

To Ft John Visser, ft Albeiro Rodas

Address Thmey Village, Sangkat Prey Thom , KEP CITY, Kep Province E-mail <u>father\_johnvisser@yahoo.com</u>; albeiror24@gmail.com

Project Grid connected solar system

Our Reference 1328.1

Subject Firm Quotation
Date 11 March 2013
Contact person A.Luxwolda

Tel. 099-935667

E-mail arjen@kamworks.com

Dear ft Visser, Albeiro,

We are pleased to hereby provide you with a firm quotation for a grid connected solar system for your vocational training center in Kep.

We look forward to receiving your order, which you can confirm by returning a signed copy of the Contract in Annex 2. If you have any further questions, please do not hesitate to contact us by phone or e-mail.

Kind regards,

Arjen Luxwolda
Technical Director

### **Annexes:**

- 1. Commercial Proposal
- 2. Standardized contract
- 3. System design and component list
- 4. Component specifications
- 5. Service Options
- 6. General terms & conditions



# Annex 1 – Commercial Proposal 1328

Grid connected system Don Bosco Kep (addition)

# 1 Scope of Supply

1.1 The system shall be supplied as described in Annex 3 of this offer.

## 2 Pricing

	Item	Co	st in USD
2.1	Materials main components	\$ 3	32,060.10
2.2	Materials other	\$	341.92
2.3	Labor	\$	800.00
2.4	Transportation	\$	186.67
2.5	User Manual and system operator instructions		Included
2.6	1 Years Service Contract (Full Priority Service – see Annex 5)		Included
2.7	VAT 10%	\$	3,346.87
2.8	Total Offer Value in USD	\$ 36,815.56	

### 3 Price Basis

- 3.1 All prices are quoted in United States Dollars.
- 3.2 The prices quoted are inclusive of packaging, transportation and installation.
- 3.3 The prices quoted are valid for the total packages offer. Partial order is subject to revision and written confirmation by Kamworks.
- The price quoted herein is based on the current tax rates of custom duties, sales taxes and other taxes, charges and duties as imposed by the Cambodian tax authorities ("Cambodian Taxes"). In the event of an increase in the Cambodian Taxes which are imposed subsequent after the date of this quotation on the goods/services quoted above, and such increase takes effect prior to the completion of delivery, Kamworks reserves the right to revise the quotation accordingly, to include the additional amount paid for such Cambodian Taxes.
- 3.5 A one year full priority service is included in this quotation.

## 4 Validity

4.1 This offer is valid for 30 days from the date of this quotation, thereafter your order is subject to confirmation from Kamworks.



# 5 Delivery Terms

5.1 Kamworks will supply the materials at your project location. Components will be packed in carton boxes. Installation will take place immediately after delivery of the components. Installation of the system will be scheduled in consultation with client. Ordering of components will approximately take 4 weeks.

## 6 Terms of Payment

- 6.1 Invoice based on 70% of the total order value shall be issued upon placing of order and payment shall be due and payable within 7days from the date of invoice.
- 6.2 Invoice based on 30% of the total order value shall be issued after installation and commissioning of the system and payment shall be due and payable within 7days from the date of invoice.
- 6.3 All payments are to be made without deductions and at no cost to Kamworks; they will only be regarded as effected when they have been credited without reservation to Kamworks' bank account.

