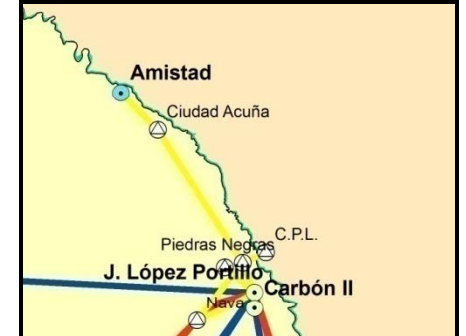
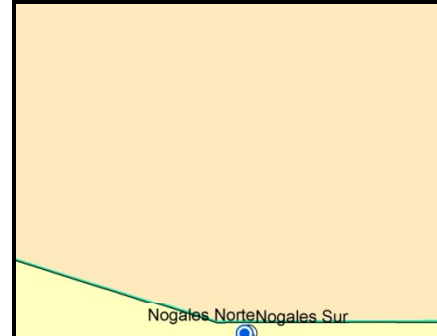
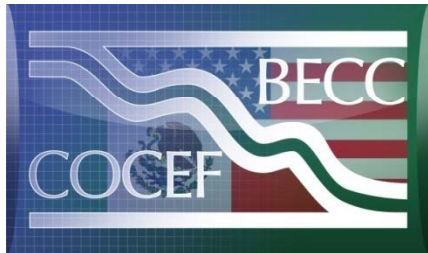
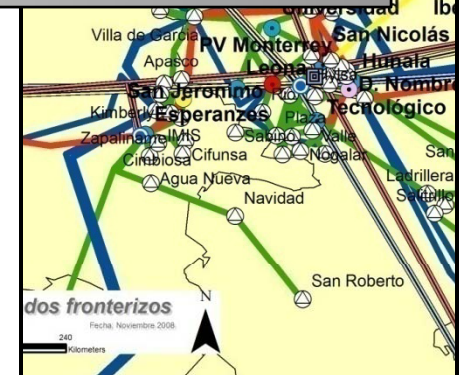
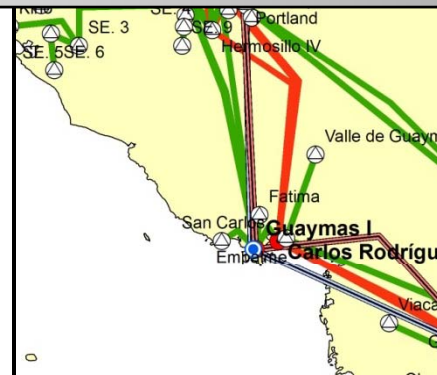




BORDER ENVIRONMENT COOPERATION COMMISSION CARBON MARKETS WORKSHOP August, 2009



The Border Environment Cooperation Commission

- BECC is an international organization established by the United States and Mexico under NAFTA side agreements.
- Its mission is to preserve, protect, and to improve the environment along the United States- Mexico border region.
- It develops projects and strategies that will improve the environment and/or lead to the certification of sustainable infrastructure projects.



Project Development

- Environmental infrastructure projects are certified for funding by the North American Development Bank (NADB) and other institutions.
- Promotes transparency with effective programs and broad public participation.



Coverage

100 km on the U.S. side of border
300 km on the Mexico side



Covers 1.2 million km²
23.8M residents

Includes population centers
like San Diego, Tijuana,
Hermosillo, Juarez, El Paso,
Chihuahua, Monterrey,
Laredo, Brownsville and
Matamoros.

Sectors

BASIC SECTORS

- Water
- Sewage systems
- Wastewater treatment
- Water Reuse
- Rain Water Systems
- Solid Waste

EXTENDED SECTORS

- Water Conservation
- Air Quality
- Public Transportation
- Clean and Efficient Energy
- Hazardous Waste
- Solid Waste Reduction and Recycling
- Municipal Planning



Social and Environmental Benefits

2 Energy Project:

25 million gallons per day of biodiesel

17 Solid Waste Management Projects:

2.9 million residents with better waste collection and disposal services; 1,500 tons/day of illegally dumped waste eliminated.

25 Water Conservation Projects:

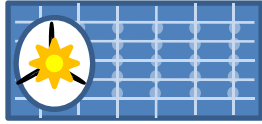
Estimated annual water savings of 318 million gallons per day. As a comparison, this quantity is sufficient to serve the average drinking water demands of 4 million people.

9 Air Quality Projects:

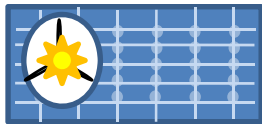
3.3 million residents with reduced exposure to air pollution from vehicular traffic on unpaved streets. Approximately 100,000 tons/year of PM₁₀ anticipated to be eliminated.

76 Water and Wastewater Projects:

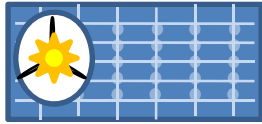
Providing improved drinking water treatment and distribution as well as wastewater collection and treatment for the benefit of more than 10.8 million border residents.



