



ANF Energy

DISTRIBUTED GENERATION • MICROGRIDS • GRID CONNECTIONS

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Company Brochure

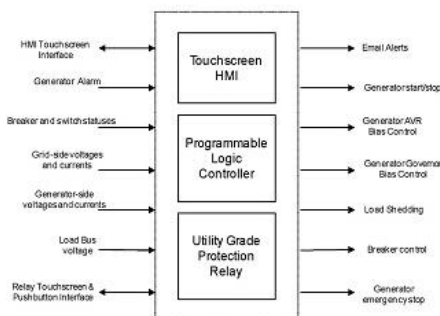
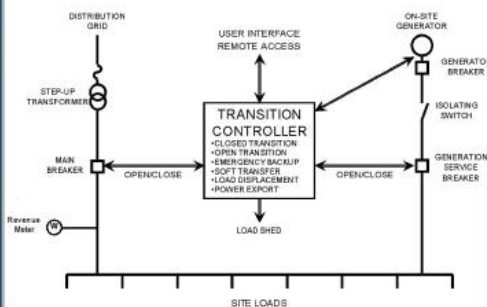
ANF Energy's Products and Services:

- Engineering services for microgrids, distributed generation & load connections
- PLC-based controllers
- Manufacturing control and protection cabinets

Controllers



Using the latest technology, ANF Energy designs, programs and builds PLC-based controllers for a range of power applications.



Mission

ANF Energy offers a comprehensive electrical engineering service for distributed generation. From the primary design to commissioning, our team uses the latest technology to provide cutting edge solutions. Our understanding of power generation combined with software development, electrical engineering, and in-house manufacturing of control and protection cabinets assures customers and utilities of a smooth and reliable connection.

Engineering Services

The team at ANF Energy are committed to understanding the goals and expectations of your site and project in order to provide the latest in electrical engineering solutions to reduce aggregate costs.

- Primary and detailed electrical design including feasibility study and cost estimation
- Imbalance studies, grounding analysis and design
- Securing of ESA and utility approvals; equipment procurement and verification
- Protection design, fault studies co-ordination analysis and arc-flash assessment
- Relay selection, programming, signal injection testing and commissioning
- Transfer-trip system design, implementation and commissioning
- Protection & control cabinet manufacturing and testing
- Metering Reports and Site-Specific Loss Adjustment calculations
- SCADA design and implementation
- Event and performance analysis
- Utility liaison and securing of utility approval
- Independent Engineer certification
- Control Systems Integration
- Harmonic studies
- AVR and governor commissioning
- Post connection diagnostics and support

Cabinets



ANF Energy designs, builds, programs and tests standard and custom Protection & Control cabinets for Distributed Generation applications.

- Preparation of shop drawings
- Component procurement
- Cabinet construction and wiring
- Programming of protection relays, controllers, communication processors and meters
- Protection Relay Signal Injection verification
- Arranging ESA Field Evaluation certification
- Pre-delivery functional testing
- Delivery to site

Please visit our website at anfenergy.ca for more details.

About Us

- An Ottawa based company incorporated in Ontario in February 2003.
- Independent of any equipment supplier or project developer.



Aidan Foss PhD, P.Eng has over 35 years of professional engineering experience covering power, control, software and electrical engineering. A graduate in mathematics from Cambridge University with a doctorate in turbine control from Imperial College, Aidan initially specialized in computer control for industrial and off-shore applications. In 1990, Aidan joined the National Grid Company, focusing on generator-grid interconnection, frequency and voltage control, and power quality. In 2001, Aidan moved to Ottawa and co-founded ANF Energy, providing engineering services for distributed generation, and in particular for grid interconnection. He cofounded the IEEE Canada Electrical Power & Energy Conference in 2001, and received the IEEE Power & Energy Society Chapter Outstanding Engineer Award in 2013. He has been a Licensed Professional Engineer in Ontario since 2003.

Kalle Leppik B.Eng, P.Eng. MIEEE (Vice-President), obtained a Bachelors degree in electrical engineering from Carleton University in Ottawa in 1981. For over 25 years, he has been involved in instrumentation and control work, including PLC programming and Digital Signal Processing. Achievements include: 1) Reduced the electric bill by 40% at the Canadian embassy in Ankara Turkey through the installation of reactive power compensation. 2) Implemented control and instrumentation for the world's only Whole Body Calorimeter at Ottawa University. 3) Designed the automated tooling to retube reactor cores at the CANDU nuclear reactors at the Bruce Power Plant. From 2007, Kalle has provided ANF Energy with renewable energy grid connection engineering services, particularly for biogas and hydro-electric projects. He is a co-founder of ANF Energy.



Martin Hutchings B.Sc (Hons.) (Vice-President), PMP, obtained a Bachelors degree in Electrical and Electronic Engineering from the University of Leeds in the UK. Martin has over 25 years experience of electronic and electrical design, primarily in the area of hardware systems and semiconductors for the communications industry. He has worked in a number of R&D and project management roles for companies including Fujitsu, Nortel, Zarlink Semiconductors and ITT Aerospace/Communications. From 2010, Martin has provided ANF Energy with renewable energy grid connection technical services, particularly for biogas and solar projects. He is a co-founder of ANF Energy.