## 7 Warranty

- 7.1 Kamworks Ltd warrants his supplies and services to the extent that he shall, at his option, either repair or replace ex works any part for which proof can be furnished that it has become un serviceable during the warranty period owing to a fault of Kamworks Ltd in design, material selection or workmanship. To the exclusion of all further claims and rights the warranty shall be confined to the remedying of defects.
- 7.2 Damage due to natural wear and tear, application for other than the intended purpose, chemical, electrochemical or electrical influences, improper handling or inadequate maintenance is not covered by Kamworks Ltd's warranty.
- 7.3 Replaced parts shall become Kamworks Ltd's property.
- 7.4 The warranty period is 12 months from the day on which the equipment is reported by Kamworks Ltd as ready for operation. This date shall be acknowledged to Kamworks Ltd on the preliminary handing-over certificate. Minor residual work shall have no influence on the commencement of the warranty period.
- 7.5 If installation work cannot be started or has to be interrupted or if the equipment after completion of the installation work cannot be put into operation for reasons not imputable to Kamworks Ltd, maintenance of the equipment in the meantime shall be Buyer's responsibility. Damage which may occur during this period or when putting the equipment into operation in the absence of Kamworks Ltd's competent commissioning personnel shall in any case be beyond Kamworks Ltd's liability.
- 7.6 In the event that equipment is unpacked, installed, and/or commissioned in the absence of Kamworks Ltd's installation and/or commissioning engineer, the mechanical warranty will automatically become void. In such an event, Kamworks Ltd shall not be liable for any loss or damage.



### 8 Performance

- 8.1 Proof of correct functioning of the system after installation shall be furnished during an on-site test. A test record showing the values measured during the test shall be established. Buyer shall sign off on the Inspection Test Report, after which he shall proceed with payment of the invoice for the remaining amount.
- 8.2 Component supplier Canadian guarantees a minimal solar panel performance of 90% of the specified peak-power at standard test conditions during the first 10 years of operation and 80% for the next 20 years.
- 8.3 Component supplier SMA product warrantee of five years (Inverters) an additional warrantee can be purchased
- 8.4 Component supplier Victron (backup inverter), product warrantee of 2 years.
- 8.5 Component supplier Hoppecke (batteries), product warrantee of 1 year.

# 9 Cancellation Charges

9.1 If this order is canceled after components have been ordered, cancellation charges shall be reasonable charges for labor and non-reusable material, up to 100% of the original order value.

### 10 Effectiveness of Contract

10.1 This Contract comes into effect once the Standard Contract in Annex 2 has been signed and the first down payment has been received by Kamworks.

### 11 General Conditions

11.1 Unless otherwise stated by the terms above, the General Terms and Conditions in Annex 6 shall apply.



# **Annex 2 – Standardized Contract**

# ឧបសម្ព័នទីមួយនៃស្តង់ដាកិច្ចសន្យា

កិច្ចសន្យារវាង Don Bosco foundation និងកាំវើក អិលធីឌី។

Don Bosco foundation និងកាំវើកព្រមព្រាងលើ ទំនិញដែលត្រូវ ប្រគល់និងតំឡើងប្រពន្ធ័ថាមពល ព្រះអាទិត្យដូចដែលបានភា្ជប់ឯកសារយោងលេខ 1328.1 នៅថ្ងៃទី១១ ខែ ០៣ ឆ្នាំ ២០១៣។

យោងទៅលើ លក្ខខ័ណ្ឌនៃការធានាលើ សំភារៈសេវា កម្ម
ការណែនាំអំពីរប្បេបប្រើប្រាស់ សេចក្តីណែនាំ លំអិត
កន្លែងដឹកជញ្ជូន និងពេលវេលា លក្ខខ័ណ្ឌនៃ ការបង់ប្រាក់និង
លក្ខខ័ណ្ឌទូទៅ ត្រូវបានសង្ខេបនៅ ក្នុង
តារាងប៉ាន់ស្មានតំលៃដែលមានភ្ជាប់ជាមួយនឹង
លេខឯកសារយោង។

តំលៃសរុបនៃប្រពន្ធ័សូឡាព្រមទាំងVAT គឺ \$ 36,815.56

### Standardized contract

Agreement between Don Bosco foundation and Kamworks Ltd.

Don Bosco foundation and Kamworks agree on the delivery and installation of Solar system with reference number 1328.1 on 11 March 2012

Guarantee on materials, service, user manual and instruction, specifications, delivery place and time, payment conditions, general conditions are summarized in the quotation with mentioned reference number.

