NEW Progress Solar/Hybrid™ Light Tower
Progress Solar/Hybrid™ Light Towers

Progress Solar/Hybrid™ Light Towers are a series of rugged, mobile outdoor light systems that provide high-intensity, bright white LED lighting on-demand, where and when you need it. Each model offers independent solar off-grid system(s) that are durable and built to perform; they are equipped with high quality solar power arrays housed on automated adjustable solar wings; an optional wind turbine harvests the areas available wind power; a backup dual fuel (propane or gas) or tri-fuel (propane, natural gas or gas), auto-start/stop generator combined with a large fuel tank insures unattended lighting even during the toughest inclimate weather; and a large bank of long-life, deep-cycle, no maintenance AGM batteries, housed in an enclosed battery box. The light tower is fully adjustable from 12-30ft in height. Lights can be tilted up/down and rotated individually, and the mast can be rotated. The 4 solid-state, high intensity, LED flood lights provide a tremendous amount of light with very little power required; instant-on/off with no flickering; extremely reliable, vibration and shatter resistant; and designed to provide up to 5x longer run time between changes than metal halide lights. Optional variable intensity high/medium/low lights are available. The maximum power point tracking solar controllers protects the batteries from over/under charging and the lights can be automatically timer controlled to turn on/off with manual override capabilities. The systems are in industrial quality housing on a portable trailer that can be easily towed to its destination. 1 person can set up the unit in minutes. The optional GPS/Performance monitoring system allows tracking the location and performance from the convenience of your smart phone or computer. An optional quick connect security video system can be easily integrated on the mast.

- Minimizes Noise or Engine fumes – Just Great Light, Silent Operation and Fresh Air!
- Eliminates/Minimizes Expensive Fuel Costs & Time Consuming Trips
- No Limits – Built for Light-On-Demand for Applications Requiring a Durable Solution
- Minimizes Use and Engine Maintenance – Convenient, Saves Time & Money; Majority of the Time it is Powered Solely by Renewable Energy; Generator is for Backup Only
- No Frequent Light Bulb Changes – LED Lights Last up to 5x Longer than Metal Halide
- Minimal Fossil Fuels (Carbon Dioxide) – Just Free, Renewable Energy from the Sun!
- No Financial Downside –Significantly Reduces Lifetime Operating Costs
- Federal ITC Tax Credits May Apply, Consult Your Tax Advisor

Ideal for Lighting Night Time Operations

Designed Specifically for Heavy Use Environments Where a Light-On-Demand Application is Needed Even For Environmentally Challenged Areas
Progress Solar/Hybrid™ Mobile Light Towers
Specifications for SHyb-LT800, LT1000 & LT1200 Series

SOLAR GENERATOR

- Solar Systems
  - One or more independent off-grid solar system(s) housed on a single customized towable trailer; each off-grid system is complete with a monocristalline solar array, MPPT charge controller(s), LED floodlights, an automated light timer(s) with manual on/off function and is connected to a bank of deep-cycle AGM batteries with a state-of-charge monitoring meter.

- Renewable Energy Power Generation 800W (SHyb-LT800), 1000W (SHyb-LT1000) or 1200W (SHyb-LT1200) of solar power
  - Monocrystalline solar arrays (5" cells, highest power / sq ft available).
  - Automated steel actuators to raise and lower solar wings
  - TeleStruts – telescoping, locking arms for additional support for the solar wings in high wind regions. (Optional) for SHyb800 and SHyb1000 series.
  - (Optional) Wind Generator – adds renewable energy power (at wind speeds >7mph) during the night hours and/or times when solar irradiation is not readily available (i.e. during inclement weather, cloudy days, etc).

- Backup Power Generator with Progress Smart Auto Start/Stop™ Controller
  - For Progress Solar/Hybrid Light Towers, the majority of power is generated by renewable energy but a fully integrated, backup, electric-start generator is available, if needed, to cover times of inclimate weather, abnormally heavy use or for solar challenged times or regions.
  - Generator options
    - A cost-effective, dual-fuel generator that runs on your choice of propane (LP) or gas. Standard: propane (LP)
    - A super quiet, fuel-efficient, inverter generator that runs on your choice of propane, natural gas or gas. Standard: propane (LP)
    - A diesel generator (upon special request)
  - Large fuel tank capacity enables long time-frames between refueling
  - Progress Smart Start/Stop controls enables the system to maximize run time and use of renewable energy, then automatically starts the backup generator if the battery bank reaches a low voltage, then after recharging the battery bank, automatically stops. The system will also complete its own periodic auto-maintenance runs during long periods of inactivity.
  - Generator can be used for ancillary power for other tools or appliances.
  - The design is to enable weeks and months of run time without refueling or maintenance even during the toughest weather
    *Capable of Operating Any-Time and Any-Where*
Automated Light Timer / Charge Control Module
- Light Timer(s) to enable automated, timed interval or manual lighting start/stop times (works independent from solar panels)
- Maximum Power Point Tracking (MPPT) charge controller(s) to maximize solar power gained and to prevent over or under charging of batteries. Performance data from the charge controllers can be downloaded.
- Temperature controlled cooling fans
- Hour meter(s)

