



ENERGY MANAGEMENT IN SMES PLASTIC SECTOR

The example of Wilden Italy

BOLZANO, MARCH 22, 2019

ING. ENRICO PERUCHETTI

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COMPANY PRESENTATION



WILDEN ITALY

- Wilden Italy was founded in 1995 as the Italian branch of the German Wilden AG in the plastic molding sector.
- The company is structured to serve the automotive and medical industry. It supplies high quality thermoplastic products.
- **Wilden Italy is not subjected to energy audit.**



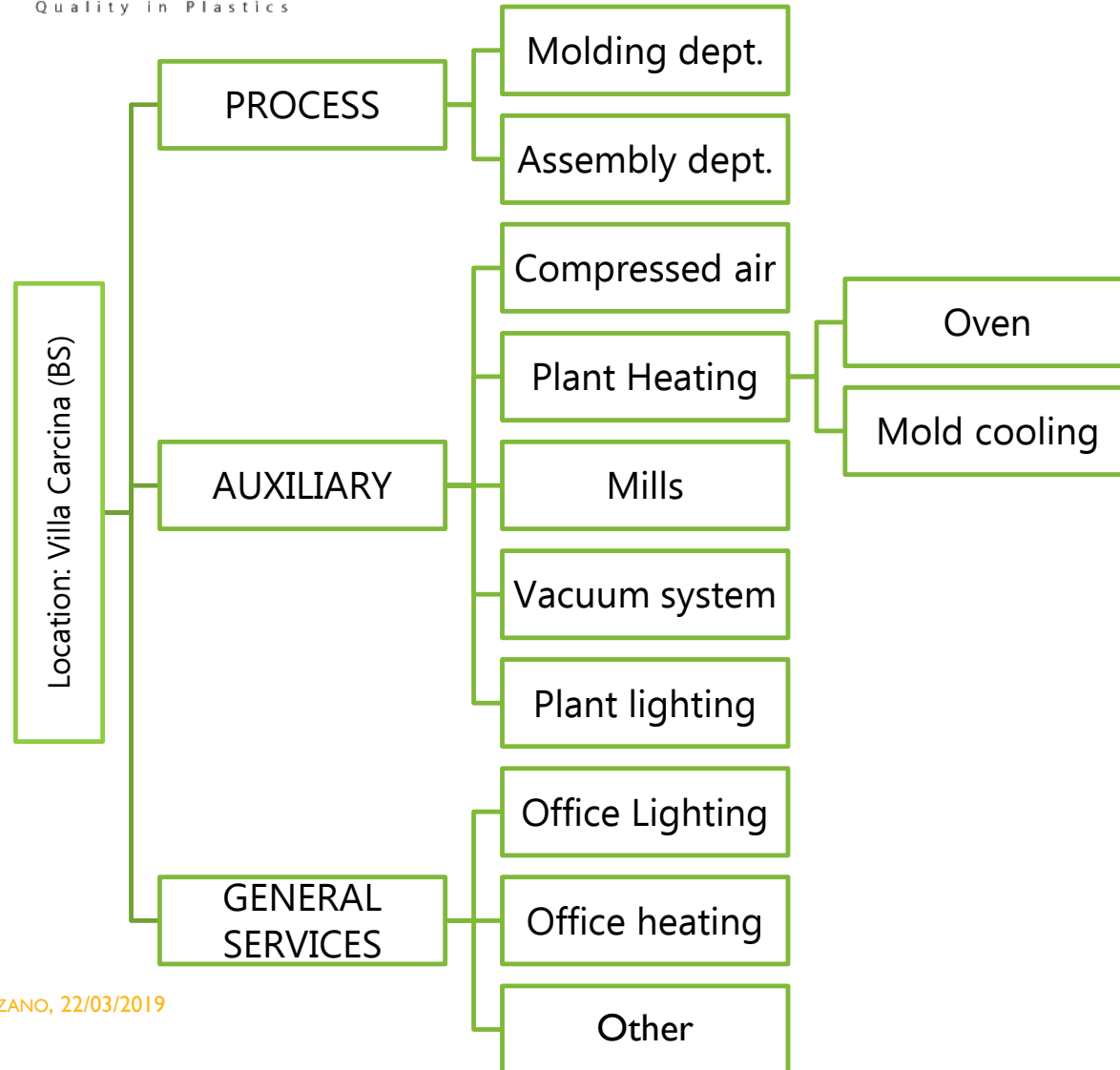
WILDEN ITALY



- our processes are highly automated and repeatable



STRUCTURE ENERGY





WHY ENERGY BECAME AN ISSUE FOR WILDEN?

