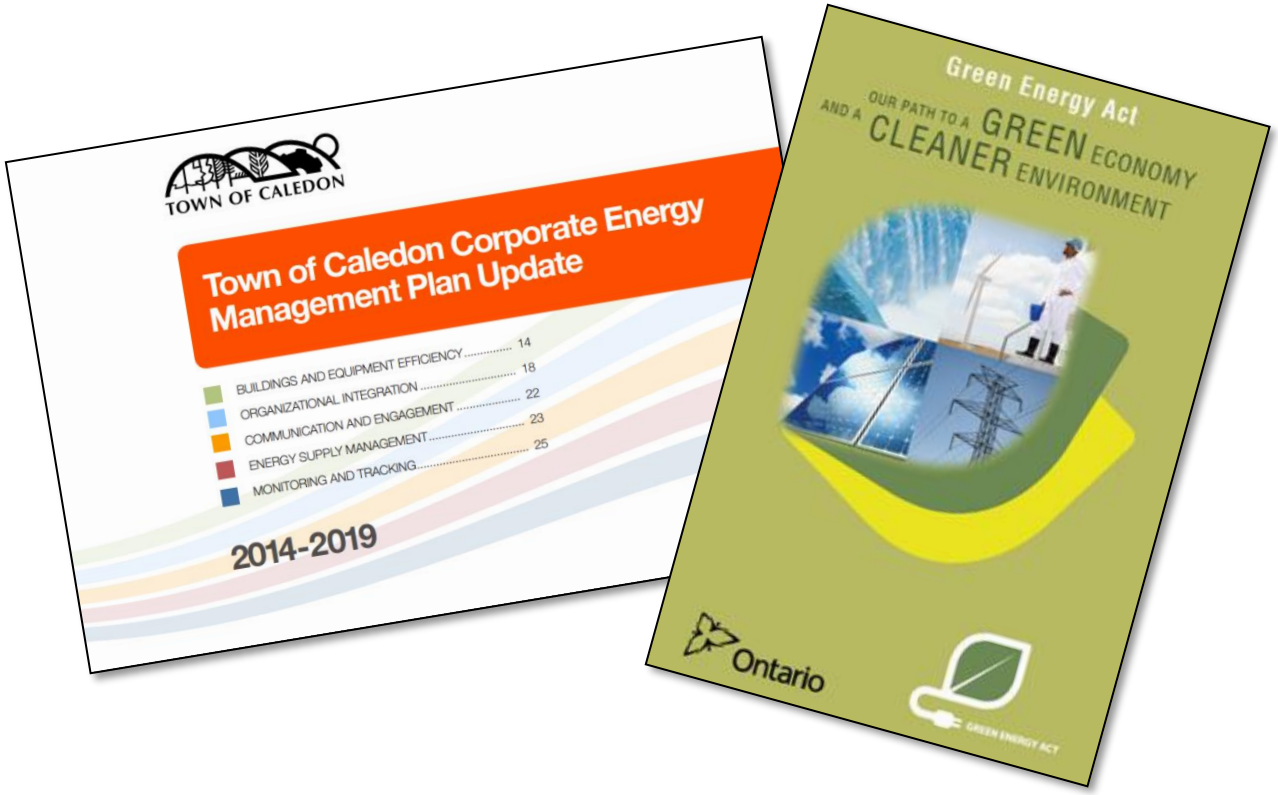
Caledon's Corporate Energy Approach

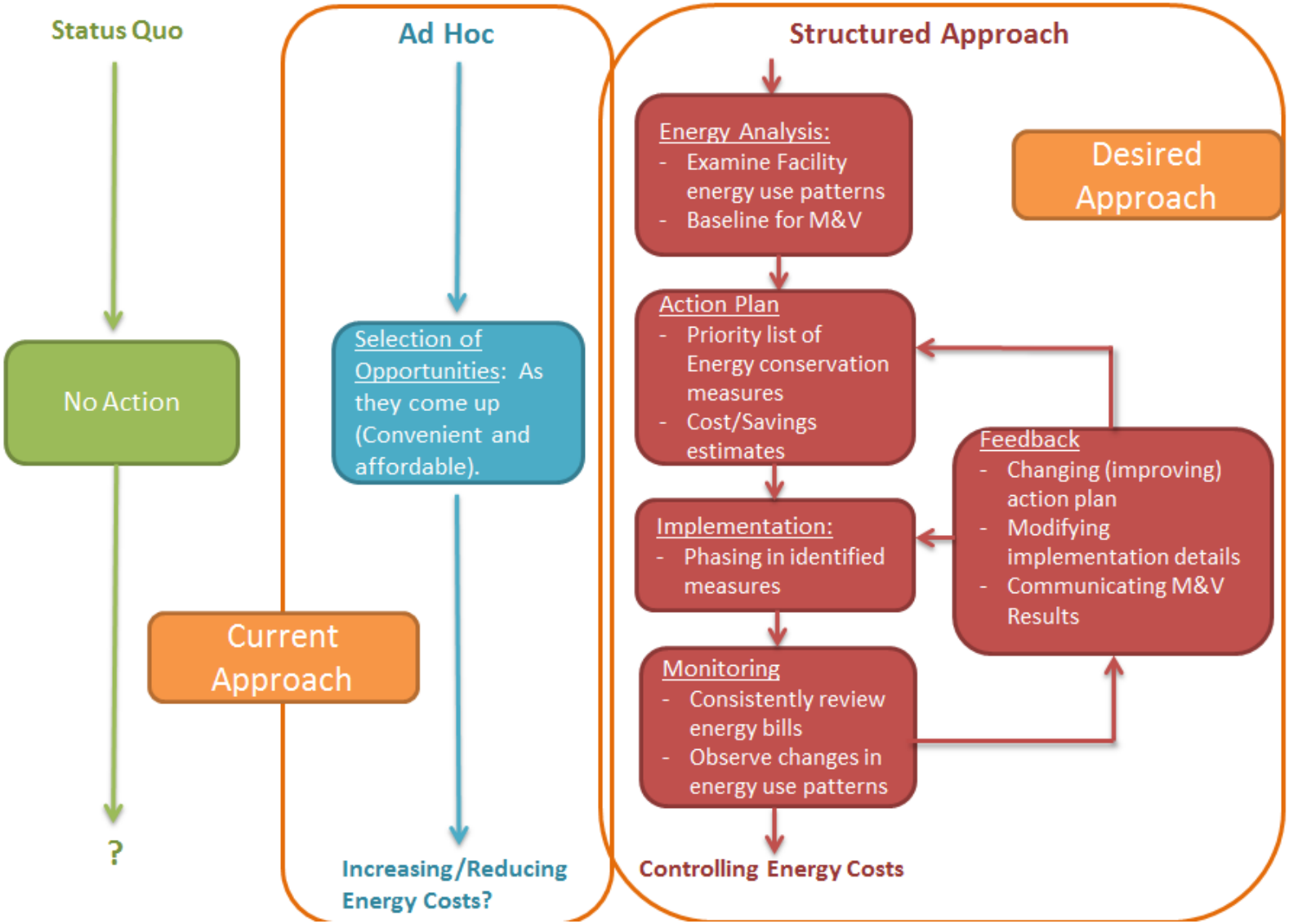


AGENDA

- Caledon's Corporate Energy Structure
- Energy Revolving Fund
- Monitoring and Verification
- Recognizing Successes

TOWN OF CALEDON

Caledon's Corporate Energy Structure



Corporate Energy Reserve Fund

Background:

- Established in 2010 with funds from a Wind Feasibility Study
- Leverage external funding & offset cost of energy projects
- Income generated by 3 microFIT solar projects

Challenge:

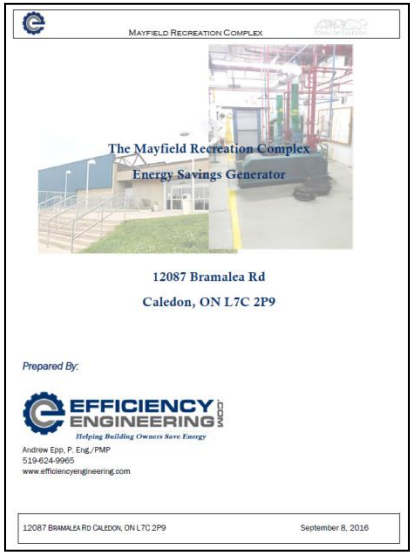
- Ad hoc use
- No element of fund sustainability
- Competing capital budgets for energy retrofits

Opportunity:

- Create a sustainable fund to pay for energy retrofits independent of the tax base and annual budget cycles

Energy Revolving Fund-How it Works?

Energy Audits


MAYFIELD RECREATION COMPLEX

The Mayfield Recreation Complex
Energy Savings Generator

12087 Bramalea Rd
Caledon, ON L7C 2P9

Prepared By:

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12087 BRAMALEA RD CALEDON, ON L7C 2P9 September 8, 2016

Financial Summary	
Project Cost	$38,000
Projected Annual Savings	**$10,800**
Simple Payback	**3.52 Years**

- projected savings diverted from the utility budget line to the Fund
- Diversion based on the calculated simple payback

Town

ENBRIDGE Life Takes Energy

SAVE ON ENERGY POWER WHAT'S NEXT

TOWN OF CALEDON

Monitoring and Verification Strategy

- Purchased Hioki Data Logger
- Case Study: Seasonal Controller at Mayfield Recreation Complex
- IPMVP Protocol: Option B Retrofit Isolation

Terminology:

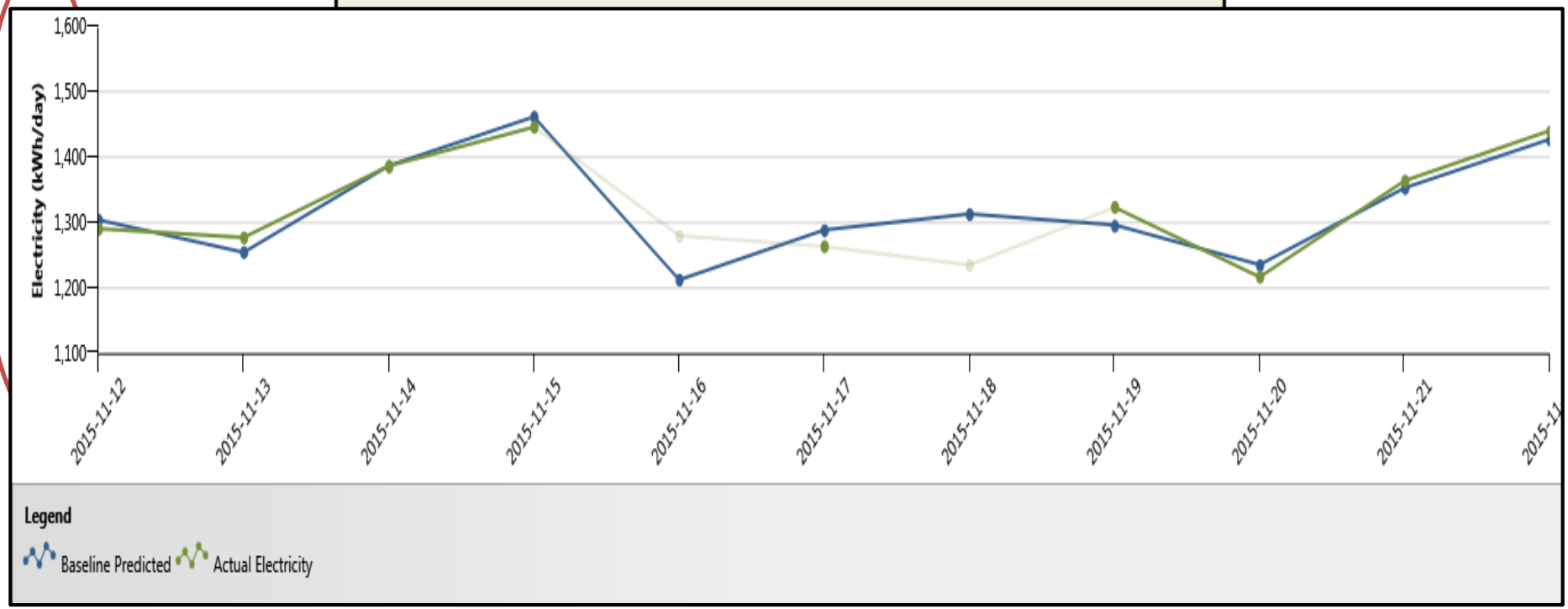
HDD
CDD
Ice Hours
Weather Normalization
RETSCREEN