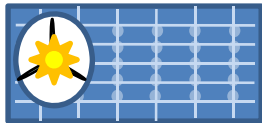
160 certified projects
\$3,300 M



105 projects in the
pipeline \$6,007 M



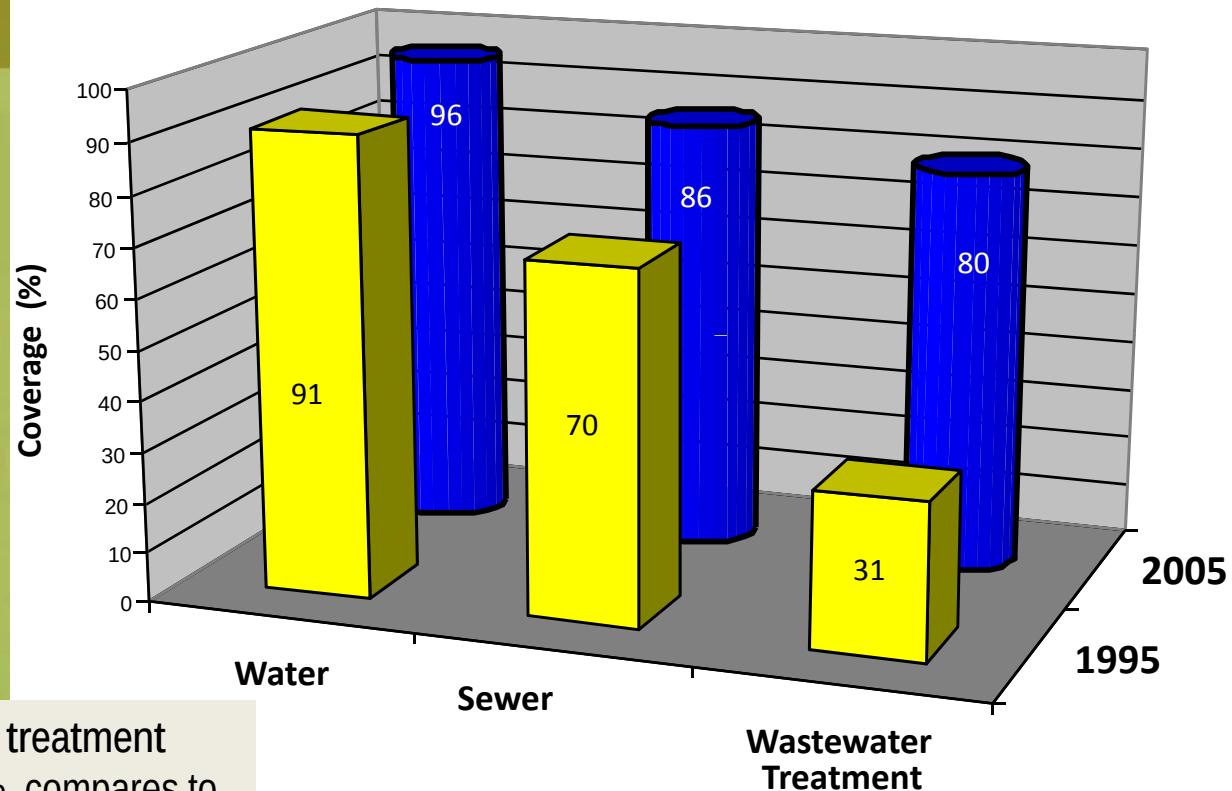
149 communities have
received technical
assistance up to date