The cost price of the system including VAT is \$ 36,815.56

Signed by ...... ចុះហត្ថលេខាដោយ.....

Signed by Kamworks ចុះហត្ថលេខាដោយ កាំវើក

Arjen Luxwolda Technical Director



# Annex 3 – System Design & Component List

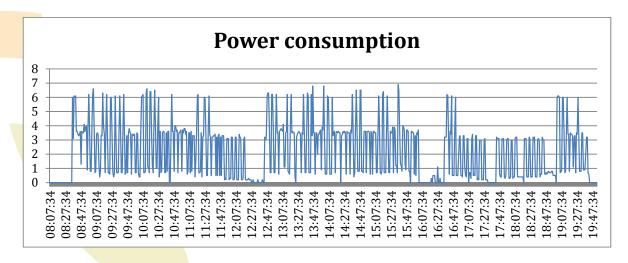
# 1 Main assumptions

The following assumptions have been made after a site survey was conducted

- The roof is facing south
- The length of cabling required between inverter and MDB is 50 m

# Performance of system

We measured the power curve of laundry room as follows..



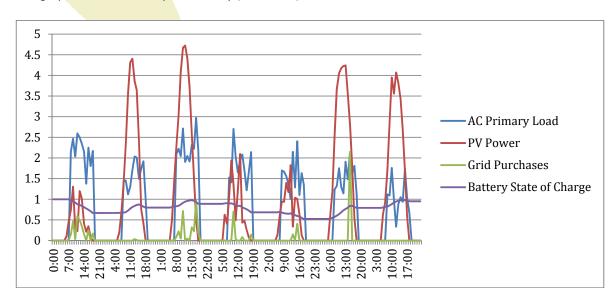
The power fluctuates quite heavily so a battery will be needed to smooth out the power. Measuring two days the average comes to 22.5kWh per day.



The simulation gives the following results for a 5kWp solar system with 1000Ah/48V battery..

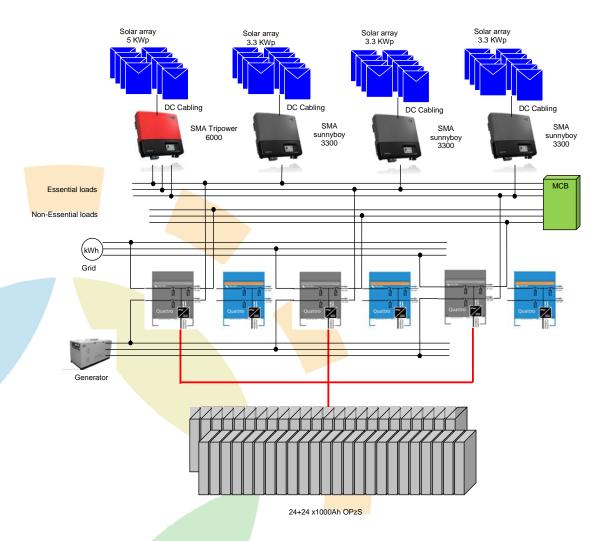


### This graph shows a few days in January (simulated)





# **System Design Diagram**



Gray parts of drawing is existing system



# 2 Component List

Qty. Item					
	Solar Panels				
5kWp	Canadian solar panels				
	Inverter DC				
3	Quattro 48/5000/70-100/100				
	Grid Inverter				
1	Sunny Tripower 6000TL (RS 485 with Bluetooth)				
	Batteries				
24	OPzV 1000Ah/2V				
Metals					
5kWp	Roof mounting system				
Materials Electric					
1	MC Female cable coupler small (PV-KBT3 II)				
1	MC Male cable coupler small (PV-KST3 II)				
30	Lapp Solar cable black 6.0mm2 (400m/klos)				
3	Stotz 6A single phase				
30	Cable 4x6 (rigid)				
100	Tyraps				

