At Trade Without Borders

our focus is on bringing practical product solutions that benefit individuals, households, and entire communities in developing regions of the world.

We are able to do so by leveraging our core competencies in manufacturing, product procurement, product development, and global supply chain management-- and collaborating with a growing network of partners around the globe.

We welcome you to browse this catalogue... let us know if our current product solutions meet your needs... or advise us of how we can better meet an unmet need... most importantly, come partner with us in creating sustainable development through inclusive trade.
<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOLAR CHARGING SOLUTIONS</td>
<td>1 - 7</td>
</tr>
<tr>
<td>Mobile phone chargers</td>
<td></td>
</tr>
<tr>
<td>Portable/laptop chargers</td>
<td></td>
</tr>
<tr>
<td>Battery chargers</td>
<td></td>
</tr>
<tr>
<td>SOLAR LIGHTING SOLUTIONS</td>
<td>8 - 14</td>
</tr>
<tr>
<td>Solar lanterns</td>
<td></td>
</tr>
<tr>
<td>Solar lamp</td>
<td></td>
</tr>
<tr>
<td>Solar flashlights</td>
<td></td>
</tr>
<tr>
<td>Solar bike light</td>
<td></td>
</tr>
<tr>
<td>Solar task light</td>
<td></td>
</tr>
<tr>
<td>Solar outdoor lighting</td>
<td></td>
</tr>
<tr>
<td>HOME ENERGY SOLUTIONS</td>
<td>15 - 17</td>
</tr>
<tr>
<td>DC solar home set</td>
<td></td>
</tr>
<tr>
<td>AC solar home set</td>
<td></td>
</tr>
<tr>
<td>RENEWABLE ENERGY SOLUTIONS FOR YOUR COMMUNITY...</td>
<td>18 - 20</td>
</tr>
<tr>
<td>Hybrid Energy Station</td>
<td></td>
</tr>
<tr>
<td>Solar Power Stations</td>
<td></td>
</tr>
<tr>
<td>GENERAL ECO PRODUCTS</td>
<td>21 - 22</td>
</tr>
<tr>
<td>Solar panels</td>
<td></td>
</tr>
<tr>
<td>Rechargeable batteries</td>
<td></td>
</tr>
<tr>
<td>LED bulbs</td>
<td></td>
</tr>
</tbody>
</table>
SOLAR CHARGING SOLUTIONS

PORTABLE/LAPTOP CHARGERS

MOBILE PHONE CHARGERS

BATTERY CHARGERS

Key Ring Solar Mobile Phone Charger
TWB-SC-CDC13

KEY FEATURES

• Convenient emergency charging
• Compact and portable
• Output voltage: 5.5 V
• Output current: 500mA

Battery
Lead-acid battery
3.7V 1000mAh

Solar Panel
0.25W

Charging Time
4-5 hours

mobile energy for your mobile devices
Mini Solar Mobile Phone Charger

**KEY FEATURES**
- Ideal for short term or emergency charging
- Compatible with mobile phones, PDAs, mp3s, and Ipods
- Output voltage: 5V
- Convenient charging by solar or USB power

**ACCESSORIES**
- 3 mobile phone plugs compatible with: Motorola V3
- Nokia N Series
- Sony Ericsson K750
- USB cable

**BATTERY CHARGING TIME**

<table>
<thead>
<tr>
<th>Battery Type</th>
<th>Solar Panel</th>
<th>USB</th>
<th>Solar Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Polymer</td>
<td>0.4W</td>
<td>3.5 hours</td>
<td>16 hours</td>
</tr>
</tbody>
</table>

Single Panel Solar Mobile Phone Charger

**KEY FEATURES**
- Fully charge your mobile phone
- Output voltage: 5V
- Compatible with mobile phones, PDAs, mp3s, and Ipods
- Convenient charging by solar or USB power