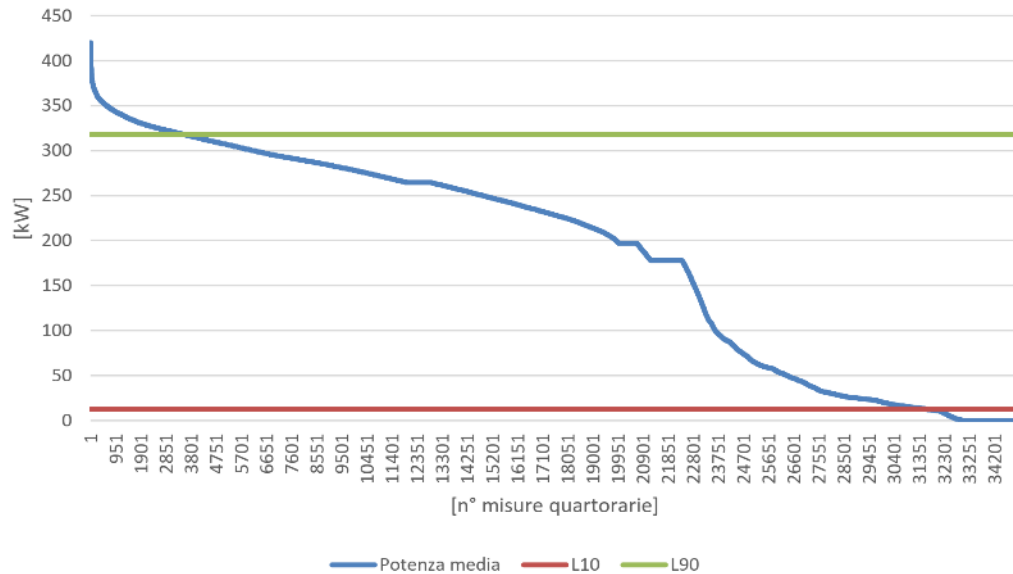


ENERGY AUDIT

- In 2016, Wilden Italy has carried out an energy audit thanks to a regional grant for the promotion of energy efficiency in SMEs.
- The energy audit has identified the following areas of improvement:
 - management
 - operation
 - machinery

RESULTS OF DIAGNOSIS

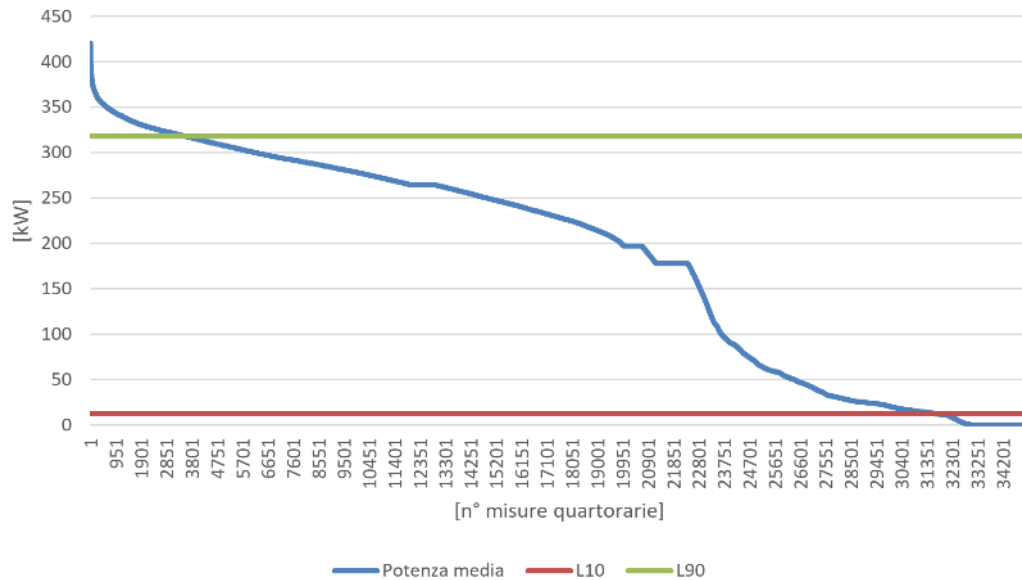
15 minutes energy data analysis



- Repowering the PV system (installed since 2014), by installation of a new 90 kWp plant

| Saving | Cost | PB |
|-----------------|-----------|---------|
| 16,500 € / year | 100,000 € | 6 years |


