knowenergy
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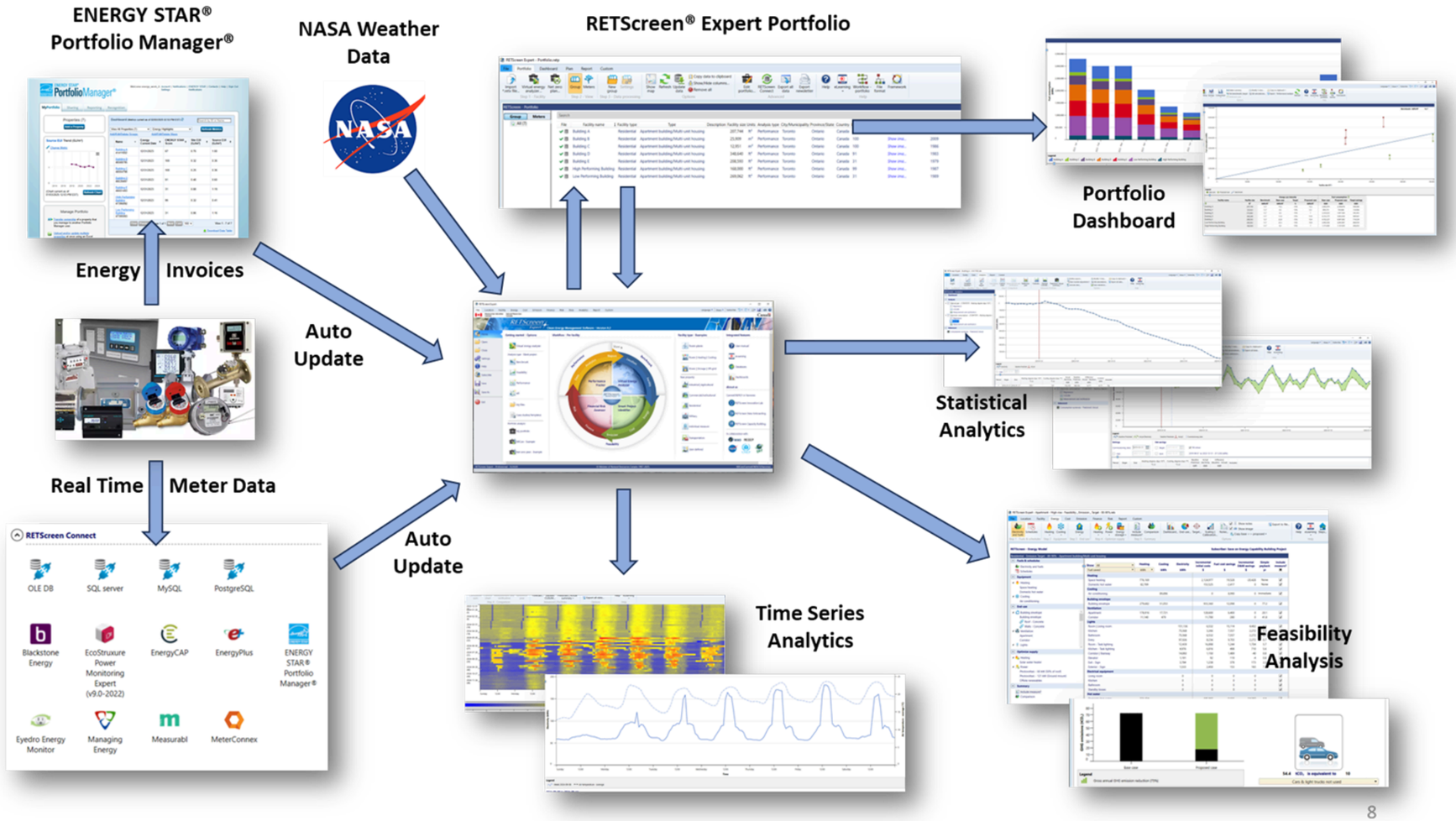
Why Use RETScreen® Expert?

