്ടിടങ്ങളിൽ സൗരോർജ്ജ ഉപയോഗം നിർബന്ധമാക്കാനാണ് ഉദ്ദേശിക്കുന്നത്. 2000 മുതൽ 3000 സ്ക്വയർ ഫീറ്റ് തറ വിസ്തീർണ്ണമുള്ള കെട്ടിടങ്ങളിൽ കുറഞ്ഞത് 100 ലിറ്റർ സൗരോർജ്ജ വാട്ടർ ഹീറ്ററും, 500 വാട്ട് സൗരോർജ്ജ വൈദ്യുതി സംവിധാനവും 3000-ത്തിനകം സ്ക്വയർ ഫീറ്റ് തറ വിസ്തീർണ്ണമുള്ള കെട്ടിടങ്ങളിൽ 100 ലിറ്റർ വാട്ടർ ഹീറ്ററും 1000 വാട്ട് സൗരോർജ്ജ വൈദ്യുത സംവിധാനവും സൗരോർജ്ജ നയം നിഷ്കർഷിക്കുന്നു. സൗരോർജ്ജ നയം സംബന്ധിച്ചുള്ള പൂർണ്ണ വിവരങ്ങൾ അനെർട്ടിന്റെ വെബ്സൈറ്റിൽ (<a href="http://www.anert.gov.in">www.anert.gov.in</a>) ലഭ്യമാക്കിയിട്ടുണ്ട്.</p>
(ബി)	<p>വീടുകളുടെ മേൽക്കൂരയിൽ സോളാർ പാനൽ സ്ഥാപിച്ച് 1000 മെഗാവാട്ട് വൈദ്യുതി ഉത്പാദിപ്പിക്കാനുള്ള പദ്ധതിയുടെ പുരോഗതി അറിയിക്കുമോ; സർക്കാർ ഓഫീസ് കെട്ടിടങ്ങളുടെ മുകളിൽ സൗരോർജ്ജ പാനൽ സ്ഥാപിച്ച് വൈദ്യുതി ഉത്പാദനം സാധ്യമായിട്ടുണ്ടോ;</p>	<p>(ബി) കേന്ദ്ര-സർക്കാർ സബ്സിഡിയോടെ 10000 വീടുകളിൽ സോളാർ ഓഫ് ഗ്രിഡ് പവർ പ്ലാന്റുകൾ സ്ഥാപിക്കുന്ന പദ്ധതിയായ 10000 റൂഫ് ടോപ്പ് സോളാർ പവർ പ്ലാന്റ് പദ്ധതി പ്രകാരം 9837 വീടുകളിൽ 1 കിലോവാട്ട് ശേഷിയുള്ള ഓഫ് ഗ്രിഡ് സോളാർ പവർ പ്ലാന്റുകൾ സ്ഥാപിച്ചു നൽകി. (ആകെ 9.837 മെഗാവാട്ട് സ്ഥാപിതശേഷി).</p> <p>2016-17 സാമ്പത്തിക വർഷം അനെർട്ട് വഴി 11.8 മെഗാവാട്ട് വൈദ്യുതി, സൗരോർജ്ജ പവർ പ്ലാന്റുകൾ വഴി ഉല്പാദിപ്പിക്കുന്ന പദ്ധതികൾക്ക് തുടക്കമിട്ടിട്ടുണ്ട്.</p> <p>സർക്കാർ ഓഫീസ് കെട്ടിടങ്ങളുടെ മുകളിൽ സോളാർ പാനലുകൾ സ്ഥാപിച്ച് വൈദ്യുതി ഉത്പാദിപ്പിക്കുന്നതിനുള്ള പ്രാരംഭ പ്രവർത്തനങ്ങൾ കെ. എസ്. ഇ. ബി ആരംഭിച്ചിട്ടുണ്ട്. കോഴിക്കോട് ജില്ലാപഞ്ചായത്ത് 44 കെട്ടിടങ്ങളുടെ മുകളിൽ 480 കിലോവാട്ടും കണ്ണൂർ ജില്ലാപഞ്ചായത്ത് 31 കെട്ടിടങ്ങളിൽ 670 കിലോവാട്ടും കൊല്ലം ജില്ലാപഞ്ചായത്ത് ഫാം ഹൗസിൽ 5.5 കിലോവാട്ടും ആറ്റിങ്ങൽ മുനിസിപ്പാലിറ്റിയുടെ കെട്ടിടങ്ങളിൽ 27 കിലോവാട്ടും സോളാർ പാനലുകൾ സ്ഥാപിച്ച് വൈദ്യുതി ഉല്പാദിപ്പിക്കുന്നതിന് കേരള സ്റ്റേറ്റ് ഇലക്ട്രിസിറ്റി ബോർഡ് ലിമിറ്റഡിനെ ചുമതലപ്പെടുത്തി</p>