15 minutes energy data analysis



- Setting up procedures to reduce the base load: it has been identified that the base load is about 12 kW corresponding to some 6% of the annuale electricity consumption of the site. The countervalue is around € 16,000 / year. This consumption has been reduced by approximately 25% with the introduction of specific procedures which include turning off the machines at the end of the manufacturing lot and of the working week.

| Saving | Cost | PB |
|----------------|------|-----------|
| € 4,000 / year | 0 € | immediate |

Analysis of energy bills



**PREZZO FISSO
ENERGIA**

Spett.le
WILDEN ITALY SRL
VIA VENETO, 84
25069 VILLA CARCINA (BS)

464010

IMPORTO DA PAGARE: € 25.281,53 entro il 30 Dicembre 2016
Bolletta per i consumi dal 1 Novembre 2016 al 30 Novembre 2016

| | | | | | | | | | |
|---|--|------------------------------------|------------------------------------|--|-------------------------------|--|--|--|--|
| Consumi fatturati nel periodo 152.603,6250 kWh | Pagamento con addebito diretto Banca: UNICREDIT BANCA SPA Ag.: VIA MARCONI 16 - LUMEZZANE (BS) | | | | | | | | |
| La situazione dei pagamenti al 02/12/16 è regolare | | | | | | | | | |
| <p>LA TUA OFFERTA Prezzo fisso della materia prima Pagamento con addebito diretto IVA uso civile</p> | <p>CONTATTI</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">ONLINE www.lumenergia.it</td> <td style="width: 50%; border: none;">TELEFONO +39 030 8922150</td> </tr> <tr> <td style="border: none;">POSTA Lumenergia S.p.A Via F. Gilsenti 68/F 25069 Villa Carcina (BS)</td> <td style="border: none;">FAX +39 030 8982827</td> </tr> <tr> <td style="border: none;">SPORTELLO P.zza Giovanni Paolo II, 6 25065 Lumezzane (BS)</td> <td style="border: none;">SEGNALAZIONE GUASTI ELETTRICITA' 803 500 ENEL Distribuzione SpA</td> </tr> <tr> <td colspan="2" style="border: none;">SPORTELLO Aperto da lunedì al venerdì chiuso il mercoledì Orario dalle 8:30 alle 14:30</td> </tr> </table> | ONLINE www.lumenergia.it | TELEFONO +39 030 8922150 | POSTA Lumenergia S.p.A Via F. Gilsenti 68/F 25069 Villa Carcina (BS) | FAX +39 030 8982827 | SPORTELLO P.zza Giovanni Paolo II, 6 25065 Lumezzane (BS) | SEGNALAZIONE GUASTI ELETTRICITA' 803 500 ENEL Distribuzione SpA | SPORTELLO Aperto da lunedì al venerdì chiuso il mercoledì Orario dalle 8:30 alle 14:30 | |
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| <p>COME RISPARMIARE Contatta un nostro consulente oppure rivolgiti al nostro sportello, scoprirai sempre nuove offerte ed un valido interlocutore che saprà ascoltare le tue esigenze e trovare la migliore soluzione.</p> | | | | | | | | | |
| <p>Grazie per esserti registrato al servizio di sportello online di Lumenergia. Se non avessi ancora attivato il servizio di bolletta email, ti ricordiamo che potrai aderire online per tutti i clienti con SDD attivo</p> | | | | | | | | | |



- Renegotiation of electricity and gas supplies

| Intervention | Saving | Cost | PB |
|---------------------------|----------------|-------|----------|
| Electricity renegotiation | € 5,000 / year | 500 € | < 1 year |
| Gas renegotiation | € 2,800 / year | 500 € | < 1 year |

RESULTS OF DIAGNOSIS

Site inspection



- Investigation on leaks in compressed air system

| Category | Number | Total leaks |
|--------------|-----------|-----------------|
| A | 18 | 3.0 l/s |
| B | 10 | 7.9 l/s |
| C | 1 | 3.0 l/s |
| TOTAL | 29 | 13.9 l/s |

| Saving | Cost | PB |
|----------------|---------|---------|
| € 4,000 / year | 2,000 € | <1 year |



