



CENTRO DE
PRODUCCIÓN MAS
LIMPIA DEL BAJÍO



U.S.-MEXICO CHAMBER OF
COMMERCE
CAMARA DE COMERCIO
MEXICO-E.U.
Capitulo Guanajuato



UNITED STATES-MEXICO CHAMBER OF COMMERCE
CÁMARA DE COMERCIO MÉXICO-ESTADOS UNIDOS

CLEANER PRODUCTION IMPLEMENTATION IN HOTEL SECTOR IN GUANAJUATO, MEXICO

Jointly with:
Ministry of Sustainable Tourism Development
Guanajuato's Environmental Protection Office

Sao Paulo, Brasil.



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BAJIO CLEANER PRODUCTION CENTER (BCPC)

In 2005, USMCOC Guanajuato Chapter, Ministry of Environment and Natural Resources (SEMARNAT), Guanajuato Ecology Institute, and the Inter-American Development Bank (IADB) joined efforts to design and implement a program in the Bajío Region of Mexico based in the Cleaner Production Methodology in Small and Medium Enterprises of the following business sectors:

- ❖ Automotive
- ❖ Chemical
- ❖ Hospital
- ❖ Hotel
- ❖ Tanning





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HOTEL SECTOR IN GUANAJUATO

Guanajuato is the main State in Mexico with colonial attractions in cities as follows: San Miguel de Allende, Guanajuato City, Leon, Dolores Hidalgo, Celaya and Irapuato.



Guanajuato has different cultural events:

- 1-International Cervantino Festival
- 2-International “Expresión en Corto” Festival
- 3-Jazz Festival



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GUANAJUATO STATE



Bulevar Campestre No. 1215 interior 12, Col. Valle del Campestre, León, Gto. 37160 Te



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GUANAJUATO STATE



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REVIEW

In 2008 the Guanajuato Congress created the Ministry of Sustainable Tourism Development to promote the sustainable tourism and support the sector.

In June 2008, the BCPC in cooperation with Environmental Protection Office (PROPAEG) and Ministry of Sustainable Tourism Development began the project “Cleaner Production- Clean Company”

Objectives are:

- √ Detect the potential savings in the use of raw materials, water and energy.
- √ Implement techniques and training to minimize negative environmental impacts.
- √ Contribute to a productive efficiency and reduction of operating costs.
- √ Made an Environmental Audit and after, obtain the Clean Company Certificate in Guanajuato State.



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PREEVALUATIONS

BCPC had made 40 preevaluations and 7 implementations with audits.

HOTEL	SAVINGS			
	WATER	ELECTRIC ENERGY	COMBUSTIBLE	TOTAL
	m ³ / YEAR	kWh/ YEAR	l/ YEAR	\$/YEAR
K'SA	1,018	4,122	1,362	31,779
CASA ROSADA	656	4,348	597	23,976
REAL DE MINAS SMA	8,153	33,810	15,011	194,960
LA PUERTECITA	2,372	15,890	4,132	76,990
SANTUARIO GOLF AND SPA	2,372	1,532	981	35,031
SANTUARIO CENTRO	60	2,190	777	11,673
REFUGIO DEL MOLINO	3,261	10,410	5,951	105,688
CASA COLORADA	810	8,330	3,014	76,107
ESPAÑA				
LA ESTANCIA	4,075	79,464	8,309	399,634
LEON	2,377	37,644	13,849	268,858
THERMA AND SPA REFUGIO COMANJILLA	13,367	35,390	3,627	164,961
LA ABADÍA	1,857	9,633	1,425	85,600
CASA DEL AGUA				
OPERADORA MEXICO PLAZA	500	3,266	4,404	50,600
MISIÓN GTO.	4,470	33,690	15,300	274,000
HOLIDAY INN EXPRESS GTO	4,050	86,928	10,712	305,240
HOLIDAY INN EXPRESS SILAO	1,250	41,350	5,900	124,900
SAN DIEGO				



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PREEVALUATIONS

POSADA SANTA FE	1,948	16,794	6,090	122,420
EL HOSTAL DE LOS POETAS	3,600	3,836	2,108	145,270
PLAZA BAJÍO Y MOTEL	1,392	10,016	2,784	81,200
CAMINO REAL	4,580	35,578	13,269	354,582
ANTIGUO VAPOR	209	908	712	15,830
VILLAS XICHÚ	307	2,958	794	21,052
LOS PABLOS	35.76	1,495	600	8,638
DEL PORTAL	69.73	1,442	281	6,818
LOS AGAVES	80.40	1,029	281	4,842
CASA LINDA	367.80	11,993	2,858	56,200
POSADA LA ALDEA	974.40	11,417	5,479	72,907
PARADOR EL CORTIJO	0,00	4,154	954	18,779
CASA DE AVES	129.60	3,550.50	2,381	34,334
LA MORADA	177.90	1,447.80	439	10,781
REAL DE MINAS	4,410	24,800	8,080	286,000
HACIENDA DE LAS FLORES	412	4,016	670	18,511
CASA SIERRA NEVADA	1,456	35,260	2,850	219,135
CASA DE LOS SOLES	210	2,327	627	14,112
FLAMINGOS	1,014	35,260	6,714	68,318
PARADOR DEL RIO	500	4,890	700	12,000
MISIÓN DE LOS ANGELES	1,070	21,312	4,818	73,272
TOTAL	73591.59	604,893.3	158,840	3,874,998