		<p>ആവശ്യമായ ഫണ്ട് നൽകിയിട്ടുണ്ട്.</p> <p>അനെർട്ട് മുഖേന സർക്കാർ ഓഫീസ് കെട്ടിടങ്ങളുടെ മുകളിൽ സൗരോജ്ജ പാനൽ സ്ഥാപിച്ച് വൈദ്യുതി ഉല്പാദനം സാധ്യമായിട്ടുണ്ട്.</p> <p>അനെർട്ടിന്റെ ആഭിമുഖ്യത്തിൽ ഡെമോൺ സ്റ്റേഷൻ-ഡെപോസിറ്റ്-കൺസൾട്ടൻസി സ്കീമുകളിലായി ആകെ 589 കിലോവാട്ട് സ്ഥാപിത ശേഷിയുള്ള സൗരോജ്ജ പ്ലാന്റുകൾ സ്ഥാപിച്ച് കഴിഞ്ഞിട്ടുണ്ട്.</p>
(സി)	<p>അക്ഷയ സ്ത്രോതസ്സുകളിൽ നിന്നുള്ള ഊർജ്ജമാത്പാദനത്തിൽ അനെർട്ടിന്റെ പങ്ക് എന്താണെന്ന് അറിയിക്കാനോ; കഴിഞ്ഞ ബജറ്റിൽ ഈ ആവശ്യത്തിനായി അനെർട്ടിന് നീക്കിവച്ച തുക ഉപയോഗിച്ചുണ്ടാക്കിയ നേട്ടങ്ങൾ വിശദീകരിക്കാനോ;</p>	<p>(സി)</p> <p>അക്ഷയ ഊർജ്ജ സ്ത്രോതസ്സുകളായ സൗരോജ്ജം, ജൈവോർജ്ജം എന്നിവ ഉപയോഗിച്ച് പ്രവർത്തിക്കുന്ന ഉപകരണങ്ങളുടെയും, സംവിധാനങ്ങളുടെയും പ്രചരണവും, സബ്സിഡിയോടു കൂടിയുള്ള നിർമ്മാണ പ്രവർത്തനങ്ങളും അനെർട്ട് മുഖേന നടന്നുവരുന്നു. കൂടാതെ കാറ്റിൽനിന്നും വൈദ്യുതി ഉത്പാദിപ്പിക്കുന്നതിന് സാധ്യതയുള്ള പ്രദേശങ്ങളിൽ സംരംഭകർക്ക് സാങ്കേതിക അനുമതിയും അനെർട്ട് മുഖേനയാണ് നൽകിവരുന്നത്. അനെർട്ട് മുഖേന 2016-17 വർഷത്തെ പദ്ധതിയുടെ ഭാഗമായി 2 കിലോവാട്ട് മുതൽ 10 കിലോവാട്ട് വരെ ശേഷിയുള്ള ശൃംഖലാബന്ധിത സോളാർ പവർ പ്ലാന്റുകൾ (ആകെ ശേഷി - 5000 കിലോവാട്ട്) കേന്ദ്ര-സംസ്ഥാന സർക്കാർ സബ്സിഡിയോടെ വ്യക്തികൾക്കും, സ്ഥാപനങ്ങൾക്കും സ്ഥാപിച്ചു നൽകാനും, 1 കിലോവാട്ട് മുതൽ 5 കിലോവാട്ട് വരെ ശേഷിയുള്ള ഓഫ് ഗ്രിഡ് സോളാർ പവർ പ്ലാന്റുകൾ (ആകെ ശേഷി - 6400 കിലോവാട്ട്) കേന്ദ്ര-സംസ്ഥാന സർക്കാർ സബ്സിഡിയോടെ സ്ഥാപിച്ചു നൽകാനുമുള്ള പദ്ധതികൾ നടപ്പിലാക്കി വരുന്നു. കൂടാതെ ഇടുക്കി, പാലക്കാട്, വയനാട് ജില്ലകളിലെ ഒറ്റപ്പെട്ട വിദൂരസ്ഥലങ്ങളായ 2000 വീടുകളിൽ സോളാർ വൈദ്യുതീകരണ പ്രവർത്തനങ്ങൾ നടന്നുവരുന്നു.</p> <p>5000 കിലോവാട്ട് ശേഷിയുള്ള ശൃംഖലാബന്ധിത സോളാർ പവർ പ്ലാന്റുകൾ സ്ഥാപിക്കുന്നതിന് വർക്ക് ഓർഡർ നൽകിക്കഴിഞ്ഞു. കൂടാതെ 4000 കിലോവാട്ട് ശേഷിയുള്ള ഓഫ്ഗ്രിഡ് സോളാർ പവർ പ്ലാന്റുകൾ സ്ഥാപിക്കുന്നതിനും വർക്ക് ഓർഡർ നൽകിയിട്ടുണ്ട്. 2016-17 വർഷത്തെ പദ്ധതി പ്രകാരം ഇതേവരെ 2303 എണ്ണം പോർട്ടബിൾ ബയോഗ്യാസ് പ്ലാന്റുകളും, 145 ക്യൂബിക് മീറ്റർ പ്രതിദിനശേഷിയുള്ള വൻകിട</p>

			<p>ബയോഗ്യാസ് പ്ലാന്റുകളും, 4185 സ്ക്വയർ മീറ്റർ കളക്ടർ വിസ്തൃതിയുള്ള സോളാർ വാട്ടർ ഹീറ്ററുകളും സർക്കാർ സബ്സിഡിയോടെ സ്ഥാപിച്ചു നൽകി. പാലക്കാട് കഴൽമന്ദിരത്ത് 2 മെഗാവാട്ടിന്റെ ശ്രംഖലാബന്ധിത സൗരോർജ്ജ പവർ പ്ലാന്റ് സ്ഥാപിച്ച് വൈദ്യുതി കെ.എസ്.ഇ.ബി. ഗ്രിഡിലേക്ക് നൽകി വരുന്നു.</p> <p>സമ്പൂർണ്ണ വൈദ്യുതീകരണ പദ്ധതിയുടെ ഭാഗമായി അനെർട്ട് ഇതിനകം ഇടുക്കി ജില്ലയിൽ 1281 വീടുകളും, പാലക്കാട് ജില്ലയിൽ 367 വീടുകളും, വയനാട് ജില്ലയിൽ 16 വീടുകളും, സൗരോർജ്ജ വൈദ്യുതി ലഭ്യമാക്കി വൈദ്യുതീകരിച്ചു കഴിഞ്ഞു.</p> <p>2016-17 വർഷം ബയോഗ്യാസ് പ്ലാന്റുകൾ, സോളാർ വാട്ടർ ഹീറ്ററുകൾ, മെച്ചപ്പെട്ട വിറകുപ്പുകൾ മുതലായവ സബ്സിഡി നൽകി സ്ഥാപിക്കുന്ന അക്ഷയ ഊർജ്ജ പദ്ധതി പ്രകാരം 1250 ലക്ഷം രൂപയും, സൗരോർജ്ജ ഓഫ് ഗ്രിഡ്, ശ്രംഖലാബന്ധിത പവർ പ്ലാന്റുകൾ, സമ്പൂർണ്ണ വൈദ്യുതീകരണം എന്നിവ നടപ്പിലാക്കുന്നതിനായി 2898 ലക്ഷം രൂപയും വകയിരുത്തിയിട്ടുണ്ടായിരുന്നു.</p>
(ഡി)	<p>ഈ സ്ഥാപനത്തിന്റെ പ്രവർത്തനം സംസ്ഥാനത്തിന്റെ ഊർജ്ജാ വശ്യമനുസരിച്ച് വിപുലീകരിക്കാനും സാങ്കേതികവിദ്യ നവീകരിയ്ക്കുന്നതിനും പരിപാടിയുണ്ടോ എന്ന് അറിയിക്കാമോ?</p>	(ഡി)	<p>സംസ്ഥാനത്തിന്റെ ഊർജ്ജ ആവശ്യം നിറവേറ്റുക എന്ന ലക്ഷ്യത്തോടെ കാലാകാലങ്ങളിൽ പ്രവർത്തന വ്യാപ്തി വർദ്ധിപ്പിക്കുവാനും, നൂതന സാങ്കേതികവിദ്യകളും ആശയങ്ങളും ഉൾക്കൊള്ളാനും അനെർട്ട് നടപടി സ്വീകരിക്കുന്നുണ്ട്.</p>

  
 സെക്ഷൻ ഓഫീസർ

10/12/2013

Kerala Gazette No. 51 dated 24th December 2013.