RESULTS OF DIAGNOSIS

Site inspection



- Led + presence sensors in warehouse area.



| Saving | Cost | PB |
|---------|----------|-----------|
| 6,000 € | 10,000 € | 1.7 years |



SUMMARY MEASURES

| INTERVENTION | ACHIEVED SAVINGS | COST INCURRED |
|---------------------------------------|------------------|-----------------|
| Baseload Reduction | 4,000 € | 0 € |
| Energy supplies Renegotiation | 7,800 € | 1,000 € |
| Lighting and presence sensors | 6,000 € | 10,000 € |
| Investigation on compressed air leaks | 4,000 € | 2,000 € |
| TOTAL | 21,800 € | 13,000 € |

PB < 1 year
NPV @ 5 years > 100,000 €



WHAT'S NEXT?



CONTINUOUS IMPROVEMENT

- After the diagnosis and the realization of some of the proposed interventions, Wilden Italy has chosen to implement a procurement policy and management of the systems strongly focused on energy efficiency:
 - Meetings and periodic updates
 - Technical advisor in purchasing energy-related products and services
 - Evaluation of proposals
- This activity has driven to a continuous improvement, which has led to more activities over the past two years:
 - Automation in ovens for raw materials
 - Mold temperatures optimization
 - Free cooling
 - Implementation of a monitoring system

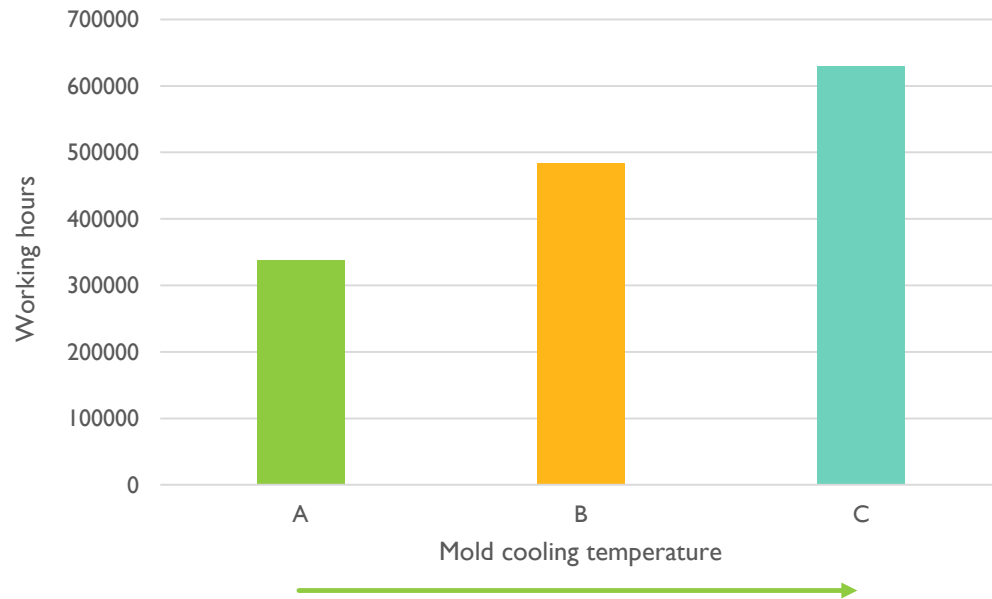
- Automation in ovens for raw materials



| Saving | Cost | PB |
|---------|----------|---------|
| 1,500 € | 10,000 € | 7 years |