**Prioritization Process for BEIF-
PDAP Funds**

Program Accomplishments through PDAP/BEIF

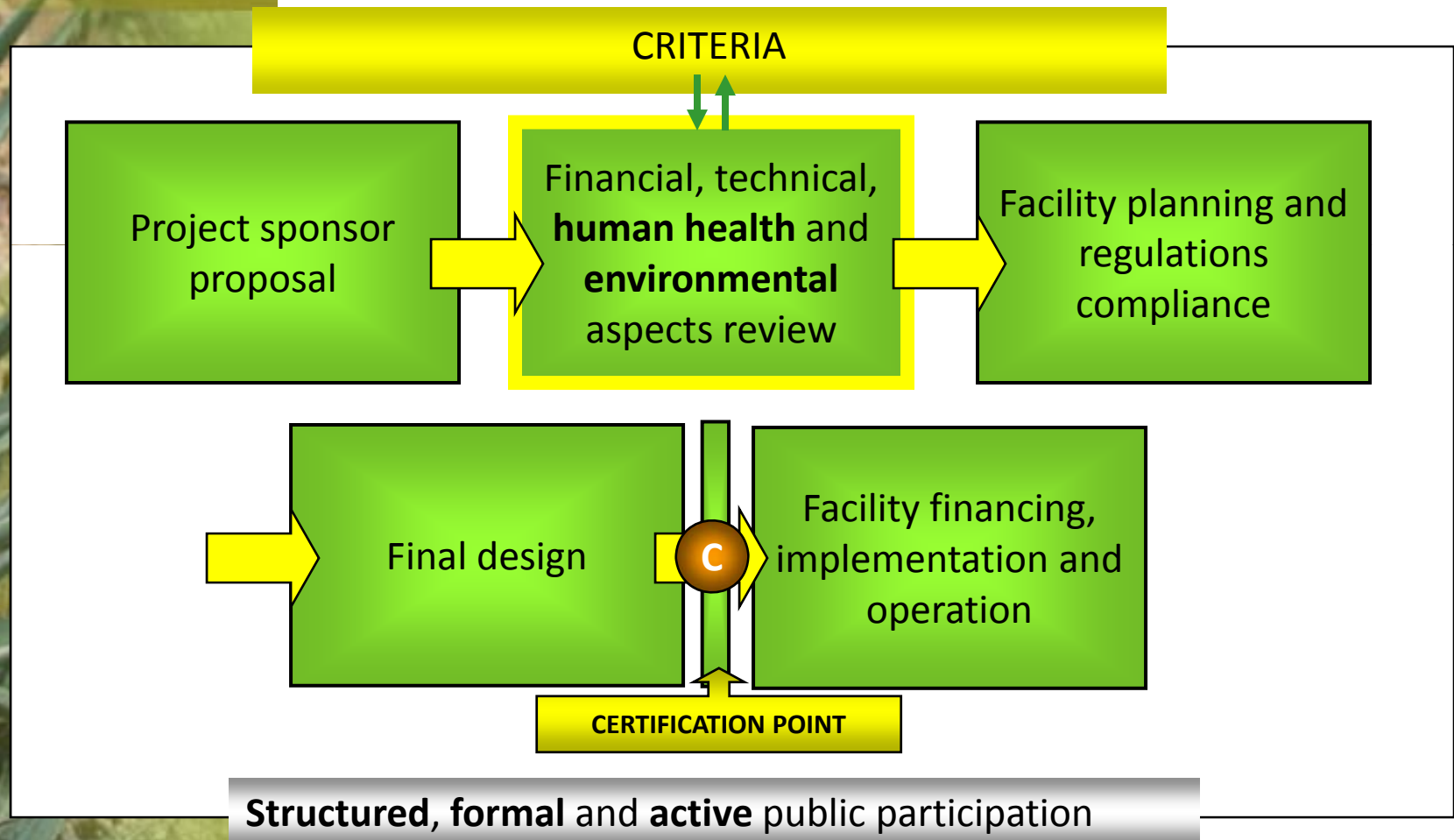
Service Coverage Advancement in Mexico – 100 Km



An increase in wastewater treatment coverage from 31% to 80%, compares to the national average in Mexico of less than 35%

Certified BEIF projects provide the capacity to treat 300 MGD of raw or inadequately treated wastewater, an equivalent to the wastewater discharge of 6.8M persons ~ approximately 50% of the border population.

Certified Project Execution





BECC's Certification Criteria

General

Meets requirements for appropriate project type, location and purpose.

Technical

Selects proper technology according to industry standards and institutional sponsor capability

Financial

Ensures a project affordability and the availability of adequate resources to operate and maintain it

Community Participation

Procures community project involvement through active participation, consultation and transparency

Human Health & Environment

Preserves, protects and enhances human health and the environment, satisfies environmental clearance processes, and addresses trans-boundary effects

Sustainable Development

Applies principles of sustainable development throughout the entire project cycle



Sistema de Certificación de Proyectos

[Catálogos](#) [Criterios de Certificación](#)

CoCEF - Sistema de Certificación de Proyectos

Proyecto: 584. Barreales y Juárez y Reforma, Chih - Alcantarillado sanitario en Barreales y Juárez y Reforma, Chih

[Seleccionar Proyecto](#)

Bienvenido al Sistema de Certificación de Proyectos

Para empezar a capturar la información para los documentos de certificación "Seleccionar Proyecto" para trabajar con el proyecto deseado. Arriba se indica del proyecto con el que se encuentra trabajando.

Con el menú de arriba, en la opción de Criterios de Certificación podrá seleccionar la información que desee capturar.

Generar Documentos de Word

Proyecto: 584. Barreales y Juárez y Reforma, Chih - Alcantarillado sanitario en Barreales y Juárez y Reforma, Chih

[Seleccionar Proyecto](#)

Indique el nombre de archivo con el que será creados los documentos generados de el proyecto

Proyecto: 584. Barreales y Juárez y Reforma, Chih - Alcantarillado sanitario en Barreales y Juárez y Reforma, Chih (WWW)

Nombre de archivo:

- ☒ Generar solo documento completo
- ☐ Generar solo documentos por criterio
- ☐ Generar todos los documentos

BORRADOR DE DOCUMENTO DE CONSEJO

Comisión de Cooperación Ecológica Fronteriza Documento de Certificación del Proyecto de Alcantarillado y Saneamiento En Barreales y Juárez y Reforma, Chih.

1. Criterios Generales

1.a Tipo de proyecto

Nombre del proyecto:	Barreales y Juárez y Reforma, Chih - Alcantarillado sanitario en Barreales y Juárez y Reforma, Chih
Sector al que pertenece:	- Conexiones Domésticas a los Servicios de Agua y Alcantarillado

1.b Categoría del proyecto

Categoría:	Proyecto de Infraestructura Ambiental para la comunidad - Impacto Comunitario
------------	---

1.c Ubicación del proyecto y perfil de la comunidad

Localidades:	Barreales, Mpio. de Guadalupe D.B. y Juárez y Reforma
Ubicación:	El estado de Chihuahua se localiza en el extremo Norte de la República Mexicana, colindando con los Estados Unidos de América (EUA). Barreales y Juárez y Reforma Parra se ubican al Noreste del Estado de Chihuahua en el Municipio de Guadalupe D. B colindando con la población de Fabens, TX., son dos de las 23 localidades del denominado Valle de Juárez, y constituyen comunidades con vocación agrícola, aunque debido a su cercanía con Ciudad Juárez, un porcentaje importante de su población trabaja actualmente en maquiladoras, ubicadas en esa ciudad.