**ACCESSORIES**
- 3 mobile phone plugs compatible with: Motorola V3
- Nokia N Series
- Sony Ericsson K750
- USB cable

**BATTERY CHARGING TIME**

<table>
<thead>
<tr>
<th>Battery Type</th>
<th>Solar Panel</th>
<th>USB</th>
<th>Solar Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Polymer</td>
<td>0.55W</td>
<td>3.5 hours</td>
<td>15 hours</td>
</tr>
</tbody>
</table>
Dual Panel Solar Mobile Phone Charger

KEY FEATURES
- Fully charge your mobile phone
- Output voltage: 5V
- Compatible with mobile phones, PDAs, mp3s, and Ipods
- Convenient charging by solar or USB power

ACCESSORIES
- 3 mobile phone plugs compatible with:
  - Motorola V3
  - Nokia N Series
  - Sony Ericsson K750
- USB cable

BATTERY CHARGING TIME
- Solar Panel: 2 pcs x 0.55W (1.1W)
- Battery: Lithium Polymer 3.7V/1300mAh
- USB: 4.5 hours
- Solar Power: 12 hours

Hybrid Mobile Phone Charger

KEY FEATURES
- Fully charge your mobile phone
- Output voltage: 5V
- Compatible with mobile phones, PDAs, mp3s, and Ipods
- Convenient charging by solar or USB power

ACCESSORIES
- USB cable
- 6 plugs

BATTERY CHARGING TIME
- Solar Panel: 0.45W
- Battery: Ni-Mh AA batteries 1.2V/2100mAh
- USB: 3-4 hours
- Solar Power: 12 hours
Single Panel Waist Pouch Solar Mobile Phone Charger

**KEY FEATURES**

Handy carrying pouch

**ACCESSORIES**

- USB to DC jack with retractable 0.8m cable
- DC to DC retractable 0.8m cable
- 10 cell phone adapters

**BATTERY CHARGING TIME**

<table>
<thead>
<tr>
<th>Solar Panel</th>
<th>Battery</th>
<th>USB</th>
<th>Solar Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7W</td>
<td>Li-ion battery 3.7V 2200mAh</td>
<td>4 - 5 hours</td>
<td>17 - 18 hours</td>
</tr>
</tbody>
</table>

Dual Panel Waist Pouch Solar Mobile Phone Charger

**KEY FEATURES**

Handy carrying pouch

**ACCESSORIES**

- USB to DC jack with retractable 0.8m cable
- DC to DC retractable 0.8m cable
- 5 cell phone adapters

**BATTERY CHARGING TIME**

<table>
<thead>
<tr>
<th>Solar Panel</th>
<th>Battery</th>
<th>USB</th>
<th>Solar Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3W</td>
<td>Li-ion battery 3.7V 2200mAh</td>
<td>4 - 5 hours</td>
<td>13 - 14 hours</td>
</tr>
</tbody>
</table>
Backpack Solar Charger

**KEY FEATURES**
- Conveniently charges multiple devices on the go
- Solar panel integrated into backpack

**ACCESSORIES**
- USB to DC jack with retractable 0.8m cable
- DC to DC with retractable 0.8m cable
- 5 cell phone adapters

**BATTERY CHARGING TIME**
- Solar Panel: 2.8W
- Battery: Li-ion battery 3.7V 2200mAh
- USB: 4 - 5 hours
- Solar Power: 8 - 9 hours

Bicycle Bag Solar Charger

**KEY FEATURES**
- Attaches to your favorite two-wheeler
- Integrated solar panel

**ACCESSORIES**
- USB to DC jack with retractable 0.8m cable
- DC to DC with retractable 0.8m cable
- 5 cell phone adapters

**BATTERY CHARGING TIME**
- Solar Panel: 1.3W
- Battery: Li-ion battery 3.7V 2200mAh
- USB: 4 - 5 hours
- Solar Power: 13 - 14 hours
**Portable Solar Charger**
**TWB-09-L-06**

**KEY FEATURES**
- Lightweight and easily portable
- Mount anywhere—4 pcs of suction cups included
- LED indicator when charging