100	Stick clips				
100	Screws				
100	Plugs				
	Various				
1	Small materials				
	Labour				
1	Manager				
5	<b>5</b> Foreman				
10	Labourer				
15	<b>15</b> Food				
15	15 Lodging				
Transport					
1	Transport				



# **Annex 4 – Main Component Datasheets**

Datasheets for the following main components have been attached separately in this Annex:

- Canadian CS6-280Wp solar panels
- SMA Tri power 6000, 3 phase solar grid inverter
- Victron Quatro inverter
- Hoppecke OPzS Batteries



# 3 Annex 5 – Service Options

Maintenance and Service contracts are offered on a case-by-case basis according to distance from Phnom Penh and the complexity of system. The table below shows typical options.

Service Contract Options	No service Contract (not recommended)	Basic	Full Priority Service
Inspection frequency	1 visit during the first year	1 time per year	2 times per year
Inspection tasks	Case by case scheduled visit	-visual check of cables and other weak points -discuss system with operator, answer questions, offer maintenance advice	-comprehensive check of cables and other weak points - discuss system with operator, answer questions, offer maintenance advice -solve small problems immediately
Preventive maintenance	Advice offered at time of installation to operator	If problems are found during inspection, quote will be provided for maintenance	Wiring and small components replaced as necessary.
Annual cost of service contract	None	200 USD	600 USD
Trouble Shooting	We can schedule a site visit to inspect the problem and then provide quote for maintenance work. Transportation costs will be charged.	We can schedule a site visit to inspect the problem and then provide quote for maintenance work. Transportation costs will be charged.	Priority is given to address and correct the problem immediately (on site within 24 hours unless extremely remote). Extra charge if customer-caused problems force more than 3 visits per year.
Warranty on Equipment	According to manufacturer OEM guarantee (no extra warranty from Kamworks)	According to manufacturer OEM guarantee (no extra warranty from Kamworks)	According to manufacturer OEM guarantee (no extra warranty from Kamworks)



# Annex 6 – General Terms & Conditions

### **Article 1.Applicability**

These terms and conditions shall apply to all contracts, deliveries and transactions, unless agreed otherwise with Clients in writing.

#### **Article 2.Creation of contracts**

- 2.1 A contract shall only become effective when a tender submitted by Kamworks Ltd has been accepted in writing by the Client.
- 2.2 Alterations, additions and/or extensions to the contract shall only be binding when both parties have agreed them in writing.
- 2.3 Unless stated otherwise in the tender, Kamworks Ltd shall stand by its obligation to fulfil its tender for a period of no more than 2 months after the tender date.

### **Article 3.Position of Kamworks Ltd**

- 3.1 The Kamworks Ltd project supervisor shall act as the Client's agent. He/she shall protect and promote the Client's interests to the best of his/her ability. Insofar as agreed between the parties, he/she shall act as the authorized agent of the Client with regard to third parties in the fulfilment of any assignment he/she has been given.
- 3.2 The provision of paragraph 1 shall apply for the entire duration of the assignment, unless agreed otherwise by both parties.

### **Article 4.Work by third parties**

Kamworks Ltd shall be entitled to have work arising from the contract carried out to a greater or lesser extent by third parties, unless the contract parties agree otherwise.

### Article 5.Performance of the assignment

- 5.1 The assignment shall be performed within the (estimated) period stated in the tender, unless this proves impossible. The period shall at any rate be extended by the amount of time the performance of the assignment has been delayed by the Client.
- 5.2 Should the assignment (partly) encompass the supply of a material product, Kamworks Ltd shall provide no guarantee in regard to this material products other than that described in the tender.

