

Burdick Technologies Unlimited, LLC

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BACKGROUND INFORMATION

<i>Founded</i>	February 1996																																								
<i>Mission</i>	Dedicated to finding renewable energy solutions for the 21 st Century																																								
<i>Joseph Burdick</i> <i>Founder,</i> <i>President</i>	<p><i>Education:</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">M.S.</td> <td style="width: 45%;">Mat’ls Sci. & Engineering</td> <td style="width: 25%;">Washington State University</td> <td style="width: 15%; text-align: right;">1980</td> </tr> <tr> <td>M.S.</td> <td>Physics</td> <td>Purdue University</td> <td style="text-align: right;">1978</td> </tr> <tr> <td>B.S.</td> <td>Physics / Gen’l Science</td> <td>Hobart & Wm. Smith Colleges</td> <td style="text-align: right;">1976</td> </tr> </table> <p><i>Experience:</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 45%;"></td> <td style="width: 25%;"></td> <td style="width: 15%; text-align: right;"><i>Since</i></td> </tr> <tr> <td>1 yr.</td> <td>BHO Productions Denver, CO</td> <td>President, CEO</td> <td style="text-align: right;">2009</td> </tr> <tr> <td>4 yrs.</td> <td>B&H Industries Denver, CO</td> <td>President, CEO</td> <td style="text-align: right;">2005</td> </tr> <tr> <td>13 yrs.</td> <td>B.T.U. Lakewood, CO</td> <td>President, Tech./Bus. Mgr.</td> <td style="text-align: right;">1996</td> </tr> <tr> <td>4 yrs.</td> <td>NREL Golden, CO</td> <td>PV Module Testing Engineer</td> <td></td> </tr> <tr> <td>1 yr.</td> <td>TDI / SWRES Las Cruces, NM</td> <td>PV Research Engineer</td> <td></td> </tr> <tr> <td>10 yrs.</td> <td>ECD / USSC Troy, MI</td> <td>PV Research Scientist</td> <td></td> </tr> </table>	M.S.	Mat’ls Sci. & Engineering	Washington State University	1980	M.S.	Physics	Purdue University	1978	B.S.	Physics / Gen’l Science	Hobart & Wm. Smith Colleges	1976				<i>Since</i>	1 yr.	BHO Productions Denver, CO	President, CEO	2009	4 yrs.	B&H Industries Denver, CO	President, CEO	2005	13 yrs.	B.T.U. Lakewood, CO	President, Tech./Bus. Mgr.	1996	4 yrs.	NREL Golden, CO	PV Module Testing Engineer		1 yr.	TDI / SWRES Las Cruces, NM	PV Research Engineer		10 yrs.	ECD / USSC Troy, MI	PV Research Scientist	
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<i>Services Provided</i>	<ul style="list-style-type: none"> • Photovoltaic (solar-electric) systems: design, sales, installation, service <ul style="list-style-type: none"> - Various styles available: shingles, metal, roofing tiles, conventional - Residential, commercial, educational, government applications • Wind-turbine electric systems: small and community-scale • Solar-related products (<i>see below</i>) and services (technical consulting) <ul style="list-style-type: none"> - For R&D, consumer, commercial and military markets 																																								
<i>Products</i> <i>(Currently Available or Under Development)</i>	<ul style="list-style-type: none"> • Rigid and flexible photovoltaic modules; Foldable solar power packs • PV Reference-cell packages; Irradiance, Temperature meter • Photovoltaic Module I-V Curve Tracer (PMIT) (<i>under development</i>) • Photovoltaic (PV) module testing and measurement equipment • Neighborhood electric vehicles; EV charging stations; Transit shelters • Solar Roller, Jr. (Portable, rollable stand-alone power unit) 																																								
<i>PV & Wind Systems Installed</i>	<ul style="list-style-type: none"> • Mt. Evans Observatory (Colorado): a-Si shingle, metal and CIS systems • DOE’s NREL: Outdoor PV Test Facility; Nat’l Wind Test Center (Golden, CO) • Commercial: Big Horn Center, Phase 2 and Phase 3 (Silverthorne, CO) • Institutional: Aspen, Denver, San Luis, Breckenridge, CO; Kaysville, UT • Residential: Alamosa, Boulder, Denver, Erie, Golden, Granby, Lakewood, Monument, Morrison, Nederland, Wondervu, CO • Residential: Ketchum, ID; Sundance, UT; Wyoming • Wind-turbine systems: Golden, Lyons, CO; Eastern Plains; Wyoming 																																								