**PART I**



GOVERNMENT OF KERALA

**Abstract**

POWER DEPARTMENT—KERALA SOLAR ENERGY POLICY 2013—  
APPROVED—ORDERS ISSUED

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POWER (PS) DEPARTMENT

**G.O. (P) No. 49/2013/PD. Dated, Thiruvananthapuram, 25th November 2013.**

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*Read:--*(1) Minutes of the meeting held on 29-6-2012, under the Chairmanship of Hon'ble Minister (Power and Transport).

(2) G.O. (Rt.) 160/2012/PD dated 4-8-2012.

**ORDER**

The State has substantial sources of renewable energy, viz, Solar, Wind, Small Hydro Power, etc. The potential of Solar Power in the State is yet to be exploited. In order to tap the vast potential of Solar Power in the State, Government as per the minutes read as first paper above have decided to formulate a Solar Policy for the development of Solar Power in the State. Based on the decision at the above meeting, a Committee was constituted vide order read as 2nd paper above for formulating the draft Solar Policy in the State.

2. Accordingly the Draft Solar Policy submitted by the Committee was put on the website of ANERT calling for comments and suggestions. Based on the comments from the Public, the members of the Committee and other experts in the field, certain modifications were made in the draft policy.

G. 68/2013/DTP.

3. Government have examined the draft Solar Policy so prepared in detail and are pleased to approve the 'Kerala Solar Energy Policy 2013' as appended to this Order.

By order of the Governor,

NIVEDITA P HARAN,  
*Additional Chief Secretary.*

To

All Heads of Department's/PSU's  
The Chairman, KSEB, Thiruvananthapuram.  
The Director, ANERT, Thiruvananthapuram  
The Director, EMC, Thiruvananthapuram  
The Secretary, KSERC, Thiruvananthapuram  
The Secretary, Kerala Legislature, Thiruvananthapuram  
The Principal Accountant General (Audit), Thiruvananthapuram  
The Accountant General (A&E), Thiruvananthapuram  
The General Administration (SC) Department  
The I and PR (Web and New Media) Department (For vide publicity)  
The Stock file/Office copy.

## KERALA SOLAR ENERGY POLICY 2013

### **Preamble**

A forward looking Government needs to have a structured approach to seriously evaluate the possibilities of harnessing renewable energy sources and accord due weightage in a realistic manner for such sources to be integrated into its overall energy generation strategies. There is a popular perception that solar energy could be a key part of the solution to the energy crisis in the State. To promote the systematic tapping of the Solar Energy potential to the maximum, an appropriate policy framework is essential. This policy seeks to evaluate, in a realistic manner, the possibilities of harnessing solar energy to optimal levels and to put in place the necessary framework.

Low maturity level and high cost of the technology, non-compatibility of transmission and distribution infrastructure, limitations on land availability, inadequacy of fiscal incentives and entry of unscrupulous elements into the field have been the reasons behind the very low penetration of solar energy in the mainstream life of Kerala. The lack of easy off-the-shelf availability of solar powered equipments with standardised quality and pricing is another reason for its very low presence.

Solar energy is one of the major sources of renewable energy. As improved technology becomes available and at a reasonable cost, the use of Solar energy will gain acceptance. The negative impact that the actions of the imposters and fly-by-night operators out to make illegal gains, has to be strongly counter-acted by the governmental agencies working in the field of renewable energy.

However at a macro level, Electricity Act 2003 promotes absorption of renewable energy and mandates for specified consumption from renewable sources in the area of every distribution utility. Accordingly Renewable Purchase Obligation (RPO) and more specifically solar purchase obligations have become mandatory recently. This at present is fixed at 3% of the total consumption for RPO and out of which 0.25% shall be from the solar sources alone, with annual escalation at 10% till the quantum from renewable reaches 10% of total purchase.

### **2. Vision**

Vision is to mainstream the use of solar energy in the energy mix of Kerala in an inclusive manner to ensure optimal usage of the available solar potential in this region.

### 3. Mission

The Mission is to:

- (i) Increase the installed capacity of the solar sector in the State to 500MW by 2017 and 2500 MW by 2030;
- (ii) Contribute to long term energy security of the State of Kerala as well as ecological security by reduction in carbon emission;
- (iii) Define end users who can adapt solar in a big way and target them;
- (iv) Adopt a multi-pronged approach in targeting different groups of consumers;
- (v) Deploy package of incentives and disincentives for identified groups;
- (vi) Adapt solar to trigger a paradigm shift in the usage of energy at the micro and macro levels;
- (vii) Generate large direct and indirect employment opportunities in solar and allied industries;
- (viii) Create skilled and semi-skilled man power resources for installation and maintenance of the solar systems through promotion of technical and other related training facilities;
- (ix) Promote entrepreneurs/startups industries/institutions in the State that are engaged in the development of innovative solar based systems;
- (x) Create an R&D hub by establishment of institutional collaborations with educational institutions, research centres, industries, utility, etc. for working towards applied research and commercialization of nascent technologies to accelerate deployment of various combinations of solar power technologies and solar-based hybrid co-generation technologies which will focus on improving efficiency in existing systems, reducing cost of balance of system.

### 4. Title and enforcement

- (a) This Policy will be known as Kerala Solar Energy Policy, 2013.
- (b) The Policy will come into operation with effect from the date of publication and will remain in force until superseded or modified by another Policy.
- (c) State Government may undertake review of this Policy as and when the need arises in view of any technological breakthrough or to remove any inconsistency with Electricity Act 2003, Rules & Regulation made thereof or any Government of India Policy/State Electricity Regulatory Commission's order.