BECC RELOADED

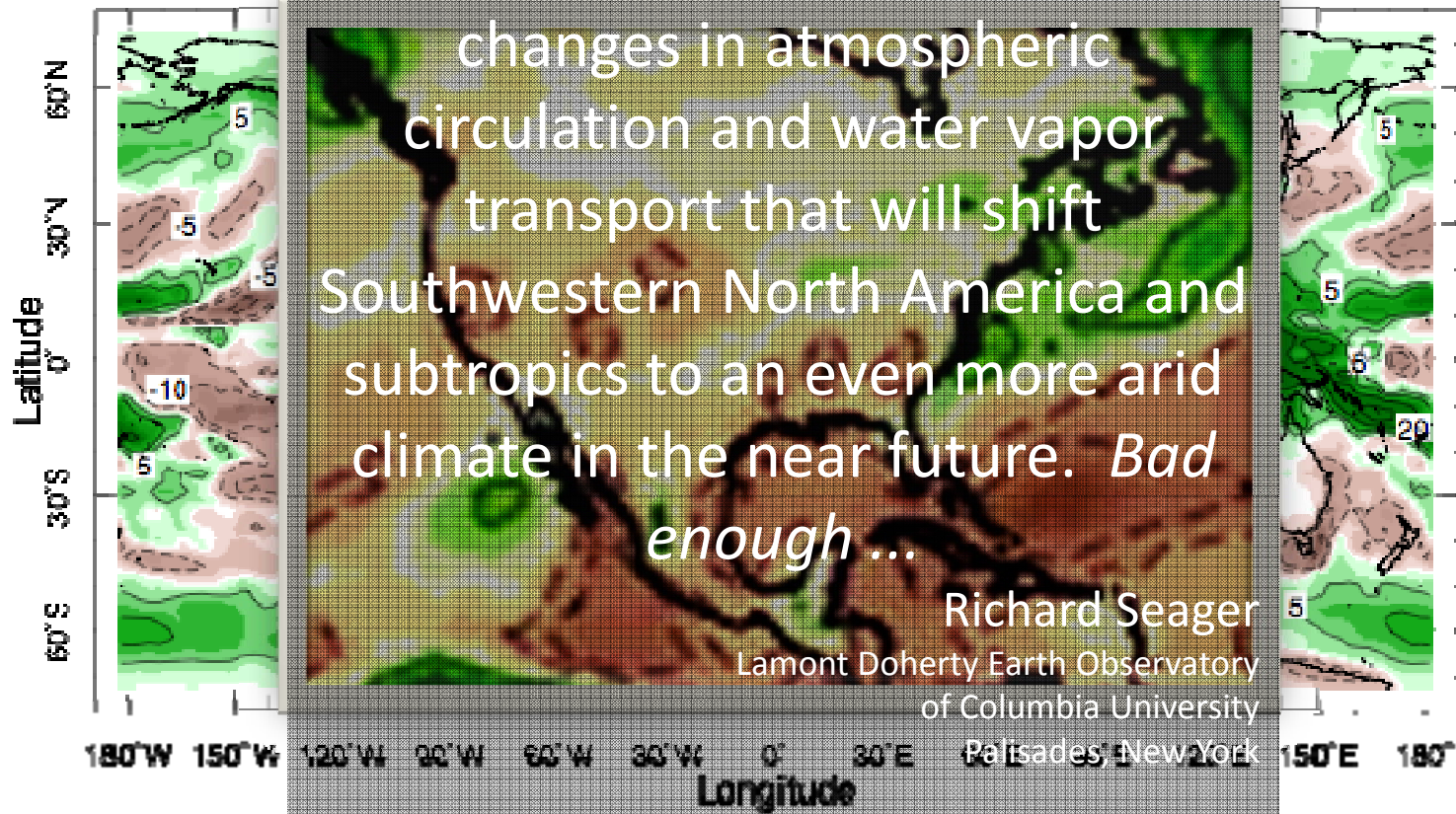
BECC Environmental Objectives

ISO 14000 Program

June 2009 – May 2010

1. Reduce energy use by 10% KW-h
2. Reduce employees car driving distance by 20%
3. Offset 80% of BECC business travel carbon footprint
4. Start up a pilot plan to plant enough trees to offset 10% GHG
5. Reduce BECC domestic waste by 50%
6. Reduce use of paper by 40%

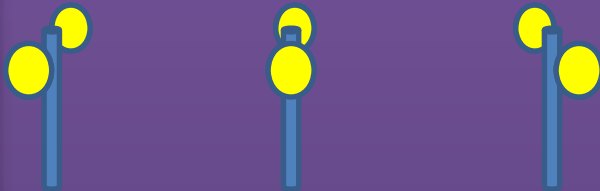




What Climate Change will Cause to Border Residents if We Do Nothing:

-  Drought frequency and deepness will increase forcing migration to urban areas and increasing food cost and scarcity
-  Cities will experience frequent water shortages affecting population wellness and health
-  Industries requiring water for operation will experience loss of production
-  Flood defense infrastructure will be overwhelmed by extremes
-  Present basic environmental Infrastructure will be affected by weather extremes
-  Energy cost will face large variability due to climate extremes and oil and gas production problems
-  Present unsustainable urban development practices will be evidenced by nature
-  Climate impact on public will be painfully shown
-  Lack of education on climate change will cause unwillingness to modify bad habits and social unrest
-  And More....