TOWN OF CALEDON

Base Case

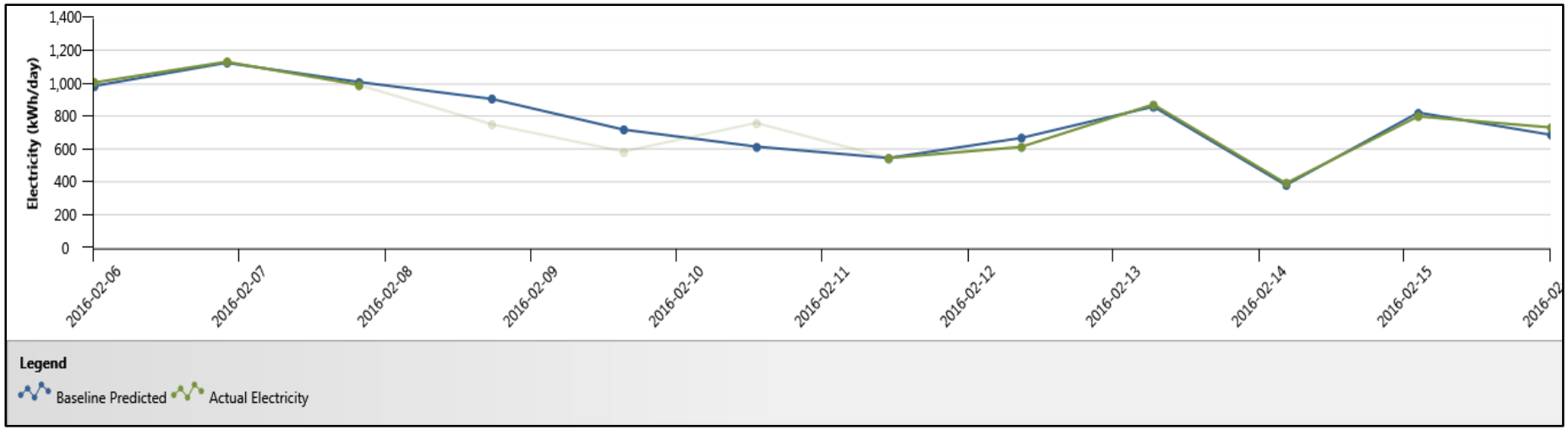
- Used Hi ectricity consum
- Recorde ion from compres

Month	Date Range	Year	AVG PSI
August	22-31	2014	167
September	2-30	2014	150
October	1-31	2014	146
November	1-30	2014	149
December	1-31	2014	152



Retrofit Case

- Used Hioki data logger to measure consumption after the retrofit
- Recorded average monthly pressure discharge for 3 months