## 5. Strategy of implementation

The strategies to achieve the policy objectives are outlined as below:

### 1. Supply side interventions

- 1.1 Off-grid roof top systems at demand points/consumer premises like solar inverter installations, solar powered cellular towers, display boards/hoardings, etc.
- 1.2 Promoting conversion of existing inverter installations to solar power by way of providing suitable incentive schemes.
- 1.3 Grid connected systems partly meeting requirements at demand points and feeding to the grid.
- 1.4 Off site generation at locations like canals, reservoirs (floatovoltaic), wastelands, quarries, etc.
- 1.5 Off shore generating plants-primarily solar-thermal systems.
- 1.6 The off-grid solar applications shall be promoted for replacement of diesel-based generator sets. Guidelines and incentives issued by MNRE from time to time shall be followed in the State for promotion of decentralized and off-grid solar applications.
- 1.7 Empanelment of Suppliers/system integrators as per the guidelines in force for implementation of the solar systems envisaged in the policy.
- 1.8 Standards for grid connectivity at LT level will be notified for the State to promote decentralized solar power generation, which will remain applicable until national standards are notified and adopted by the State.
- 1.9 Since large scale absorption of solar electricity into the system is impossible without sufficient storage, a program for exploring and developing Pumped Storage schemes in the state shall be promoted as part of the Solar Policy.
- 1.10 Since developing Balance of Supply (BoS) plants is essential to tap the employment opportunities presented by Solar to the fullest measure, the state will promote public sector enterprises like Keltron etc. to manufacture BoS plants.

## 2. Promotion of Solar Thermal Collectors:

### 2.1 Solar Water Heating System (SWHS):

The State will promote Solar Water heating system by adopting the key strategy of making necessary policy changes for mandatory use of solar water heating system (SWHS) in the following potential categories:—

- (a) All Industrial buildings where hot water is required for processing.
- (b) All Government/Private Hospitals and Nursing homes.
- (c) All Hotels, Resorts, Motels, Banquet halls, Catering Units and Industrial Canteens.
- (d) Individual Residential buildings with an area of 3000 sq feet and above within the limits of Municipality/Panchayat/Corporations including Housing Complexes set up by Group Housing Societies/Housing Boards.
- (e) Hostels in educational institutions/Pvt. Hostels, Testing Labs/Laboratories of Educational Institutes/Hospitals.
- (f) Barracks of Police, Paramilitary Forces and Jails.
- (g) Private/Government Guest Houses, Govt. Tourist Hotels, Inspection Bungalow, Circuit House and retiring rooms of Railways.
- (h) Health Centres, Sports Complex.
- (i) All weather swimming pools.

### 2.2 Solar Steam Systems:

The State will promote the use of solar steam systems for wider applications such as

- (a) Community cooking in residential institutions/industrial mess/Hotels/Barracks/Mid day meal program/Hospitals etc.
- (b) Industrial application of steam in process industries such as Textile/Food industry etc.
- (c) Laundries

## **2. 3 Industrial Applications:**

The State will promote the use of Solar Water Heating System (SWHS), Solar Steam Systems etc. for Industrial applications such as:

- (a) Process requirements of hot water.
- (b) Process requirements of steam.
- (c) Pre-heating applications in variety of Industries.
- (d) Drying applications.
- (e) Steam press and laundry units
- (f) Solar steam cooking applications in industrial mess/hotels etc.

## **3. Financing the projects**

- 3.1 For off-grid systems the policy seeks to ensure bank finance at attractive rates and provide generation based incentives rather than capital subsidies to ensure that the systems are installed, maintained and continue to remain functional. The existing capital subsidies shall be restructured appropriately for the same.
- 3.2 For grid- connected systems Government itself by way of setting an example would initiate a programme by which all public buildings are provided with generation facilities using appropriate technology options. Here also rather than an EPC mode of implementation, a design, build, operate and transfer scheme with annuity payments shall be preferred. As the Load cycle of the government offices match with that of the solar plants, they are fitting cases for solar application. Policy urges all the concerned to make use of the roof top and premises to install solar plants to match maximum demand of the concerned office, within a period of 2 years time. A panel of implementing agencies and pro-rata costs per kilo watt shall be prepared and each office/department can choose a developer for implementing this scheme.
- 3.3 For grid - connected systems in non-Government buildings/premises the incentives shall be on the basis of net metering, feed-in tariff and Renewable Energy Certificate mechanism, the appropriate tariff system being decided by following due procedure.
- 3.4 Grid - connected systems will be promoted for domestic consumers in a phased manner after formulating grid connection standards for LT distribution in line with this policy. In this regard cluster wise installations will be given suitable incentives on a conditional basis for adopting solar installations.

- 3.5 Regarding floatovoltaic and public place installations a wider community ownership model with direct financial stake by the public shall be encouraged.
- 3.6 For logistically difficult and technically challenging options like off-shore generating plants, projects shall be structured on the basis of competitive bidding in IPP mode.

#### **4. Building Transmission and Distribution Infrastructure.**

- 4.1 Safety/quality protocols for all such installations shall be worked out in detail at international standards. For this the capability of academic institutions both within and outside the country shall be leveraged.
- 4.2 This whole initiative would also be structured to improve the quality of the grid in general with specific focus on evolving nano/community grids working on smart grid principles.
- 4.3 Evolving standards for grid connectivity at different voltage levels.
- 4.4 Notifying User Manual/guidelines on solar application - leveraging Internet Communication Technologies (ICT), Social media etc., for propagation.
- 4.5 Integrating with no load shedding campaign.
- 4.6 Creation of mechanisms like Battery banks, centralized banking of energy etc. for decentralized distributed generation of infirm energy.

#### **5. Industry tie-ups**

In the case of grid-tie systems, only components complying with national or international standards as approved by CEA can be used. But in the case of non-subsidised off-grid systems, there are currently no such regulations. It is proposed to bring about licensing for all solar photovoltaic systems and manufactures to be installed in Kerala. A certification and testing facility would be set up. Industries based in Kerala, including system integrators will have to obtain licensing from designated authority (Chief Electrical Inspectorate) to be eligible to install systems and components meeting approved specifications or standards. For industries from outside the State, channel-partner status or recognition of MNRE (Govt. of India) would be mandatory.