Jordan Newman (Operations Manager), has over 22 years of operations experience covering 10 years in high tech manufacturing and 12 years in automotive parts and servicing. For over 15 years, Jordan has been a supervisor overseeing the implementation of new processes for improving production and sales, including specialist training of personnel. In automotive, he consistently earned top sales through providing excellent customer service and satisfaction. Since 2014, Jordan has been working with ANF Energy on the construction of their electrical control cabinets, website and electrical drawings.



Recent Projects:

(Showing year of commissioning)

- Dymon The Queensway 999kW (2021)
- Medisun microgrid (2020)
- Cavanagh 40kW solar (2020)
- Unity 10MW solar (2020)
- Norfolk 10MW solar (2020)
- Highway 2S 10MW solar (2020)
- Mer Bleue HS 295.45kW solar (2020)
- RCSS Simcoe 750kW natural gas (2020)
- Zehrs Tillsonburg 500kW natural gas (2020)
- Wikwemikong (5 sites) 50kW, 86.6kW, 81kW, 160kW, 192kW solar (2020)
- Gardiner Farms 1 & 2 250kW + 2x125kW biogas (2011, 2019)
- Bolton Manor 250kW biogas (2019)
- Bolton Manor 250kW biogas (2019)
- Stanton 3x250kW biogas (2018, 2019)
- Bretzler Farms 250kW biogas (2019)
- Boyle Farm & Forestry 500kW biogas (2018)
- ZooShare 500kW biogas (2018)
- Enerdu 1MW hydro (2018)
- Moorefield 500kW wind (2017)
- Scheel 500kW solar (2016)
- Miig1 386kW solar (2016)
- Peterborough WWTP 430kW biogas (2016)
- Algonquin College, 2MW cogen (2016)
- Romiluxe, 2x250kW solar (2016)
- Nine Mile Farms, 135kW biogas (2015)
- Goshen, 500kW solar (2015)
- Eilers Farms, 500kW biogas (2015)
- Belfast Road, 250kW solar (2015)
- Waterloo Reservoir 190kW solar (2014)
- LaForge BioEnvironmental 2 1MW biogas (2014)
- Samuel-Genest School 74kW solar (2014)
- Schouten Corner View 498kW biogas (2013)
- Clearydale Farms 498kW biogas (2013)
- Reichart Osborne 98kW solar (2012)
- Marl Creek 1 & 2: 2x250kW biogas (2012)
- Carleton Corner Farms 498kW biogas (2012)
- Steele Acres Farm 50kW solar (2012)
- Kirchmeier Farm 499kW biogas (2012)
- Reichart Campbell 250kW solar (2012)
- Machining Center 99kW (2020)
- Canadian Nuclear Labs harmonic study (2020)
- Newboro1 10MW solar (2020)
- Bruining 10MW solar (2020)
- Odessa 10MW solar (2020)
- Alfred 10MW solar (2020)
- Paul-Desmarais HS 227kW solar (2020)
- Zehrs Niagara 750 kW natural gas (2020)
- RCSS St. Thomas 750kW natural gas (2019)
- Longos 390kW CHP/solar (2019)
- Senn Farm 1 & 2 2x250kW biogas (2014, 2019)
- Longos 390kW CHP/solar (2019)
- Carleton Corner Farms 250kW biogas (2019)
- Koskamp Family Farms 100kW biogas (2018)
- Courthouse Hill Farms 500kW biogas (2018)
- Bretzler Farms 150kW Solar (2018)
- LDML 72kW Microgrid (2017)
- Great Lakes Greenhouses 4MW Microgrid (2016)
- O'Neil 250kW biogas (2016)
- Miig2 477kW solar (2016)
- Koskamp Family Farms 500kW biogas (2016)
- 3M Perth, 1.2MW cogen (2016)
- 3M Brockville, 2MW cogen (2016)
- Canadian Nuclear Labs, 1MW standby (2015)
- Marl Creek 3, 250kW biogas (2015)
- Ridgeline Farms 250kW biogas (2015)
- Duke of Devonshire 100kW solar (2014)
- Arnprior Airport 100kW solar (2014)
- Bonnechere Manor 190kW solar (2014)
- Mostert Farm 500kW biogas (2014)
- Avonmore 5 & 7: 2 x 250kW solar (2013)
- Vances Dunrobin 250kW solar (2013)
- Jockvalley Farm 498kW biogas (2012)
- Prestige Furniture 250kW solar (2012)
- Koch Farms 50kW solar (2012)
- Overdale Solar 33kW solar (2012)
- CCS Millbrook 100kW biogas (2012)
- Petro Corn 499kW biogas (2012)
- Gardiner Farms 250kW biogas (2011)