**ACCESSORIES**
- 4pcs laptop connectors
- 4pcs mobile phone connectors
- 0.6m USB cable
- 2m computer cable

**Solar Battery Charger**
**TWB-CTG-D1-11**

**BATTERY CHARGING TIME**

<table>
<thead>
<tr>
<th>AC Power</th>
<th>Solar Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 24 - 26 hours for charging 4 x AAA 800mAh 1.2V rechargeable battery</td>
<td>a) 35 - 40 hours for charging 4 x AAA 800mAh 1.2V rechargeable battery</td>
</tr>
<tr>
<td>b) 28 - 30 hours for charging 4 x AA 1200mAh 1.2V rechargeable battery</td>
<td>b) 50 - 55 hours for charging 4 x AA 1200mAh 1.2V rechargeable battery</td>
</tr>
</tbody>
</table>

**KEY FEATURES**
- Dual power (Solar/AC) battery charger
- Solar panel: 10.2 x 12.2cm
- Can charge 4 x AA or AAA batteries (not included)
- Charging time based on capacities of batteries being charged
- Charging indicator light
- Battery test buttons
- Battery compartment slides out for easy upright positioning in sunlight

**ACCESSORIES**
- AC adapter
Portable Solar Charging Station

**KEY FEATURES**
- Portable charging solution
- Output voltage: 5V, 9V, 16V, 19V, 22V
- Output current: 5V/500mA
  - 9V/1000mA
  - 16V/3000mA
  - 19V/3000mA
  - 22V/3000mA

**ACCESSORIES**
- USB to DC jack cable x 1
- DC jack to tip adapter cable x 1
- Power cord x 1
- DC output connector cable x 1
- AC adapter x 1
- Laptop adapter tips x 8
- Mobile phone adapter tips x 5

**BATTERY CHARGING TIME**
- Solar Panel
  - 2W
- Battery
  - Li-polymer battery
  - 13.7V 12000mAh
- AC Power
  - 6-8 hours
- Solar Power
  - 10-12 hours
Solar LED Rechargeable Lantern

**KEY FEATURES**

- Large capacity rechargeable lead acid battery
- Carry handle
- Overcharge/overdischarge protection
- External solar panel
- With AM and FM radio
- Optional phone charging
- AC charging

**ACCESSORIES**

- 3 connection cords (for Nokia, Sony Ericsson, plus USB)

**BATTERY CHARGING TIME**

- USB: 20 hours
- Solar Power: 24 hours
- Battery: 4V 5.5Ah
- Solar Panel: 3W
- LED: 24 LEDs
- Lighting time: 15 - 20 hours

---

Making your world - and your life - brighter
LED Rechargeable Lantern
TWB-BX-H13

**KEY FEATURES**
- Large capacity rechargeable lead acid battery
- Carry handle
- Overcharge/overdischarge protection
- External solar panel
- Optional 12V AC charging

**ACCESSORIES**
- Remote control

**BATTERY CHARGING TIME**
- USB: 6 hours
- Solar Power: 10 hours

**Lighting Time**
- 6 hours

**Battery**
- SLA: 2.5W
- 4V 3Ah

**Solar Panel**
- 20 LEDs

**LED**
- Built-in compass
- Mobile phone charging function
- Winding charger function
- Optional 5V AC adapter

**ACCESSORIES**
- 3 connection cords (for Nokia, Sony Ericsson, plus USB)

**Our lanterns feature:**
- Detachable rechargeable battery
- External solar power

---

LED Rechargeable Lantern
TWB-BX-H14

**KEY FEATURES**
- Carry handle
- Overcharge/overdischarge protection
- External solar panel
- Built-in compass
- Mobile phone charging function
- Winding charger function
- Optional 5V AC adapter

**ACCESSORIES**
- 3 connection cords (for Nokia, Sony Ericsson, plus USB)

**BATTERY CHARGING TIME**
- USB: 1 hour
- Solar Power: 5 hours

**Lighting Time**
- 4 hours

**Battery**
- Ni-MH: 1.5W
- 3.6V 500mAh

**Solar Panel**
- 12 LEDs
LED Rechargeable Lantern
TWB-BX-H15

**KEY FEATURES**
- Powered by solar, 5V AC adapter
- Overcharge/discharge protection
- Winding charger function
- Mobile phone charger function
- Built-in compass