## 6. Legal and regulatory framework

- 6.1 Support the formulation of regulatory environment encouraging the common man more towards solar applications
- 6.2 Legally enforcing use of electricity from solar source in specified sectors of energy use.
- 6.3 A tariff incentive for consumers opting for solar generation shall be offered with respect to non-solar consumption subject to prefixed levels of usage.
- 6.4 Incentive for people's representatives/panchayats for promoting solar installations and street light optimization.
- 6.5 Incentive schemes for conversion of existing inverter installations to solar based ones.
- 6.6 Solar Procurement Obligation (SPO) will be mandated for Commercial consumers with more than 20kVA connected load, LT Industrial with more than 50kVA connected load and for all HT & EHT consumers in a phased manner. All HT/EHT consumers shall have to procure 0.25% of their energy consumed through SPO till March 2015 with 10% increase every year. From April 2015 onwards the same shall be applicable for commercial consumers and LT industrial as per the criteria mentioned above. The same shall be made applicable for high consuming domestic consumers i.e. more than 500 units per month at a later stage.

The above obligated consumers may fulfill their SPO by

- Buying equivalent to or more than their SPO from third party developers of Solar Power projects in the State of Kerala.
  - Buying RECs generated by Solar Power projects in the State equivalent to or more than their SPO.
  - Purchasing power from KSEB at Solar Tariff.
  - Consumers desirous of availing SPO exemption by captive solar generation shall necessarily install separate meters to measure captive generation.
- 6.7 All new domestic buildings having a floor area in between 2000 sq.ft. to 3000 sq.ft. should install at least 100 litres solar water heater and 500W solar PV system. All the buildings above 3000 sq.ft. should install 100 litre solar water heater and at least 1000W solar PV system.

- 6.8 In the case of residential flats/apartments 5% of the energy usage for common amenities should be from Solar.
- 6.9 In the potential categories to be notified like star hotels, hospitals, residential complexes, with more than 50 kVA total connected load, the use of solar water heating system shall be made mandatory.

### **7. 'Feed-in-Tariff', 'Net Metering' and 'Pooled Cost of Energy' of the utility applicable to Solar energy.**

Kerala State Electricity Regulatory Commission (KSERC) will notify the normative Feed-in-Tariff of solar power for procurement by KSEB in case of off-site commercial installations. For all agencies that consume grid power and have installed solar installations with some form of Government subsidy only net metering shall be applicable. However for consumers with monthly consumption of 30 units and below efforts shall be made involving welfare departments of Government and LSGIs to solar enable them and in such cases a special feed-in-tariff scheme shall be notified.

KSERC will also annually notify the Pooled Cost of Power Purchase of the utility as applicable to solar power sector, as required under CERC (Terms and Conditions for Recognition and Issuance of REC for Renewable Energy Generation) Regulations 2010, to facilitate investors tap the Renewable Energy Certificate market.

### **8. Request for connectivity**

Plants requiring grid connectivity shall make application to the utility as per the standards in place and the utility shall provide connectivity if found feasible as per the interconnection standards in practice, after collecting a processing fee.

### **9. Procurement Policy on grid connected solar plant.**

KSEB will have first right of refusal for the power from the plants established in private lands/premises, except in cases of self/captive use. In such cases the sale of power to KSEB shall be as at a tariff decided by KSERC or at the pooled cost of the power purchase of the utility or net metering.

## 10. Reservation of land for the renewable project

The prime responsibility for identifying the land for renewable energy shall be with the developer. Government shall endeavor to assess clearly the land suitable for the development of solar installations in the possession of either Government, private or tribal individuals. For tribal lands, in addition to the lease rentals, a revenue (not profit) sharing mechanism for the land owner is envisaged as follows.

- The willingness of the land owner is mandatory.
- The land ownership rights shall continue to fully vest with the original owner. The developer shall have only rights to setup and operate the project. The land owner will have the right to use land for agricultural purpose.
- Revenue (not profit) sharing based on the power generated, possibly in the range not below of 5% is envisaged.
- The payment of share of revenue shall be made directly to the bank account of the land owner. For this purpose a tripartite agreement has to be entered into among the developer, the land owner and the KSEB.

Only lands which do not have an immediate productive use shall be thus identified/permitted.

## 11. Settlement of Energy charges

All settlement associated with the energy charges for the grid connected plant between the developer and the utility shall be settled on a monthly basis.

## 12. Incentives and facilities under this policy

### (a) Evacuation facility

KSEB shall create necessary evacuation facility beyond the pooling station for the projects with capacity less than or equal to 10MW. For higher capacity plants, KSEB shall construct the evacuation facility on deposit work basis.

### (b) Open access Charges

There shall be no open access charges for solar projects for wheeling the power within the state.

6.6.8/2013

**(c) Wheeling charges and T&D losses**

Wheeling charges and T & D losses will not be applicable for the Captive Solar generators within the state.

**(d) Exemption of electricity Duty**

The energy generated from the plants under this policy shall be fully exempted from the Electricity duty.

**(e) Banking facility**

Conditional Banking facility shall be available to captive generators after considering system constraints.

**(f) Facilitating for subsidies from MNRE**

ANERT being the nodal agency for the non conventional energy in the State, shall act as a facilitator for the developer for making available the subsidy from MNRE or any other central agency.

**13. Agencies involved and their role under this policy****(a) State Level Empowered Committee (SLEC)**

Administration of this policy shall be entrusted with the State Level Empowered Committee (SLEC) constituted for that purpose. The committee shall have the following constitution.

- (i) Additional Chief Secretary/Principal Secretary (Power), GoK-Chairman
- (ii) Chairman, KSEB
- (iii) Member (Generation Projects), KSEB
- (iv) Member (Transmission & Generation Operations), KSEB
- (v) Member (Distribution), KSEB
- (vi) Director, EMC
- (vii) Director, ANERT - Convenor
- (viii) Exe, Vice President of the Kerala S&Y Council (KSCSTE)
- (ix) Director of Industries
- (x) Land Revenue Commissioner
- (xi) A representative from Law Department
- (xii) An expert from Government SPB (nominated)



The Committee shall have the following responsibilities:—

- (a) To suggest necessary amendments to the policy to remove difficulties in implementing the policy;
- (b) Give approval for the developer requiring land allocation from the government;
- (c) Approval for utilization of land designated by ANERT for development of renewable energy;
- (d) Specifying the time schedule of eligible projects for which land had been allocated;
- (e) Empowered Committee shall do an yearly review and publish a document;
- (f) Any other function which may found necessary.