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IMPLEMENTATIONS

Hotels from San Miguel de Allende, Irapuato, Guanajuato and Silao have implemented cleaner production projects. Results are:

Opportunities in water

Opportunity	Environmental benefit	Economic savings (\$/year)	Investment (\$)	SRR (year)
1) Adapt the water flush volume in WC	Drinkable water reduction: 6,710.4 m ³ /year	\$86,424.00	Not needed	Immediately
2) Install saver water systems in WC	Drinkable water reduction: 837.76 m ³ /year	\$22,071.00	\$54,198.00	2.46
3) Eliminate water leaks in WC	Drinkable water reduction: 11,998 m ³ /año	\$40,437.00	Not needed	Immediately
4) Install dry urinals in bathroom	Drinkable water reduction: 1,103 m ³ /year	\$14,628.00	\$13,520.00	0.92
5) Install saver water in conventional watering can	Drinkable water reduction: 12,068 m ³ /year	\$207,313.00	\$ 56,771.00	0.27
6) Reduction of water flow in sinks	Drinkable water reduction: 1,753 m ³ /año	\$9,624.00	\$ 3,208.00	0.11



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OPPORTUNITIES IN WATER

7)	Reduction of water consumption in laundry service	Drinkable water reduction: 1,870 m ³ /año	\$29,458.00	Not needed	Inmediatly
8)	Use waste water from the laundry service to water the garden	Drinkable water reduction: 1,867 m ³ /año	\$27,824.00	\$ 18,946.00	0.68
9)	Reduction of water consumption used in the regeneration of softners	Drinkable water reduction: 3,794 m ³ /año	\$30,610.00	Not needed	Inmediatly
10	Implement a control system in the use and handling of water	Drinkable water reduction: 10,191 m ³ /año	\$82,222.00	Not needed	Inmediatly
11)	Optimize loads of washing machines in laundry service	Water reduction: 516 m ³ /año	\$6,844.00	Not needed	Inmediatly
12)	Substitution of washing equipment	Water reduction: 279 m ³ /año.	\$5,809.00	\$ 16,500.00	3.64
Total		Water reduction: 52,987 m³/year	\$ 683,264.00	\$ 163,143.00	0.24



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OPPORTUNITIES IN ELECTRICAL ENERGY AND COMBUSTIBLE

Opportunity	Environmental benefit	Economic savings (\$/year)	Investment (\$)	SRR (year)
13) Reduction of gas LP consumption in laundry	Gas LP reduction: 28,165 l/year. Reduction of CO ₂ emissions in 48.44 tCO ₂ /year	\$ 41,915.00	Not needed	Immediately
14) Reduction gas LP consumption in kitchen	Gas LP reduction: 4,515 l/year. Reduction of CO ₂ emissions in 7.77 tCO ₂ /year	\$ 26,160.00	Not needed	Immediately
15) Optimize the use of electricity in refrigerators	Reduction of electricity in 16,980 kWh/year. Reduction of CO ₂ emissions in 14.82 tCO ₂ /year	\$ 21,919.00	Not needed	Immediately
16) Replace standard motors by motors of high efficiency, as well as new equipment of refrigeration	Reduction of electricity in 3,328 kWh l/year, reduction of 1.140 kW on demand, and reduction of CO ₂ emissions in 11.4 tCO ₂ /year	\$ 29,015.00	\$ 40,449.00	1.39
17) Reduction of temperature of operation and the excess of air in the water heaters	gas LP reduction in 12,694 l/year, diesel reduction in 11,674 l/year. Reduction of CO ₂ emissions 52.57 tCO ₂ /year	\$ 132,300.00	\$ 15,000.00	0.11
Total	Reduction of electricity in 20,308 kWh , Reduction of gas LP in 45,374 l/year, Diesel reduction 11,674 l/year. Reduction of CO₂ emissions in 135 tCO₂/year	\$ 351,309.00	\$ 55,449.00	0.16



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OPPORTUNITIES IN CHEMICAL PRODUCTS AND WASTE

Opportunity	Environmental benefit	Economic savings (\$/year)	Investment (\$)	SRR (year)
18) Reduction of polyethylene bags consumption	Reduction in polyethylene consumption in 1714 Kg/year	\$ 25,220.00	Not needed	Immediately
19) Implementation of programs of integral waste management.	Reduction of 102,200 Kg/year of organic waste, instead of dump it.	\$ 17,811.00	Not needed	Immediately
20) Reduction of chemical substances use in laundry	Chemical substances reduction: solids 2,056.6 Kg/year, and liquids 1,532.5 l/year	\$ 113,699.00	Not needed	Immediately





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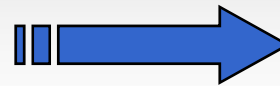


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LEARN LESSONS

Lessons

**Aliance
Government – CPBC**



Reaction

Proyect fortification in
development

To point deficiency in
the sector

Obtain the clean
company certificate

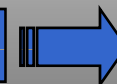
**Aliance
Hotels association
– CPBC**

Tourism



Marketing estategy
Operative costs reduce

bussines



Opposition the resorts



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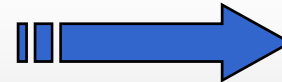


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LEARN LESSONS

Lesson

Rich mangement
– Poor company



Reaction

Chane the goals and
promotion in proyects
(\$)
Sensitization to
associations and
managers.