**ACCESSORIES**
- 3 connection cords (for Nokia, Sony Ericsson, plus USB)

**BATTERY CHARGING TIME**
- USB: 1 hour
- Solar Power: 5 hours

---

Solar Rechargeable LED Lamp
TWB-MG-713L

**KEY FEATURES**
- Detachable battery
- Two stage lighting (16 LEDs or 32 LEDs)
- Search light
- Integrated carrying handle
- External solar panel
- Overcharge protection
- Charging indicator

**ACCESSORIES**
- AC adapter

**BATTERY CHARGING TIME**
- Solar Power: 20-24 hours
- Battery: 3.6V 500mAh
- LED: 12 LEDs
- Lighting time: 4 hours
- Lucens: 5 per LED
- Lighting time: 10 hours
- Solar Panel: 1.5W
- Lighting time: 5 hours
- Solar Panel: works with 9V or 12V panel
- Battery: SLA 4V 5.5Ah
**LED Solar Flashlight**
TWB-WTE-607

- Durable construction
- Integrated solar panel
- Illumination distance: 5m

**KEY FEATURES**
- Charging time: 5 hours
- Lighting time: 4 hours

<table>
<thead>
<tr>
<th>Battery</th>
<th>Solar Panel</th>
<th>LED</th>
<th>Lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni-MH AA batteries 3.6V 600mAh</td>
<td>0.35W</td>
<td>7 LEDs</td>
<td>30</td>
</tr>
</tbody>
</table>

**LED Solar Flashlight**
TWB-WTE-608

- Durable construction
- Integrated solar panel
- Illumination distance: 5m

**KEY FEATURES**
- Charging time: 5 hours
- Lighting time: 4 hours

<table>
<thead>
<tr>
<th>Battery</th>
<th>Solar Panel</th>
<th>LED</th>
<th>Lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni-MH AA batteries 3.6V 600mAh</td>
<td>0.35W</td>
<td>1 LED</td>
<td>20</td>
</tr>
</tbody>
</table>

**LED Solar Flashlight**
TWB-WTE-604

- Durable construction
- Integrated solar panel
- Illumination distance: 8m

**KEY FEATURES**
- Charging time: 8 hours
- Lighting time: 2-3 hours

<table>
<thead>
<tr>
<th>Battery</th>
<th>Solar Panel</th>
<th>LED</th>
<th>Lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni-MH AA batteries 3.6V 600mAh</td>
<td>0.5W</td>
<td>15 LEDs</td>
<td>65</td>
</tr>
</tbody>
</table>
**Solar Flashlight**

**TWB-BX-03**

**KEY FEATURES**
- Compact design
- Large capacity integrated solar panel
- Mobile charging function

**ACCESSORIES**
- 3 connection cords (for Nokia, Sony Ericsson, plus USB)

**Charging time**
- 3.5 hours

**Lighting time**
- 5 hours

**Battery**
- Ni-MH
- 1.2V 1000mAh

**Solar Panel**
- 0.4W

**LED**
- 6 pcs

---

**LED Flashlight with Solar Power Base**

**TWB-CTG-D3-07**

**KEY FEATURES**
- Detachable flashlight
- Power base with large capacity solar panel

**Charging time**
- 6 - 8 hours

**Lighting time**
- 3 hours

**Battery**
- Ni-MH
- AAA Battery
- 400mAh

**Solar Panel**
- 0.35W

**LED**
- 1 pc

**Lumens**
- 30
Solar Bike Light
TWB-P26050-00

**KEY FEATURES**
- Easily attaches to bicycle handle
- Multiple charging options: solar, USB, or winding
- Color options: green, blue, yellow, green, white, silver