**(b) Agency for Non-conventional Energy and Rural Technology (ANERT)**

ANERT is the nodal agency for the non conventional energy in the State. In administering this policy ANERT will have the following responsibilities:

- (i) To act as the linking agency between all the stake holders in matters related with this policy;
- (ii) To empanel the system providers in solar technology after due process;
- (iii) To assess the solar energy potential in the State and prepare area map of renewable energy potential of the State;
- (iv) To act as the nodal agency for the Off-grid solar applications in the State;
- (v) To facilitate in providing incentives and subsidies to the investor in the off grid application;
- (vi) To directly set up solar energy installation manufacturing units as paradigm centres;
- (vii) To be part of the joint mechanism with KSEB in the administration of Roof-Top solar installations with grid connectivity;
- (viii) To short list and maintain the database on the system provider in the case of solar plants with LT connectivity and prescribe maximum permissible installations under each system provider in proportion to their financial strength and infrastructure capability.

**(c) System Provider/Integrator**

Being new technology and considering safety requirements due to complexity of the system, the assistance from the system provider is essential through out the life period of the plant. This is necessary to instill confidence among potential small scale investors and roof top owners in the initial phase of technology adoption, which could be reviewed periodically based on the maturity achieved by the technology and the level of deployment. Thus the system provider will have the following responsibilities:

- (i) To register itself with the ANERT through their due process to enable itself to provide service in the state.
- (ii) On completion of the project, enter into a tri-partite agreement involving also the facility owner of the roof top solar plant and KSEB, ensuring continued technical support to the plant.
- (iii) Conduct periodical maintenance to the plant as per the standards and provide report of the same to the investor as well as to KSEB.
- (iv) In case investors under him opt for REC mechanism, to play the role of facilitator for the purpose.

**(d) Kerala State Electricity Board**

Being the integrated utility on transmission and distribution in the state, KSEB shall have the following responsibility under this policy:

- (i) To mainstream solar applications by pioneering installations in canals, reservoirs (floatovoltaic), public spaces, etc.;
- (ii) To evolve and update standards of grid-connectivity for the Solar Power Systems at LT and HT level and notify to promote decentralized solar power generation which would also enable the State to gain maximum benefit from the 13 FC allocation and other Financial allocation.
- (iii) To assess the feasibility and provide connectivity to grid connected solar projects in a timely manner;
- (iv) Resort to tariff based bidding for solar energy in meeting RPO, if required;
- (v) To develop necessary transmission infrastructure based on a renewable master plan;
- (vi) To provide banking facility for solar energy, incentives in the form of exclusion from open access charges, wheeling charges and T & D loss for solar power;
- (vii) To act as single window service provider to all grid connected solar plants in association with other state agencies.

*P. Anand*  
*Member and Secretary*

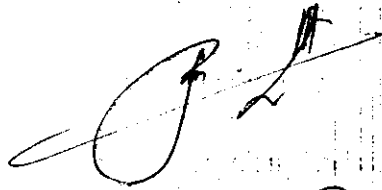
*Fourteenth Finance Commission*

12.48 As per our recommendation, the tax devolution to the states is 42 per cent of the divisible pool. The aggregate grants recommended by us, expressed as a percentage of the divisible pool, are in the range of 6.4 per cent to 5.2 per cent, with an average of 5.7 per cent, over the award period. The total Finance Commission transfers, including the tax devolution projected by us, amount to an average of 37.2 per cent of the projected gross revenue receipts of the Union during our award period.

12.49 As we had noted in Chapter 5, when the direct transfer component is added, the level of aggregate Union transfers to States, as a percentage of gross revenue receipts, went up from 48.9 per cent in 2010-11 to 53.7 per cent in 2011-12 before declining to 49 per cent in 2012-13. Consistent with the past trends, the States would, therefore, be expecting transfers from the Union Government, in addition to the Finance Commission transfers, over the award period in order to maintain the current level of aggregate transfers from the Union to the States. **Therefore, we expect that the Union Government will utilise its available fiscal space to continue to address the needs and expectations of the States and ensure the prevailing level of transfers to States of about 49 per cent of the gross revenue receipts during the award period.**

**Recommendations**

- i. We conclude that a compelling case has been made for reforming the existing system of fiscal transfers from the Union to the States in a comprehensive manner. We recommend that the existing system be reviewed and necessary institutional changes be considered. (para 12.23)
- ii. We believe that the existing arrangements for transfers between the Union and the States need to be reviewed with a view to minimising discretion, improving the design of transfers, avoiding duplication and promoting cooperative federalism, insofar as such transfers are required to be made outside of the recommendations of the Finance Commission. (para 12.27)
- iii. We recommend for consideration the evolution of a new institutional arrangement, consistent with the overarching objective of strengthening cooperative federalism, for: (i) identifying the sectors in the States that should be eligible for grants from the Union, (ii) indicating criteria for inter-state distribution, (iii) helping design schemes with appropriate flexibility being given to the States regarding implementation and (iv) identifying and providing area-specific grants. (para 12.28)
- iv. We urge that the suggested new institutional arrangement also consider taking up issues related to identifying and recommending resources for inter-state infrastructure schemes in the North-eastern States. (para 12.32)
- v. We urge that the new institutional arrangement should also become the forum for integrating economic and environmental concerns in decision making (para 12.35)
- vi. We suggest that the present role of the Inter-State Council be expanded to include the functions envisaged in paragraphs 12.28, 12.32 and 12.35. (para 12.46)
- vii. We expect that the Union Government will utilise its available fiscal space to continue to address the needs and expectations of the States and ensure the prevailing level of transfers to States of about 49 per cent of the gross revenue receipts during the award period. (para 12.49)