What a Border Climate Cooperative Effort Could Do: **B2012**



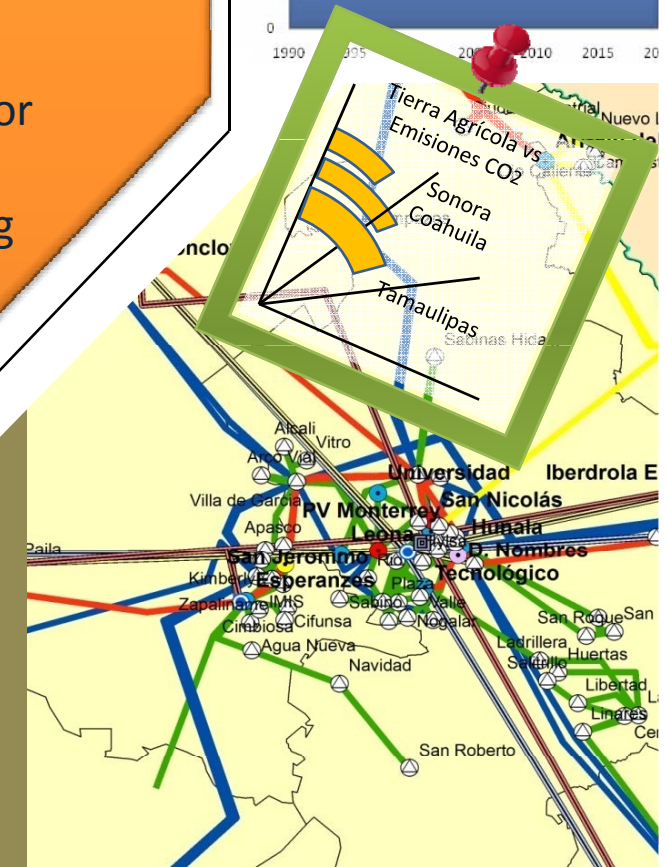
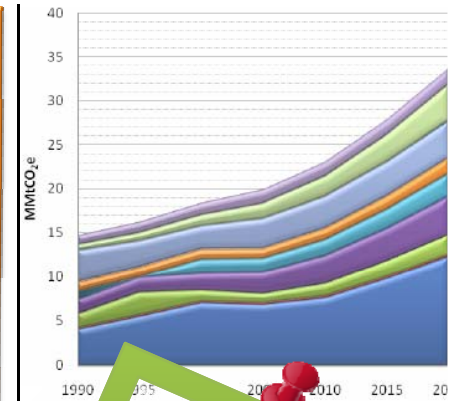
-  Better Knowledge of Climate Change Impact on the Region
-  State by State GHG's Inventories
-  Adaptation and Mitigation Plans
-  Comprehensive Energy Diagnostics
-  Renewable Energy Potential Sites and Location
-  Cap and Trade Carbon Market Implementation
-  Infrastructure for Adaptation
-  Project Development and Implementation for Mitigation, Including Green Building & Energy Efficiency
-  Public Participation, Education and Capacity Building

INVENTORY OF GREENHOUSE EFFECT GASES

BECC/NADB ROLE

- ✓ State by State inventories and Diagnostics 1990-2020
- ✓ Various Energy related Studies
- Public Participation
- Environmental Education
- Capacity Building