**ACCESSORIES**
- USB cable

**Charging time**
- 10 hours

**Lighting time**
- Constant mode: ~3 hours
- Blinking: ~5 hours

**Battery**
- 2/3 AAA batteries
- 2.4V 350mAh

**Solar Panel**
- 0.2W

**LED**
- 3 pcs

**Water Resistant**
- IP42

---

Solar Task Light
TWB-WTE-3123

**KEY FEATURES**
- Multifunctional worklight
- Multiple charging options: solar, winding handle
- Optional AC adapter

**Charging time**
- 12 hours

**Lighting time**
- Flashlight: 12 - 15 hours
- Worklight: 4 - 5 hours

**Battery**
- Ni-MH
- AA Battery
- 3.6V 1200mAh

**Solar Panel**
- 0.4W

**LED**
- Flashlight: 5 LEDs
- Worklight: 18 LEDs

**Lumens**
- 15 - 20
- 70
**Solar Wall Light**

Key Features:
- Sturdy stainless steel housing
- Wall hook mounting

**Solar Panel**
0.28W

**LED**
2 pcs

**Lumens**
12

**Water Resistant**
IPX4

**Ni-MH AA Battery**
1.2V 600mAh

---

**Solar Wall Light with Motion Sensor**

Key Features:
- Sturdy stainless steel housing
- Wall bracket mounting

**Solar Panel**
0.45W

**LED**
9 pcs

**Lumens**
54

**Water Resistant**
IPX4

**Ni-MH AA Battery**
1.2V 600mAh

---

**Solar Security Light with Motion Sensor**

Key Features:
- High temperature plastic housing
- Wall mounting

**Solar Panel**
0.7W

**LED**
9 pcs

**Lumens**
54

**Water Resistant**
IPX4

**Ni-MH AA Battery**
1.2V 600mAh
The power of the sun in your home

HOME ENERGY SOLUTIONS

DC SOLAR HOME SET
AC SOLAR HOME SET

PV Modules
Controller
Battery
Inverter

AC
DC
HOME ENERGY SOLUTIONS

DC SOLAR HOME SET

POWER OPTIONS

5W
10W
20W
40W
80W

APPLICATIONS:

COMPONENT | SPECIFICATION
----------|----------------
SOLAR PANEL | 5W to 8W
CONTROLLER | 12V / 5A
BATTERY | 12V / 30 - 40Ah
LIGHTING | LED lamp 3W
| CFL lamp 7W

OPTIONS:

- Digital Camera
- Mobile Phone
- Lantern
- Digital Camera
- Lamp
HOME ENERGY SOLUTIONS

AC SOLAR HOME SET

POWER OPTIONS

100W
125W
150W

APPLICATIONS:

COMPONENT | SPECIFICATION

SOLAR PANEL | 100W to 150W
CONTROLLER | Per solar home set
BATTERY | 12V / 24Ah
LIGHTING | LED lamp 3W
| CFL lamp 7W
AC SOCKET | 100V to 240V

Household Appliances
- Household Fan
- LED TV

Electronics
- Mobile Phone
- Laptop
- Music Player

Lighting
- Lamp
- Lantern
RENEWABLE ENERGY SOLUTIONS FOR YOUR COMMUNITY

SOLAR POWER STATIONS
HYBRID ENERGY STATIONS (DIESEL + SOLAR + WIND)

These solutions provide renewable energy sources for schools, health clinics, small factories, water purification or desalinization plants and many other possible applications.