# <u>Article 6. Suspension and termination of the contract</u>

6.1 Should the Client fail to fully, promptly or properly fulfil his obligations arising from the contract and/or these terms and conditions, as well as in the case of suspension of payments, moratorium, bankruptcy, liquidation of the Client's company or the decease of the Client, Kamworks Ltd shall be entitled to cancel the contract or parts thereof still to be performed,

- without notice of default and without requiring any judicial intervention, or to demand prepayment and/or security for services rendered or supply of components (without prejudice to Kamworks Ltd 's right to full compensation for the damage caused by the Client's non--fulfilment), and/or to suspend further performance of all current contracts between the Client and Kamworks Ltd until full payment has been effected.
- 6.2 Should the proper performance of the contract be prevented by circumstances beyond the parties' control which, in fairness, render fulfilment of the contract extremely difficult or impossible, both the Client and Kamworks Ltd shall be entitled to suspend performance of the contract or to dissolve all or part thereof, without judicial intervention being required.
- 6.3 Both in the case of dissolution and in that of suspension due to force majeure, Kamworks Ltd shall be entitled to demand immediate payment for work already completed and for the time spent on the work, as well as for damages, materials used, expenses and interest, including a reasonable portion of the profit lost as a result, under deduction of the instalments already paid.

### **Article 7.Final completion of the assignment**

- 7.1. After verbal or written approval by the Client or no later than 30 days after issue of the report or supply of goods or services, said report or supply of goods or services shall assume definitive status.
- 7.2. Should a Client refuse to grant his approval, he is to notify Kamworks Ltd as such in writing, stating his reasons within 30 days after issue of the report or supply of goods or services. If the Client fails to meet these requirements, he shall be assumed to have accepted the report or supply of goods or services and shall forfeit any right to withhold his approval of the report or supply of goods or services.

### **Article 8.Confidentiality**

- 8.1 Information from the Client not intended for the public and made known to Kamworks Ltd within the scope of the performance of the contract and marked explicitly as confidential by the Client shall be kept confidential for an indefinite period, unless both parties agree otherwise in writing.
- 8.2 Should any misunderstanding occur as a result of the Client's disclosure of results of the research by Kamworks Ltd or if Kamworks Ltd establishes serious risk to persons or goods, or if confidentiality conflicts with legal responsibilities and obligations, Kamworks Ltd shall be entitled to reveal or clarify to third



- parties as much of this information as it deems necessary.
- 8.3 If possible, Kamworks Ltd shall consult the Client prior to making any announcement to third parties.
- 8.4 Kamworks Ltd shall be entitled to mention an assignment in publications, provided the confidentiality obligation stated in 8.1 is not violated.

#### Article 9.Power of disposal and copyright

- 9.1. Unless agreed otherwise in writing and without prejudice to the provisions of the Dutch Copyright Act, the Client shall have sole power of disposal of the reports, recommendations, etc. issued to him by Kamworks Ltd within the framework of the contract.
- 9.2. Issued reports shall only be published verbatim, in full and accompanied by the name of Kamworks Ltd. Publication in any other form shall only be allowed with Kamworks Ltd 's written permission.
- 9.3. Use of the results of the contract for commercial purposes, as well as use of the name Kamworks Ltd shall only be allowed with Kamworks Ltd 's specific written permission.

#### Article 10.Patents

- 10.1 Insofar as Kamworks Ltd 's performance of the assignment produces patentable results, the Client shall be entitled to apply for a patent under his name and at his own expense, unless the invention leads to a result beyond the scope of the assignment.
- 10.2 The Client and Kamworks Ltd shall be obligated to inform each other within 1 week of:
  - a) their belief that patentable material has been discovered;
  - b) the fact that a patent application has been submitted;
  - c) the content of the patent application.
  - Furthermore, they shall give each other full cooperation in the submission of patent applications, in Kamworks Ltd 's case on condition that the resulting additional work be remunerated by the Client.
- 10.3 Should the Client fail to inform Kamworks Ltd in writing of his intention to make use of his right as described in paragraph 10.1 within 3 months after the announcement as described in section 10.2, or should this announcement fail to occur within 3 months after the initial belief that patentable material had been found, said right shall pass to Kamworks Ltd.
- 10.4 Should the Client or Kamworks Ltd exercise the right to apply for a patent, the one party shall grant the other, if said other issues a request therefore within 6 months after the patent application, a costless license to use the invention for his own ends with regard to third parties. If the Client submits a patent application, he shall also reimburse Kamworks

Ltd for any amount Kamworks Ltd may be obligated to pay to the inventor in accordance with the law.