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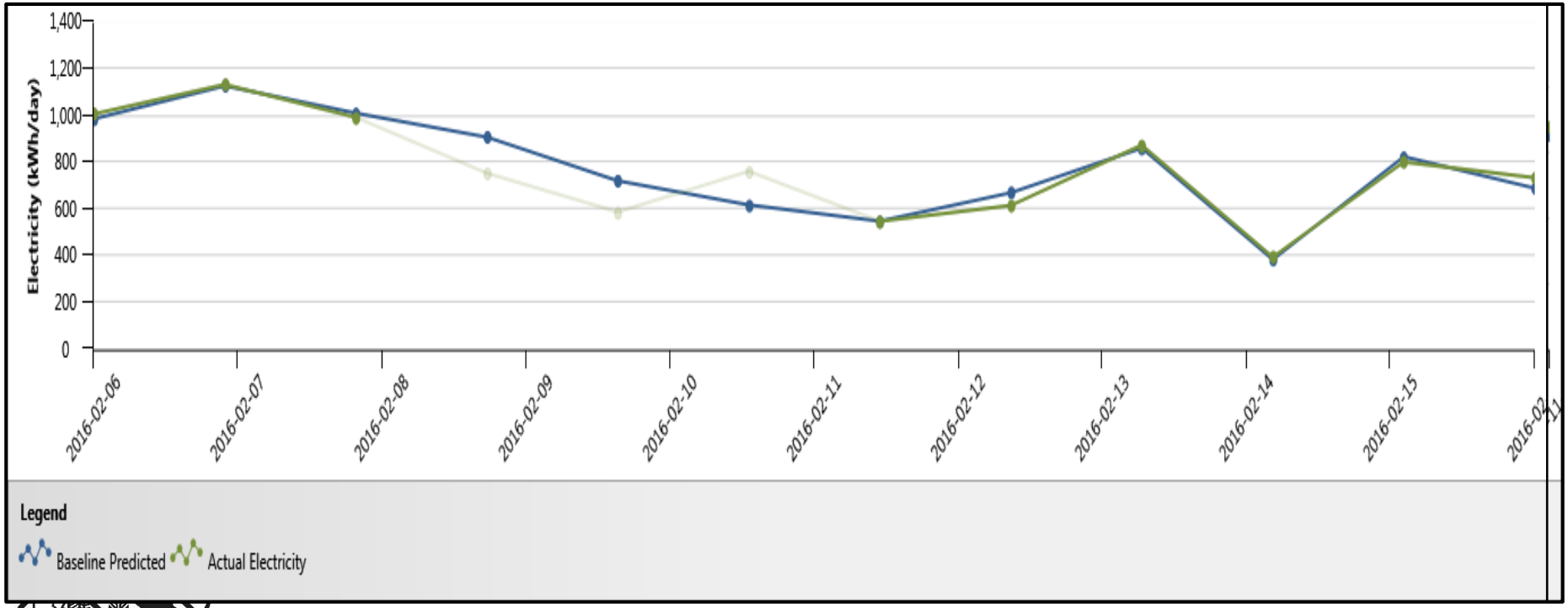
The Results

Pre Retrofit Consumption	Post Retrofit Consumption	Estimated Avoided Energy Use	Estimated Avoided Costs $0.10/kWh
256, 840kWh	213, 890kWh	42, 950kWh	$4, 295/year



Lessons Learned

- ✓ Worked well asking operators to submit project ideas but….
  - ✓ Important to verify information
  - ✓ Conduct site visits
- ✓ Important to be conservative on savings and build in contingency
- ✓ Monitoring and Verification is important for quality control
- ✓ Next Steps:
  - ✓ Would like to connect revolving fund with M&V
  - ✓ Formalize M&V policy corporate wide
  - ✓ Move towards supporting cost gaps for more efficient technology

TOWN OF CALEDON

ENERGY SAVINGS AWARD

Caledon Centre for Recreation and Wellness: Fieldhouse LED Lighting Retrofit

BEFORE
Annual energy use

163, 429 kWh
Metal Halide Lamps

AFTER
Annual energy use

33, 930 kWh
LED Lamps

SAVINGS
Annual energy saving

132, 534 kWh
Approximately the annual electricity consumption of 12.6 homes (approx $15,000)

PROJECT DETAILS

- Changed twenty one, twin 400W Metal halide lamps to twenty six, 154W LED lamps
- Daylight sensors (reduces light levels with available daylight)
- Advanced lighting controls

BEFORE

AFTER

Questions?

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