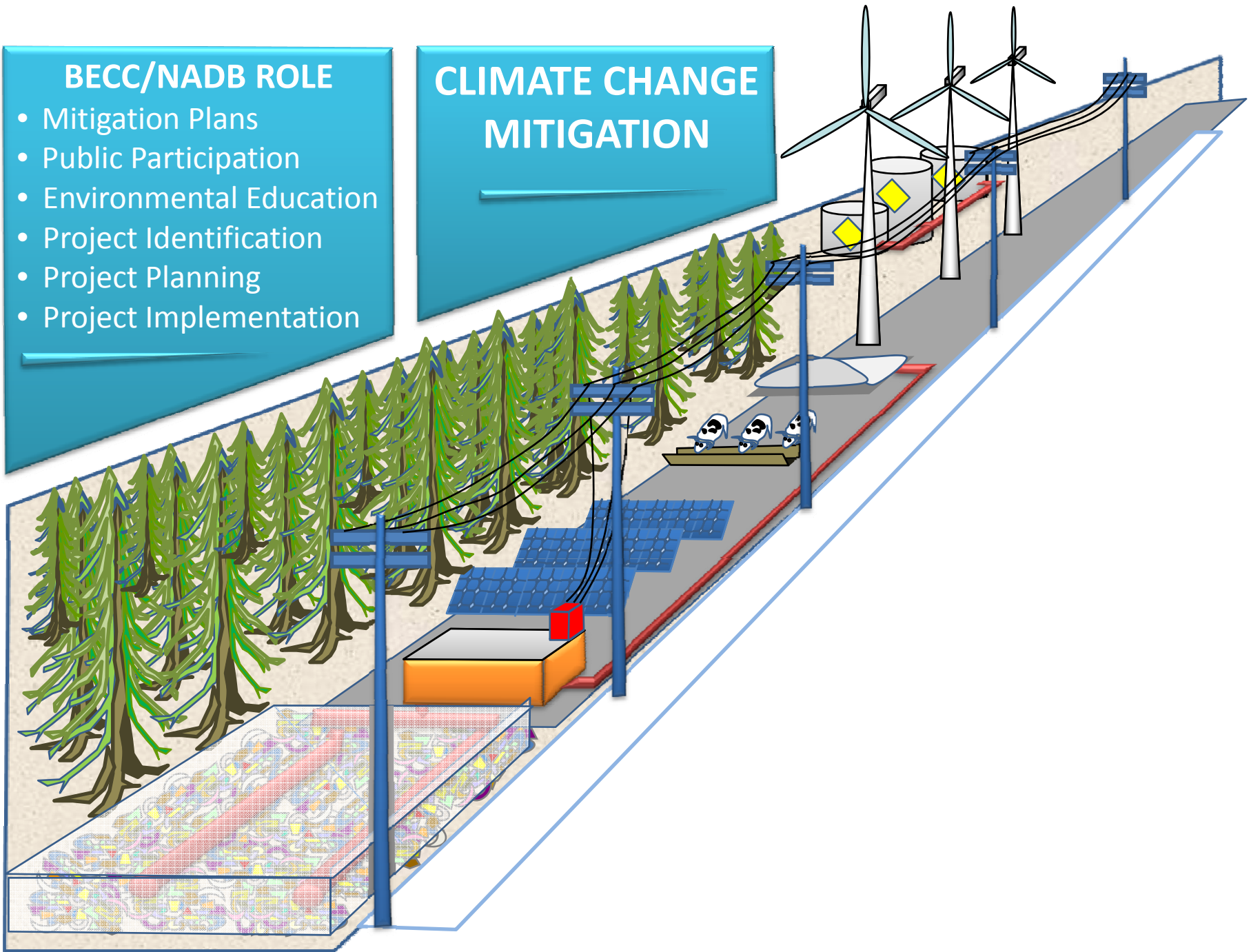
- Energy Infrastructure Diagnostics for the Border
- Training seminars for government officials, researchers and others
- Renewable Energy Potential for the Border Region
- Data sources ID for GHG
- Sector level information for economic activities
- Emission factors according to proper protocols
- I&F for each border state



BECC/NADB ROLE

- Mitigation Plans
- Public Participation
- Environmental Education
- Project Identification
- Project Planning
- Project Implementation