### **Article 11.Fulfilment and liability**

- 11.1 Kamworks Ltd shall perform the assignment in such a way as may reasonably be expected of it on the basis of the know how and insight that it possessed during the performance of the assignment.
- 11.2 Should Kamworks Ltd commit nonperformance, it shall be liable for no more than the amount of the price that the Client owes for the assignment.
- 11.3 All claims the Client may make in regard to the contract awarded to Kamworks Ltd shall lapse one year after the dispatch of the Kamworks Ltd invoice to the Client.
- 11.4 Kamworks Ltd shall not be liable for any damage caused to the Client by application or use of the result of Kamworks Ltd's work or products, unless such damage is the result of wilful intent or gross negligence on the part of Kamworks Ltd.
- 11.5 The Client shall indemnify Kamworks Ltd against all claims made by third parties on account of damage suffered by said third parties arising from the application or use of the result of Kamworks Ltd 's work or products by the Client or by another party at whose disposal the Client has placed that result, unless such damage is the result of wilful intent or gross negligence on the part of Kamworks Ltd.
- 11.6 Should Kamworks Ltd 's personnel be present on the premises of the Client and/or third parties in connection with the assignment, said personnel shall not be bound by stipulations contained in gate notes, etc. signifying total or partial limitation of the liability of the Client ensuing from the contract.
- 11.7 In paragraphs 11.4 to 11.6, Kamworks Ltd shall be understood to refer to "Kamworks Ltd and/or persons used and/or called in by Kamworks Ltd in its performance of the assignment".
- 11.8 Kamworks Ltd shall not be liable for any damage caused to the Client by delay or cancellation of Kamworks Ltd's work or products, unless such damage is the result of wilful intent or gross negligence on the part of Kamworks Ltd.

### Article 12.Payments

12.1 Payment shall occur as indicated in the tender. If this is not provided for in the tender, payment shall be due within 15 days afterthe invoice has been sent out. The Client shall not be entitled to use any counterclaim he may have to set off Kamworks Ltd 's claim. All payments shall, therefore, be made without any deduction or set off whatsoever.



- 12.2 Should the Client fail to pay the invoice within 15 days after the invoice date, he shall be legally in default and shall owe Kamworks Ltd interest of 1.5% per month over the invoice amount as of 30 days after the invoice date.
- 12.3 In the case of assignments with duration of more than 3 months, Kamworks Ltd reserves the right in all such cases to send out periodic invoices.
- 12.4 Should the Client continue to default on the invoice received from Kamworks Ltd, the latter shall be entitled to pass the claim to a lawyer or bailiff and to charge the costs to the Client. The Client shall then pay Kamworks Ltd the extrajudicial costs, at a minimum of 15% over the Client sum and the interest, as well as the legal costs.

### **Article 13.Conversion**

Should any provision of these terms and conditions prove null and void or be otherwise not binding, this shall not impair the other provisions in any way whatsoever, and the relevant provision shall be applied in such a way that it corresponds as closely as possible with its purport without contravening the law.

#### Article 14. Prices

Should Kamworks Ltd perform work for the Client for which no price has been stated in the tender, Kamworks Ltd shall charge for such work on the basis of subsequent costing and on the basis of the prices Kamworks Ltd normally charges.

### Article 15.Disputes and applicable law

All contracts shall be subject exclusively to the law of Cambodia.