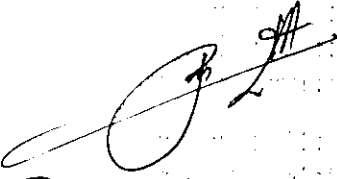


Anil Bhatnagar

Chapter 14 : Fiscal Environment and Fiscal Consolidation Roadmap

**Recommendations**

- i. Keeping in mind the importance of risks arising from guarantees, off-budget borrowings and accumulated losses of financially weak public sector enterprises when assessing the debt position of States, we recommend that both Union and State Governments adopt a template for collating, analysing and annually reporting the total extended public debt in their respective budgets as a supplement to the budget document. (para 14.24)
- ii. To curb the scope for perverse allocation of available funds among competing projects and to ensure that the economy benefits from investments in capital works, we recommend that the Union and the State Governments provide a statutory ceiling on the sanction of new capital works to an appropriate multiple of the annual budget provision. (para 14.52)
- iii. In the light of our approach to fiscal consolidation and the fiscal roadmap as developed through our assessment of Union and State finances, we recommend a set of rules for the Union and the States. (para 14.62)
- iv. For the Union Government, the ceiling on fiscal deficit will be 3 per cent of GDP from the year 2016-17 onwards up to the end of our award period. We expect that an improvement in the macroeconomic conditions and revival of growth as well as tax reforms (rationalisation of the tax structure on the direct taxes side and implementation of goods and services tax (GST) on the indirect taxes side) should enhance the total tax revenues of the Union Government, enabling it to eliminate the revenue deficit completely much earlier than 2019-20. (para 14.63)
- v. The fiscal deficit targets and annual borrowing limits for the States during our award period are enunciated as follows:
  - i. Fiscal deficit of all States will be anchored to an annual limit of 3 per cent of GSDP. The States will be eligible for flexibility of 0.25 per cent over and above this for any given year for which the borrowing limits are to be fixed if their debt-GSDP ratio is less than or equal to 25 per cent in the preceding year.
  - ii. States will be further eligible for an additional borrowing limit of 0.25 per cent of GSDP in a given year for which the borrowing limits are to be fixed if the interest payments are less than or equal to 10 per cent of the revenue receipts in the preceding year.
  - iii. The two options under these flexibility provisions can be availed of by a State either separately, if any of the above criteria is fulfilled, or simultaneously, if both the above stated criteria are fulfilled. Thus, a State can have a maximum fiscal deficit-GSDP limit of 3.5 per cent in any given year.
  - iv. The flexibility in availing the additional limit under either of the two options or both will be available to a State only if there is no revenue deficit in the year in which borrowing limits are to be fixed and the immediately preceding year.

  
 Anand B. David

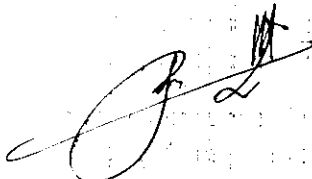
#### *Fourteenth Finance Commission*

If a State is not able to fully utilise its sanctioned borrowing limit of 3 per cent of GSDP in any particular year during the first four years of our award period (2015-16 to 2018-19), it will have the option of availing this un-utilised borrowing amount (calculated in rupees) only in the following year but within our award period. (para 14.64)

- vi. We recommend that for the purpose of assigning state-specific borrowing limits as a percentage of GSDP for a given fiscal year ( $t$ ), GSDP should be estimated on the basis of the annual average growth rate of the actual GSDP observed during the previous three years or the average growth rate of GSDP observed during the previous three years for which actual GSDP data are available. This growth should be applied on the GSDP of the year  $t - 2$ . Specifically, GSDP for the year  $(t - 1)$  and the given fiscal year ( $t$ ) should be estimated by applying the annual average growth rate of GSDP in  $t - 2$ ,  $t - 3$  and  $t - 4$  years on the base GSDP (at current prices) of  $t - 2$ . We recommend that State estimates of GSDP published by the CSO should be used for this purpose. (para 14.66)
- vii. In the case of the interest payments-revenue receipts ratio required for determining additional borrowing limits, we recommend that figures for both should be based solely on the Finance Accounts data for the year  $t - 2$ . The same procedure should be followed in estimating the debt-GSDP ratio. The Ministry of Finance should adhere to the above rules and methodology while determining the annual borrowing ceiling for individual States. (para 14.67)
- viii. We are of the opinion that it would be appropriate to exclude the States from the operations of the NSSF scheme in future, even as they should honour the obligations already entered into insofar as servicing and repayment of outstanding debt is concerned. We recommend that State Governments be excluded from the operations of the NSSF, with effect from 1 April, 2015. As for the fiscal burden incurred in the course of the operations of the NSSF, prior to 1 April, 2015, since the scheme has been administered almost in its entirety by the Union Government, no part of this fiscal burden, incurred till that date, should be passed on to the States. We recommend that the involvement of the States in the NSSF scheme with effect from 1 April 2015, therefore, may be limited solely to discharging the debt obligations already incurred by them until that date. (para 14.81)
- ix. Keeping in view the experience of the States in this regard, we recommend the Union Government should examine the desirability of setting up of Consolidated Sinking Fund at this stage. (para 14.85)
- x. Recognising that the fiscal environment should be conducive to equitable growth, we recommend that the Union and all the States should target improving the quality of fiscal management encompassing receipts and expenditures while adhering to the roadmap we have outlined. (para 14.86)
- xi. We urge that all stakeholders recognise the predominant role of the Union in fiscal management, while considering our roadmap for the Union and the States that treats a conducive fiscal environment as the joint responsibility of both. (para 14.87)

*Chapter 14 : Fiscal Environment and Fiscal Consolidation Roadmap*

- xii. To enable wider dissemination of the manner in which this shared responsibility for a conducive fiscal environment is being discharged by the Union and State Governments, we recommend that the Union Government and the RBI bring out a bi-annual report on the public debt of the Union and State Governments on a regular and comparable basis and place it in public domain. (para 14.88)
- xiii. In the light of the experience gained so far and considering the challenge in designing a basic incentive-compatible framework for achieving fiscal correction and adherence to rule-bound fiscal framework for the Union and State Governments to hold each other accountable over agreed fiscal targets, we stress the need for stronger mechanisms for ensuring compliance with fiscal targets and enhancing the quality of fiscal adjustment, particularly for the Union Government. (para 14.91)
- xiv. We recommend that the Union Government should consider making an amendment to the FRBM Act to omit the definition of effective revenue deficit from 1 April 2015. We also recommend that the objective of balancing revenues and expenditure on the revenue account enunciated in the FRBM Acts should be pursued. (para 14.95)
- xv. We recommend an amendment to the FRBM Act inserting a new section mandating the establishment of an independent fiscal council to undertake ex-ante assessment of the fiscal policy implications of budget proposals and their consistency with fiscal policy and Rules. In addition, we urge that the Union Government take expeditious action to bring into effect Section 7A of the FRBM Act for the purposes of ex-post assessment. (para 14.101)
- xvi. Our approach outlined and recommendations made warrant amendments to the FRBM Acts. To this end, we recommend that the State Governments may amend their FRBM Acts to provide for the statutory flexible limits on fiscal deficit. The Union Government may amend its FRBM Act to reflect the fiscal roadmap, omit the definition of effective revenue deficit and mandate the establishment of an independent fiscal council. Further, the Union and State Governments may also amend their respective FRBM Acts to provide a statutory ceiling on the sanction of new capital works to an appropriate multiple of the annual budget provision. (para 14.102)
- xvii. We urge the Union Government to continue to exercise its powers under Article 293 (3), in an effective but transparent and fair manner, enforcing the fiscal rules consistent with the fiscal consolidation roadmap suggested by us for the award period. (para 14.104)
- xviii. In order to accord greater sanctity and legitimacy to fiscal management legislation, we urge the Union Government to replace the existing FRBM Act with a Debt Ceiling and Fiscal Responsibility Legislation, specifically invoking Article 292 in its preamble. This could be an alternative to amending the existing FRBM Act as proposed by us. We urge the State Governments also to consider similar enactments under Article 293(1). (para 14.106)