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Examples of Photovoltaic Installations

<i>System</i>	<i>Location</i>	<i>Grid-Tied</i>	<i>Off-Grid</i>	<i>Batteries</i>	<i>PV Type</i>	<i>Peak DC Power</i>	<i>Date</i>
Mt. Evans Summit Mt. Evans Observatory Mt. Goliath Nature Center	Mt. Evans, CO		X X X	X X X	Uni-Solar Shingles Siemens CIS Uni-Solar Metal	1.6 kW 1.3 kW 0.8 kW	1997 1999 2003
NREL Photovoltaic Outdoor Test Facility NREL Nat'l Wind Test Center Entrance Bldg.	Golden, CO Golden, CO	X			Uni-Solar Shingles Uni-Solar Metal	1.2 kW 0.8 kW	1998 2002
Big Horn Center, Phase 2 Big Horn Center, Phase 3	Silverthorne, CO	X X			Uni-Solar Metal " " "	2.0 kW 8.5 kW	1998 2000
Yellow Brick School San Luis Headstart School Stapleton Elem. School Valley Brook Childcare Ctr.	Aspen, CO San Luis, CO Denver, CO Breckenridge, CO	X X X X		X	Uni-Solar Metal " " " x-Si Modules " " "	2.0 kW 3.5 kW 1.0 kW 9.6 kW	1999 2003 2003 2008
Residential (a-Si)	Wondervu, CO Alamosa, CO Morrison, CO Erie, CO Boulder, CO Nederland, CO	X		X X X X X X	Uni-Solar Metal " " " " " " " " " " " " " " "	2.2 kW 3.0 kW 3.0 kW 2.6 kW 3.0 kW 2.5 kW	2000 2000 2004 2005 2006 2006
Residential (x-Si)	Monument, CO Granby, CO Granby, CO Golden, CO Denver, CO Denver, CO Denver, CO Denver, CO (Combined System) Lakewood, CO	X		X X X X X X X X	x-Si Modules " Uni-Solar, x-Si	3.2 kW 0.7 kW 1.8 kW 4.2 kW 9.8 kW 9.6 kW 9.4 kW 5.7 kW	2002 2004 2007 2006 2007 2007 2008 2009
Utah	Kaysville, UT Sundance, UT	X X			Uni-Solar Metal " " "	1.0 kW 5.0 kW	2002 2006
Idaho	Ketchum, ID	X			Uni-Solar Metal	3.5 kW	2002
Wyoming	Wyoming	X			Uni-Solar Shingles	1.0 kW	2004



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PRODUCTS and SERVICES

- **Photovoltaic** (Solar-Electric) Systems: Design and Installation
 - Building-integrated photovoltaics (BIPV): shingles, metal, tiles, skylights
 - Conventional PV modules: rooftop, ground-mount and pole-mount
 - Residential, commercial, government, and educational applications
 - System sizes from kW to MW; Utility-tied and off-grid systems
 - Solar farms; PV manufacturing and assembly facilities
- **Wind Systems:** Design and Installation
 - Small, residential and commercial, wind-turbine systems
 - Mid-size and large turbines for community-scale wind projects
- **Solar Thermal Systems**
 - Concentrators w/tracking: large-area, trough systems and dish/Stirling systems for combined heat and power (CHP) production
 - Solar hot water and SolarWall® fresh-air heating systems
- **Alternative Transportation**
 - Solar-powered parking / charging stations for electric vehicles (EVs)
 - PV-powered transit shelters; parking-area and street lighting systems
- **Alternative Fuels**
 - Biofuel (diesel, ethanol) plant design, energy supply (electricity and thermal)
- **Solar PV Products**
 - Consumer products (solar toys, portable solar chargers, foldable power packs)
 - Photovoltaic test equipment (reference cells, module testing, etc.)
 - Data acquisition systems (DAS): control, monitoring, display, web sites
- **Renewable Energy Education Program** (through **BHO Productions, LLC**)