An All-In-One Energy Analytics Tool

RETScreen® Expert – A Comprehensive Toolbox



Why Use RETScreen? Simplification

How Will RETScreen® Make My Job/Life Easier?

- It simplifies feasibility assessment so you can test drive different project options
  - Example – Roofing project insulation values

- It requires minimal user input
  - Practical models
  - Less opportunity for errors

- Built-in databases for costing

RETScreen - Cost database - Lights

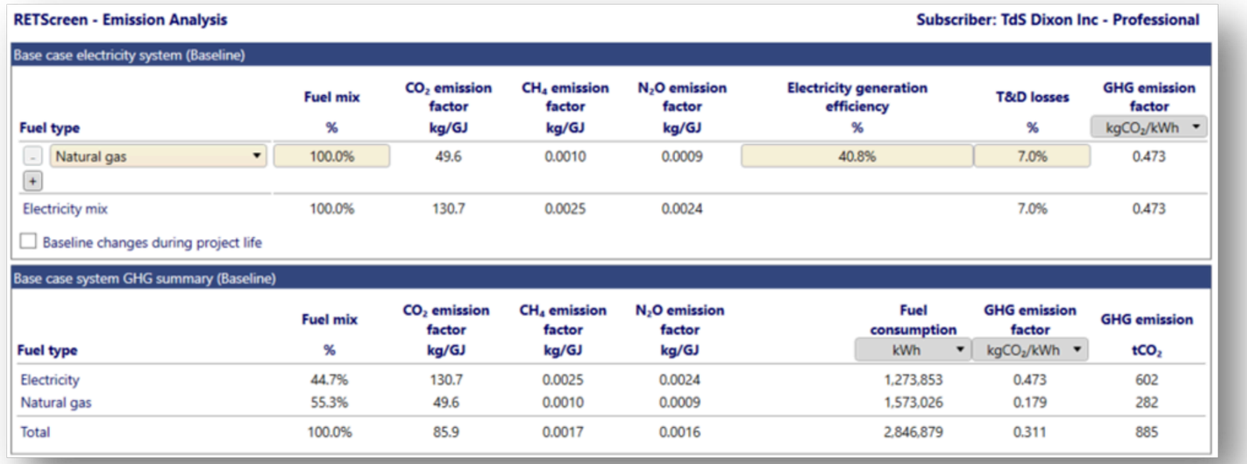
Lights - Typical installed cost

Lamp type	Initial cost for lamp ($/lamp)			Installation ($)					Lamp life (hours)
	Minimum	Average	Maximum	Low				High	
Compact fluorescent light	1.02	4.08	10.20	5.10	10.20	15.30	20.40	25.50	10,000
Fluorescent T5	4.08	6.12	10.20	5.10	10.20	15.30	20.40	25.50	20,000
Fluorescent T8	3.06	5.10	8.16	5.10	10.20	15.30	20.40	25.50	20,000
Fluorescent T12	4.08	5.10	10.20	5.10	10.20	15.30	20.40	25.50	20,000
Halogen	3.06	6.12	15.30	5.10	10.20	15.30	20.40	25.50	2,000
High pressure sodium	10.20	20.40	30.60	5.10	10.20	15.30	20.40	25.50	24,000
Incandescent	1.02	2.04	3.06	5.10	10.20	15.30	20.40	25.50	1,000
Light emitting diode (LED)	**4.08**	**15.30**	**30.60**	**5.10**	**10.20**	**15.30**	**20.40**	**25.50**	**50,000**
Low pressure sodium	25.50	40.80	66.30	5.10	10.20	15.30	20.40	25.50	16,000
Mercury vapour	10.20	30.60	45.90	5.10	10.20	15.30	20.40	25.50	24,000
Metal halide	20.40	35.70	76.50	5.10	10.20	15.30	20.40	25.50	15,000

Note: Typical cost values in Canadian $ as of January 1, 2019. Purchasing power parity (Exchange rate) approximately 1.25 CAD = 1 USD.