- PV Modules
- Wind Turbine
- Diesel Generator
- Remote monitoring & alert system
- Hybrid Controller
- Battery
- Inverter
- Notification by mobile service

Enabling sustainable communities
Solar Power Station

TWB-BX-FD-1.5KW

KEY FEATURES

- Solar panel: 200 Watts 24 volts * 3 pcs
- Solar Charger: 24V 20A * 1 pc
- Inverter: 24V 1500 Watts * 1 pc, output 110V 60Hz/220V 50Hz
- Combiner Box with breaker function * 1 set
- Mounting pole * 1 set
- Lead-Acid Batteries 12 Volts 225Ah * 2 pcs
- Battery Cables
- Inverter Cable * 1 set
HYBRID ENERGY
Diesel + Solar + Wind
Reduces diesel fuel consumption by up to 70%
Mono and Poly Crystalline Solar Panels

Solar Panel Features

- Mono or poly crystalline modules
- Aluminum frame
- IP65 (water resistant)
- CE certification (all panels)
- IEC certification (large panels)

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Pm(Wp)</th>
<th>Tolerance</th>
<th>Vm(V)</th>
<th>Im(A)</th>
<th>Voc(V)</th>
<th>Isc(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWB-SP-10W</td>
<td>10W</td>
<td>-0 · +3%</td>
<td>17.00</td>
<td>0.58</td>
<td>21.40</td>
<td>0.64</td>
</tr>
<tr>
<td>TWB-SP-20W</td>
<td>20W</td>
<td>-0 · +3%</td>
<td>17.20</td>
<td>1.162</td>
<td>21.40</td>
<td>1.243</td>
</tr>
<tr>
<td>TWB-SP-30W</td>
<td>30W</td>
<td>-0 · +3%</td>
<td>17.80</td>
<td>1.68</td>
<td>21.60</td>
<td>1.88</td>
</tr>
<tr>
<td>TWB-SP-40W</td>
<td>40W</td>
<td>-0 · +3%</td>
<td>17.60</td>
<td>2.27</td>
<td>21.80</td>
<td>2.48</td>
</tr>
<tr>
<td>TWB-SP-50W</td>
<td>50W</td>
<td>-0 · +3%</td>
<td>22.00</td>
<td>2.27</td>
<td>26.53</td>
<td>2.53</td>
</tr>
<tr>
<td>TWB-SP-60W</td>
<td>60W</td>
<td>-0 · +3%</td>
<td>16.80</td>
<td>3.57</td>
<td>21.00</td>
<td>3.86</td>
</tr>
<tr>
<td>TWB-SP-75W</td>
<td>75W</td>
<td>-0 · +3%</td>
<td>17.20</td>
<td>4.36</td>
<td>21.60</td>
<td>4.87</td>
</tr>
<tr>
<td>TWB-SP-80W</td>
<td>80W</td>
<td>-0 · +3%</td>
<td>17.20</td>
<td>4.65</td>
<td>21.60</td>
<td>5.00</td>
</tr>
<tr>
<td>TWB-SP-100W</td>
<td>100W</td>
<td>-0 · +3%</td>
<td>16.40</td>
<td>6.09</td>
<td>21.00</td>
<td>6.80</td>
</tr>
<tr>
<td>TWB-SP-120W</td>
<td>120W</td>
<td>-0 · +3%</td>
<td>16.80</td>
<td>7.14</td>
<td>21.00</td>
<td>7.71</td>
</tr>
</tbody>
</table>
Rechargeable Batteries

AA Rechargeable Batteries
TWB-N2500

AAA Rechargeable Batteries
TWB-N1000

LED Bulbs

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Base</th>
<th>LED Emitting Color</th>
<th>Voltage</th>
<th>LEDs</th>
<th>Watts</th>
<th>Lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frosted Bulb</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>3.6 W</td>
<td>210</td>
</tr>
<tr>
<td>TWB-CTG-C5-03</td>
<td>E27</td>
<td>Cool white</td>
<td>85-264V AC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear Bulb</td>
<td></td>
<td></td>
<td></td>
<td>60</td>
<td>3.5W</td>
<td>312</td>
</tr>
<tr>
<td>TWB-CTG-C5-04</td>
<td>E27</td>
<td>Cool white</td>
<td>200 - 240V AC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
More unique environmental solutions to come

We have on-going Research & Development activities as we continue to better understand daily livelihood needs in Developing regions, and seek the best productsolutions to meet those needs.

To learn more about our unique product solutions and our global trading services to, from and between Developing regions, please contact us for more information.