Lower consumption, and especially improved process control and product quality

- Mold temperatures optimization



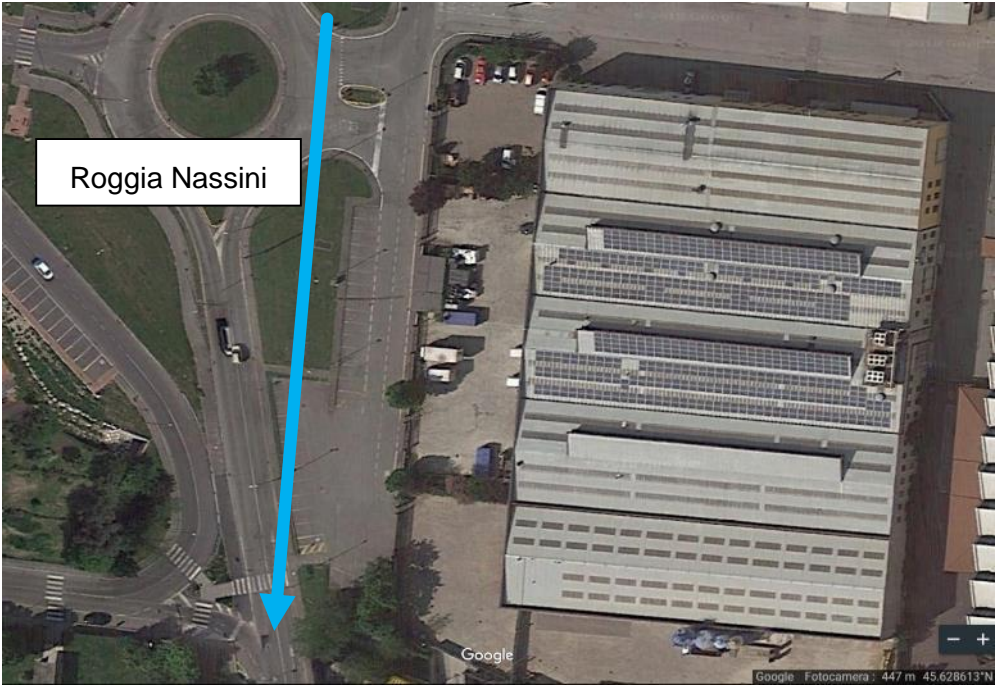
Preparatory for free cooling

| Saving | Cost | PB |
|--------|------|-----|
| --- | --- | --- |

Innovative technological solution

ONGOING PROJECTS

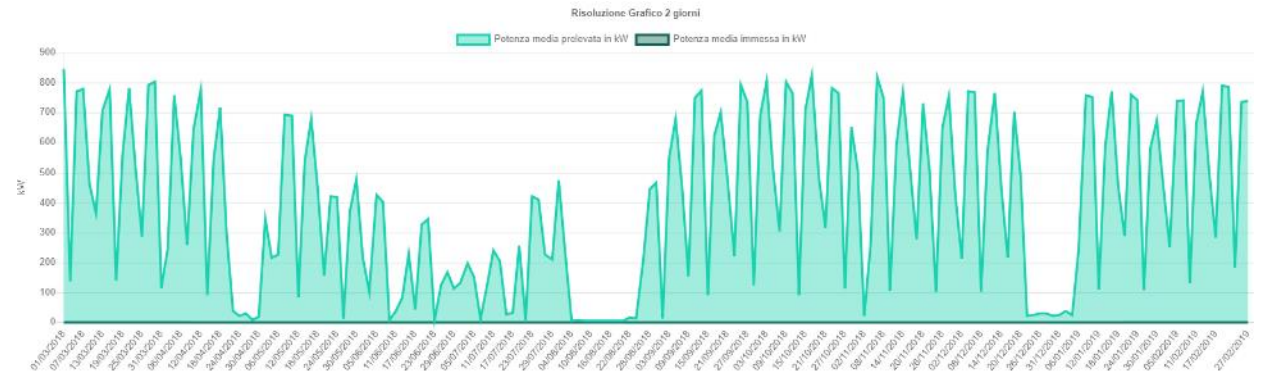
- Free cooling from surface water body



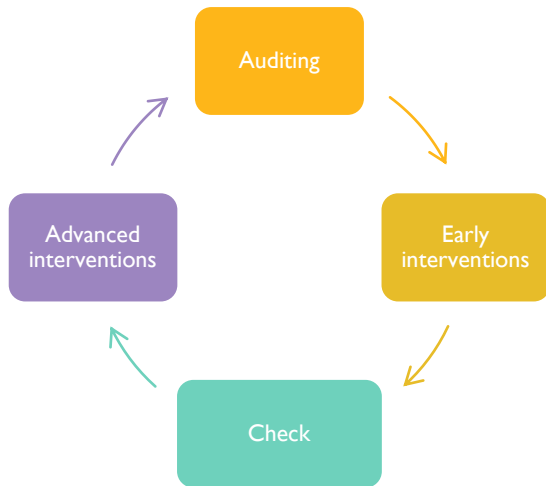
| Saving | Cost | PB |
|-------------------|----------|-----------|
| 77,000 kWh / year | 45,000 € | 3.3 years |

Innovative technological solution

- Implementation of a monitoring system



CONTINUOUS IMPROVEMENT





THANKS FOR THE ATTENTION !

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