CLIMATE CHANGE MITIGATION

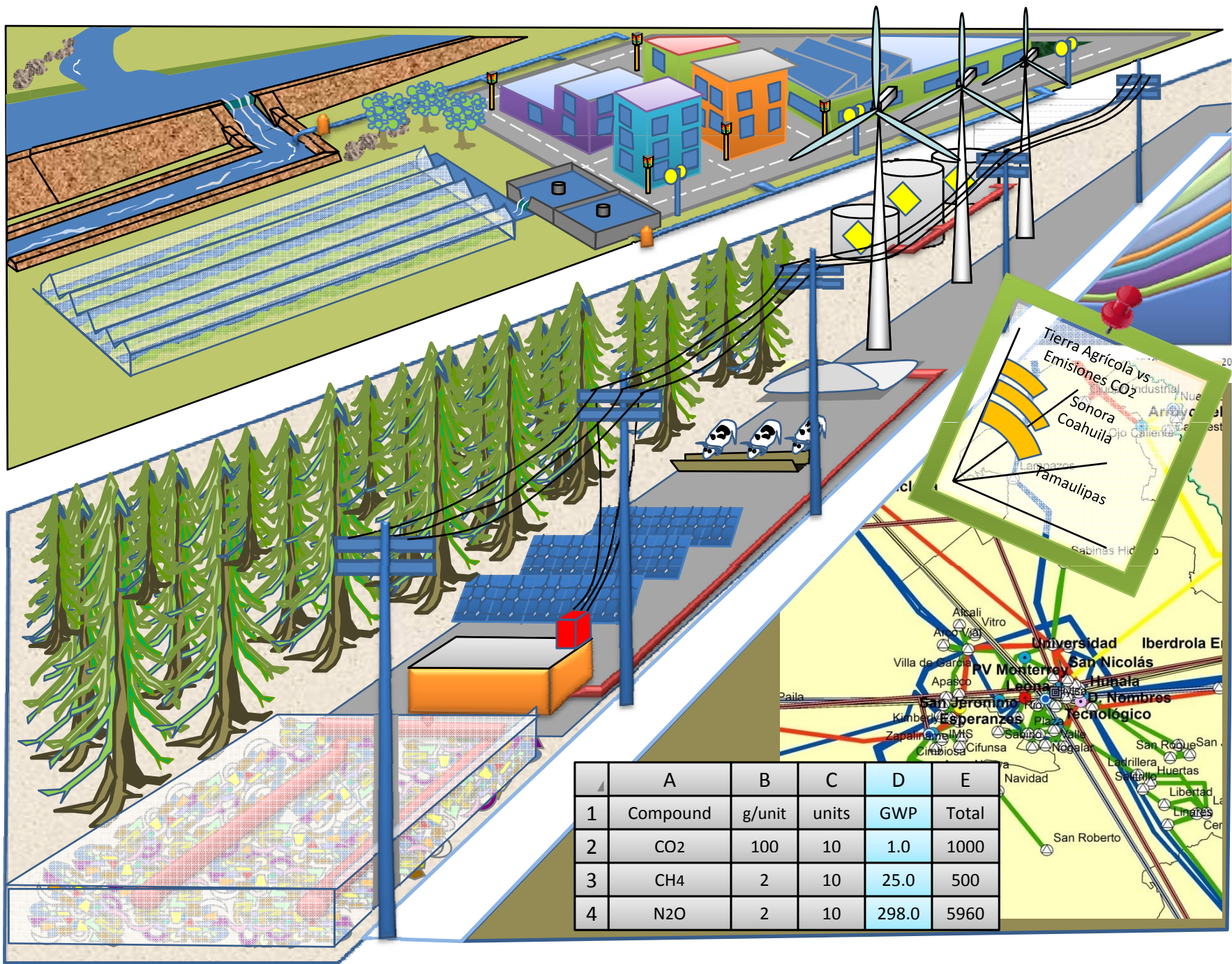




ADAPTATION TO CLIMATE CHANGE

BECC / NADB ROLE

- Adaptation Plans
- Vulnerability Assessments
- Public Participation
- Environmental Education
- Capacity Building
- Infrastructure Needs Assessment
- Infrastructure Strategic Planning
- Project Development
- Project Implementation





Energy Infrastructure Diagnosis for Mexico's Border States.

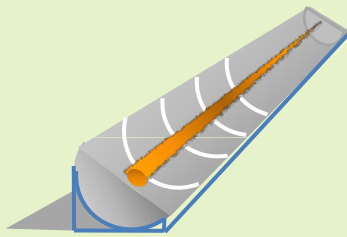
- Energy Infrastructure location in northern Mexico
- Basic information to match against renewable energy potential

- Tool for assessing sustainability of new urban developments
- Guidelines for local governments and urban policy makers

Handbook for Sustainable Residential Development



Energy Infrastructure Diagnosis for Mexico's



Energy in BECC – NADB Border Strategic Plan

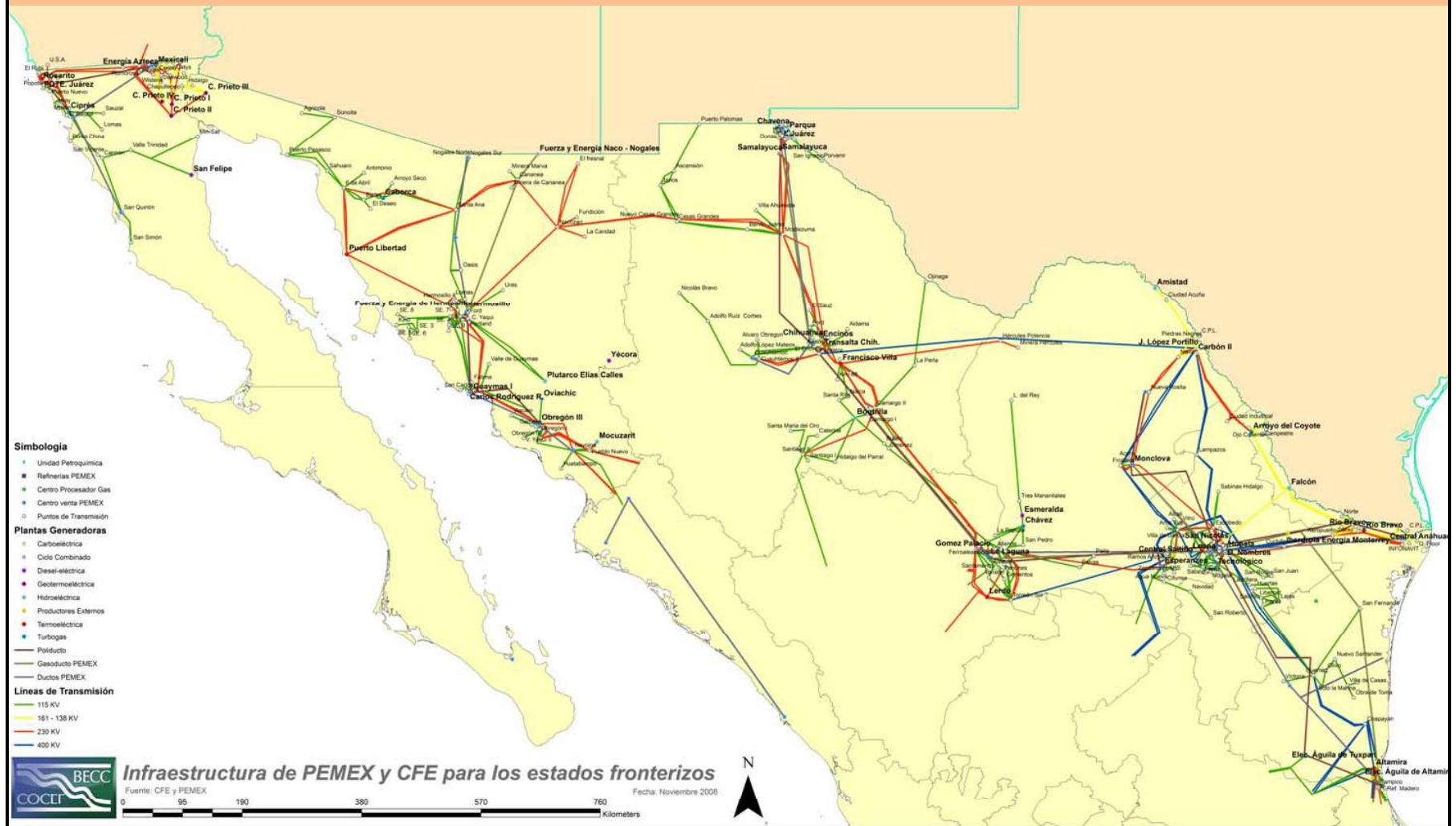
Goal 5: Energy generation and its use in the Border Region will be accomplished in a sustainable manner ...