Why Use RETScreen? Standardization

- Standardized procedures for objective comparison of potential projects
- Uses validated methodology to satisfy requirements of incentive programs and reporting standards
- Supports identification of most successful projects
  - Useful for budget prioritization
  - Increases potential for project success
- Reporting of carbon emissions



RETScreen - Emission Analysis — Subscriber: TdS Dixon Inc - Professional

Base case electricity system (Baseline)

Fuel type	Fuel mix %	CO_2 emission factor kg/GJ	CH_4 emission factor kg/GJ	N_2O emission factor kg/GJ	Electricity generation efficiency %	T&D losses %	GHG emission factor $kgCO_2/kWh$
Natural gas	100.0%	49.6	0.0010	0.0009	40.8%	7.0%	0.473
Electricity mix	100.0%	130.7	0.0025	0.0024		7.0%	0.473

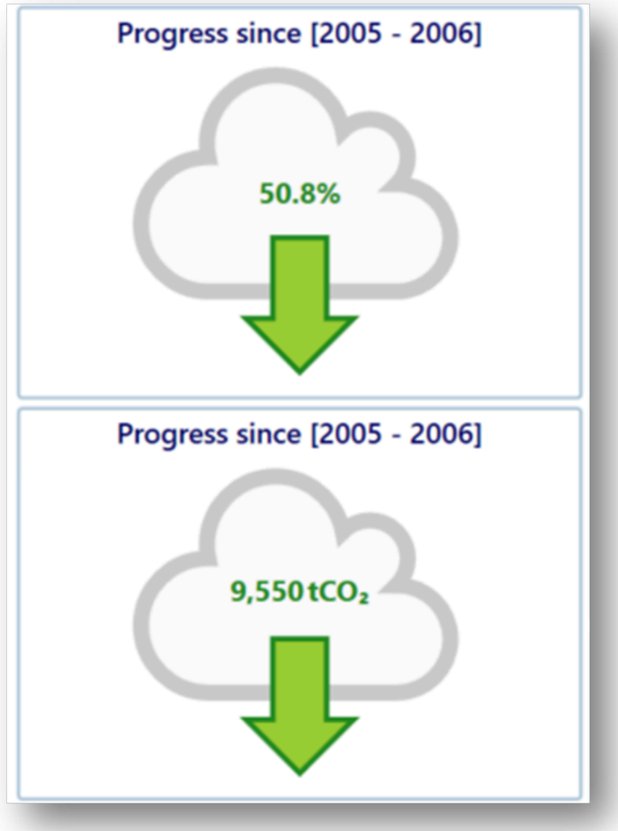
Baseline changes during project life

Base case system GHG summary (Baseline)

Fuel type	Fuel mix %	CO_2 emission factor kg/GJ	CH_4 emission factor kg/GJ	N_2O emission factor kg/GJ	Fuel consumption kWh	GHG emission factor $kgCO_2/kWh$	GHG emission tCO_2
Electricity	44.7%	130.7	0.0025	0.0024	1,273,853	0.473	602
Natural gas	55.3%	49.6	0.0010	0.0009	1,573,026	0.179	282
Total	100.0%	85.9	0.0017	0.0016	2,846,879	0.311	885

Why Use RETScreen? Persuasion

- Provides you with the analytical tools you need to communicate value and success at all levels
    - **Graphs** – linear regression, CUSUM, pie charts, heat maps, progress charts
    - **Reports** – automatically generates report including cover page, executive summary, supporting documents
    - **Attractive custom dashbaords**
    - **Financial analysis** – NPV, IRR, Benefit to Cost



Why Use RETScreen? Interoperability

- RETScreen® is a nice fit with other programs
  - ENERGY STAR® Portfolio Manager
    - Mandatory reporting requirements such as energy use, emissions reporting, carbon reduction targets

- RETScreen Connect – direct connection to many online data sources
  - Green Button
  - OLE DB, SQL Server and may other