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LEARN LESSONS

Lessons

Negative position from
managements and,
employee
To made an environment
projects



Reaction

To have a different view
with active participation
and change the habits



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LEARN LESSONS

Lessons

Reaction

Innovation



Modernizing of CPBC in
new topics and
preventive tools
Aliance with tecnology
development centers
and education institute



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In conclusion

A) The tourism opening sector in Guanajuato state to incorporate the cleaner production method and the operative and technical ability and from the CPBC was brought with himself technical, economic and environmental benefits in hotels known as “ecological hotels”.

B) This work between CPBC-SEDETUR-PROPAEG brought positive synergy, this is reflected in the numbers of participant hotels, in the recognition and economic support from the state and in the growth of the hotel sector of the Guanajuato.

C) This project, with its respective modifications might be implemented on some different hotels from Mexican states and other countries



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Hotel

Real de Minas, Gto.

Hotel Ecológico

El Hotel Real de Minas Gto. cuida y trabaja a favor del medio ambiente por lo que:

- Todos nuestros desechos orgánicos son procesados para su utilización como composta en nuestros jardines.
- Contamos con procedimientos de clasificación de residuos para su posterior reciclaje.
- El sistema de calentamiento de agua es altamente eficiente.
- Solo se utilizan productos biodegradables en la limpieza y lavado de ropa.
- Las aguas grises ya tratadas son utilizadas al 100% en riego de jardines.
- Contamos con sistemas ahorradores de agua en todos los servicios.
- Utilizamos lámparas ahorradoras y sensores de movimiento.

“Para el Hotel Real de Minas Gto. el cuidado del medio ambiente es una responsabilidad ... ayudamos a conservarlo.”



Cuida el Medio Ambiente



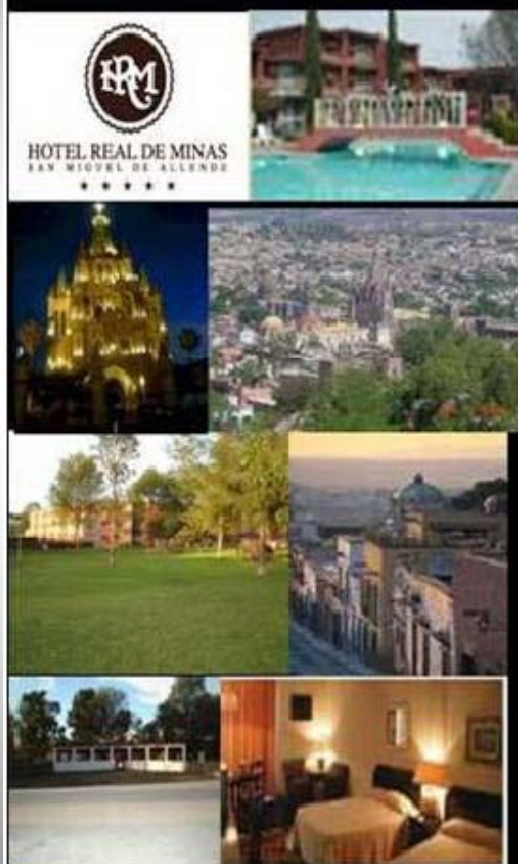


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Hotel Real de Minas de SMA, Gto.



Hotel Ecológico

En el Hotel Real de Minas SMA, Gto. Nos preocupamos, cuidamos y trabajamos a favor del medio ambiente por lo que:

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“Para el Hotel Real de Minas SMA, Gto. el cuidado del medio ambiente es responsabilidad de todos ... ayudamos a conservarlo.”



Cuidemos nuestro Medio Ambiente





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Grupo Turístico Refugio Comanjilla. S.A. de C.V. Hotel Therma & SPA "Refugio Comanjilla" y "Parque Acuático Comanjilla"



Hotel Ecológico

En Grupo Turístico Refugio Comanjilla. S.A. de C.V. Hotel Therma & SPA "Refugio Comanjilla" y "Parque Acuático Comanjilla", nos preocupamos, cuidamos y trabajamos a favor del medio ambiente por lo que:

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- Utilizamos lámparas ahorradoras y sensores de movimiento.

"Para En Grupo Turístico Refugio Comanjilla. S.A. de C.V.. el cuidado del medio ambiente es responsabilidad de todos ... ayudamos a conservarlo."



Cuidemos nuestro Medio Ambiente





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THANK YOU

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