Power Storage
- 24 Volt DC deep-cycle, battery bank(s) comprised of AGM (sealed, no maintenance) batteries; System utilizes medium to large capacity battery banks of the longest known cycle life AGM batteries available.
- AGM batteries can handle a rapid charge, are safe for travel and are more resistant to freezing temperatures than flooded batteries. Different size battery banks are readily available and can be used in any SHyb unit. Note: The combined size of the solar array, battery bank and LED light package/efficiency determines the amount of renewable energy run time.
  - Standard battery bank ~830aH (U.S. recommendation)
  - Large battery bank~1,005aH or 1,245aH (Canada recommendation)
  - Small battery bank 448aH or 672aH (for lower volume applications or if it is ok to run the generator more frequently)
- AC battery bank rapid charger (40amp DC) combined with integrated on-board generator or any other standard 110VAC/20amp, 50/60Hz (available 240VAC upon request) commercial electrical source. Lights can be operated while batteries are being charged.
- Battery State-Of-Charge Meter - Visual display in increments of available battery capacity

Trailer & Housing
- Durable, steel vented housing customized to store, protect and maximize functionality of power generation & storage and light tower components
- 4 easy access, high security (padlock) doors for operators and service.
- Heavy duty axles, suspensions and 15”-16” tires depending on model
- Wheelbase 55” (same for all SHyb models)
- Towing weight – 3,400 (SHyb-LT800) to ~3,950lbs (SHyb-LT1200) depending on battery configuration selected
- Dimensions - 4.42 meters (174 inches) long x 1.37 meters (54 inches) wide x 2.13 meters (84 inches) high (same for all SHyb models)
- Towing specifications & requirements – 2” ball size
- Forklift pockets on mast for high point access and on trailer base for low point access. Crane hook pocket on mast for high point access.
- Straight tongue – standard 2” coupler connection
- 4 per unit “D” rings used to secure unit during transportation
Front outriggers with jacks (included in high wind package)
- Tongue Wheel Jack Stand
- (Optional) Lunette Ring (for Pintle hook) or bulldog coupler
- (Optional) Chock/Lock to secure wheels

**Light Tower & LED Fixtures**

- 3-stage light tower that can expand from ~12’ to 30’
- Numerous LED bright, white light configurations are available, and the SHyb-LT series can handle from 2-6 light fixtures per light tower. The estimated life is up to ~5-10x longer than standard metal halide bulbs; LEDs up to 50,000hrs, L79
- The most common configurations are:
  1. **Standard**: 4 per unit LED Flood Lights (~36,400-42,000 initial LED lumens)
  2. **HML**: 4 per unit Variable Intensity LED Flood Lights with High (~54,600-63,000 initial lumens) / Medium (~36,400-42,000 initial lumens) / Low (~31,200-36,000 lumens) light intensity settings
- All lights can be individually tilted and rotated and the mast can be rotated to place the lights exactly where desired.

  Note: LED pupil lumens (scotopic) appear brighter than (photopic) foot candle measurements indicated when compared directly to high intensity discharge lighting (like metal halide or high pressure sodium).

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**SHyb-LT800 Series**

- Progress Solar/Hybrid™ Light Tower Standard Features include the following:
- The **SHyb-LT800** uses a premium monocrystaline solar array of **800 watts** housed on 2 automated solar wings and **generates up to 33aH per peak hour of sunlight available** providing the renewable energy to run the lights.
- **Recommended for moderate to heavy users (light hours used).**
- This **SHyb-LT800** model is recommended for operating with the Standard LED light package.
- This is a great cost-effective model for equipment rental companies and end users that operate nationwide and want to primarily run on renewable energy but want the comfort of knowing they have an integrated backup to cover inclimate weather, periodic heavy use time periods or are in more solar challenged environments.

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**SHyb-LT1000 Series**

- Progress Solar/Hybrid™ Light Tower Standard Features include the following:
- The **SHyb-LT1000** uses a premium monocrystaline solar array of **1000 watts** housed on 2 automated solar wings and **generates up to 42aH per peak hour of sunlight**
available increasing the amount of renewable energy to run the lights and reducing the time a backup generator may need to operate.

- **Recommended for moderate to heavy users (light hours used).**
- **This model is recommended over the SHyb-LT800 if configured with the HML LED light package and the intent to run the lights primarily on high intensity.**
- **This is a great model for equipment rental companies and end users that operate nationwide and want to primarily run on renewable energy but want the comfort of knowing they have an integrated backup to cover inclimate weather, periodic heavy use time periods or are in more solar challenged environments.**

### SHyb-LT1200 Series

- Progress Solar/Hybrid™ Light Tower Standard Features including the following:
  - The SHyb-LT1200 uses a premium monocrystalline solar array of **1200 watts** housed on 2 automated solar wings and **generates up to 50Ah per peak hour of sunlight available** increasing the amount of renewable energy to run the lights and reducing the time a backup generator may need to operate.
  - **Recommended for heavy users, especially those that plan to use the unit 7 nights per week from dusk-to-dawn, 365 days per year (light hours used).**
  - **This model is typically equipped with the HML LED light package.**
  - **This is a great model for oil & gas, mining, utilities, industrial plants, etc that can operate anywhere nationwide; runs primarily on renewable energy but provides the comfort of an integrated backup to cover inclimate weather or in routinely sun challenged times or regions.**
  - **Note: The high wind package option is a standard feature for the SLT1200 series and is included in the price.**

### Progress Solar™ Mobile Solar Light Towers

#### Optional Add-Ons

The following are routine options available as add-ons to the Solar/Hybrid Light Towers:

- **Wind Generator** (wind turbine, controller, mast extension)
- **Pintle lunette ring coupler or bulldog coupler** (2” ball coupler is standard)
- **Chock/Wheel Lock**
- **Extension Power Cord** - 50 ft. 20 amp electrical cord
- **Security Camera System**, 3 fixed, 1 pan/tilt/zoom, 1 terabyte memory (quick mount). Can be added to Progress Solar, Solar/Wind or Solar/Hybrid models
- **Arctic package** insulation, battery enclosures, larger battery bank recommended for extremely cold routine operating temperatures