Dr. J. S. Murmu

Chapter 17 : Public Expenditure Management

failure to realise these ambitious revenue targets, and pressure to conform to fiscal deficit targets, results in an unplanned compression of expenditures. This violates the basic budget discipline, as spending departments and State Governments are unable to implement the approved budget and appropriations. Spending departments have to carry out these unplanned expenditure cuts, which result in postponements and often cancellation of contractual obligations, time and cost overrun of projects and other adverse consequences on the productivity of public expenditures.

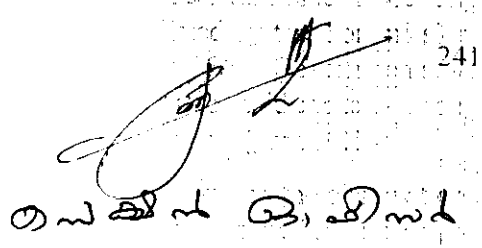
17.33 Prudent cash management is an important component of efficient PEM. This issue is important at both the Union and State levels. Considering the magnitude, poor cash management, by the Union Government in particular, has a significant adverse impact on monetary management as well as on the macro economy. At the State level, the holding of idle cash balances from borrowed funds involves interest costs. While States have to hold cash to manage the risks associated with shortfalls in revenues or to meet unforeseen expenditures, there is considerable scope for improvement in cash management by both the Union and State Governments.

17.34 There is considerable scope for improving expenditure management at both the Union and State levels. **We recommend that both the Union and State Governments improve their forecasts, by adopting a more scientific approach for this process. Similarly, the fiscal responsibility legislations and estimates in the MTFPs should be backed by well-calibrated reasoning to justify the forecasts. When forecasts are out of line with past trends, it is important to make a detailed statement on the intended reforms necessary to enhance revenue productivity and to rationalise expenditures. We also recommend that the Union and State Governments undertake measures to improve their cash management practices.**

**Recommendations**

- i. We endorse the view that the transition to accrual-based accounting by both the Union and State Governments is desirable. We also recognise that this transition can only be made in stages, as it requires considerable preparatory work and capacity building of accounting personnel. We reiterate the recommendation of the FC-XII that the building blocks for making a transition to the accrual-based accounting system in terms of various statements, including those listed by the Commission, should be appended in the finance accounts by the Union and State Governments. We also reiterate its recommendation that action should be taken to build capacity among accounting professionals in accrual-based accounting systems. (para 17.14)
- ii. We reiterate the importance of prompt and effective follow-up on the observations of the C&AG while preparing accounts, and adherence to the time line prescribed for the laying of accounts before the Parliament and State Legislatures. (para 17.15)
- iii. We recommend that a view be taken expeditiously on all the recommendations of the LMMHA Committee made in 2012. (para 17.16)
- iv. At the Object Head level, we believe it is sufficient to have a few uniform Object Heads, such as salary, maintenance, subsidies and grants-in aid, across both the Union and States. Regarding the other Object Heads, we recommend that States retain their existing flexibility to open new Object Heads, according to their functional requirements. (para 17.17)

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#### *Fourteenth Finance Commission*

- v. We reiterate the importance of linking outlays with outcomes. However, we emphasise that it is essential to spell out key indicators for outputs and to monitor these within an already defined accountability framework. (para 17.18)
- vi. We recommend the formulation of appropriate indicators for the measurement of outputs, specification of standards and costs, and establishing a suitable accountability framework. (para 17.19)
- vii. We suggest serious consideration of the issue of assigning primary responsibility for preparing outcome budgets at the level of actual spending and its consolidation at the relevant level of government. (para 17.20)
- viii. We recommend synergising the efforts of the Union Government and State Governments towards building a technological platform in which their systems can interface and information can be shared, leading to end-to-end linkages, particularly in respect of sector-specific grants from the Union Government to the States. (para 17.21)
- ix. We recommend that the Union and State Governments consider the recommendations of the Second Administrative Reforms Commission (submitted in 2009) on internal audit and internal control systems, and take a decision on each recommendation expeditiously. (para 17.22)
- x. We reiterate the views of the FC-XI for a consultative mechanism between the Union and States, through a forum such as the Inter-State Council, to evolve a national policy for salaries and emoluments. (para 17.28)
- xi. We recommend the linking of pay with productivity, with a simultaneous focus on technology, skill and incentives. We recommend that Pay Commissions be designated as 'Pay and Productivity Commissions', with a clear mandate to recommend measures to improve 'productivity of an employee', in conjunction with pay revisions. We urge that, in future, additional remuneration be linked to increase in productivity. (para 17.29)
- xii. We urge States which have not adopted the New Pension Scheme so far to immediately consider doing so for their new recruits in order to reduce their future burden. (para 17.30)
- xiii. We recommend that both the Union and State Governments improve their forecasts, by adopting a more scientific approach for this process. Similarly, the fiscal responsibility legislations and estimates in the MTFPs should be backed by well-calibrated reasoning to justify the forecasts. When forecasts are out of line with past trends, it is important to make a detailed statement on the intended reforms necessary to enhance revenue productivity and rationalise expenditures. We also recommend that the Union and State Governments undertake measures to improve their cash management practices. (para 17.34)