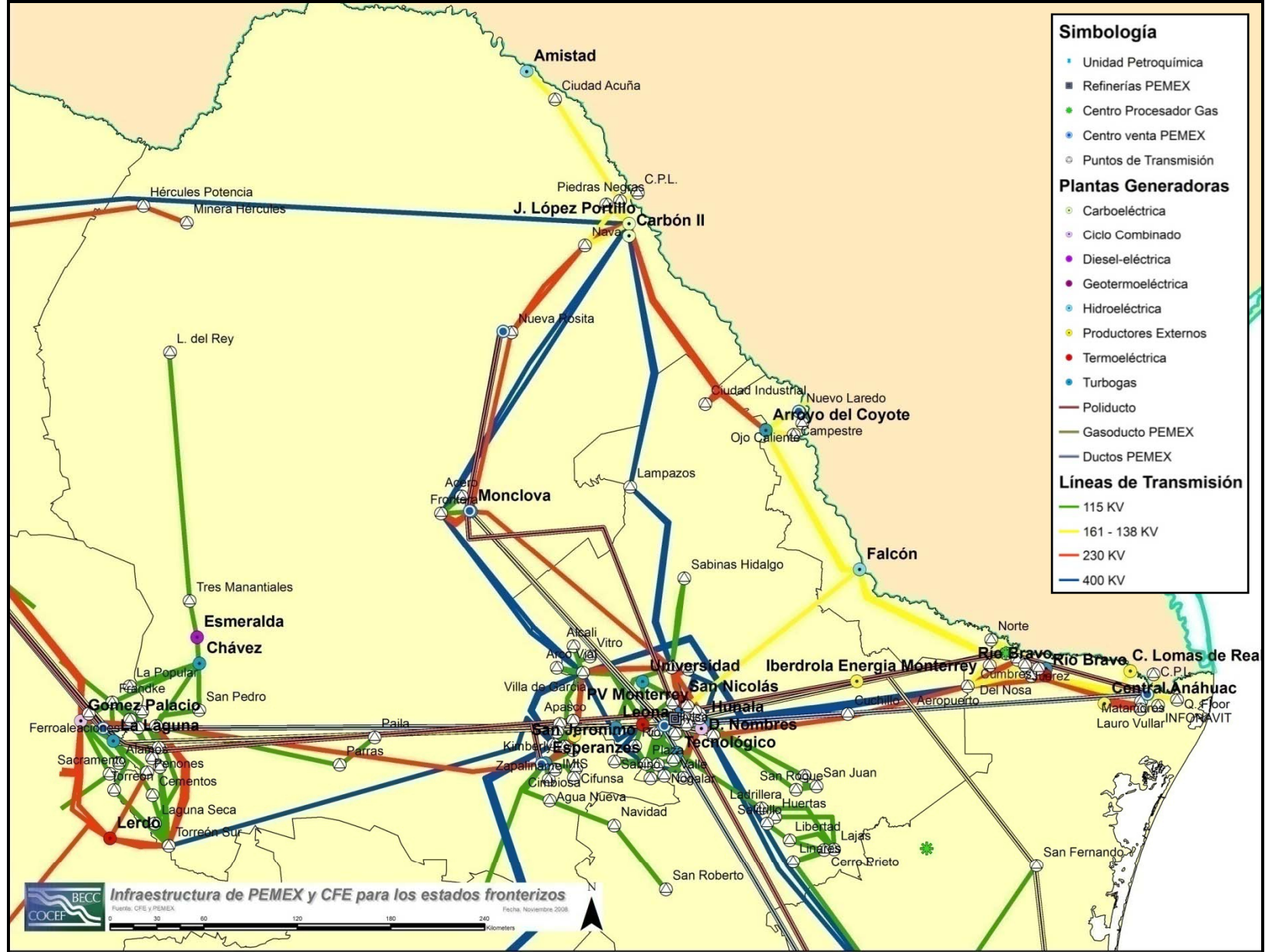
- Renewable energy projects development
- Efficient use of conventional sources of energy

The Energy Diagnostic is intended for

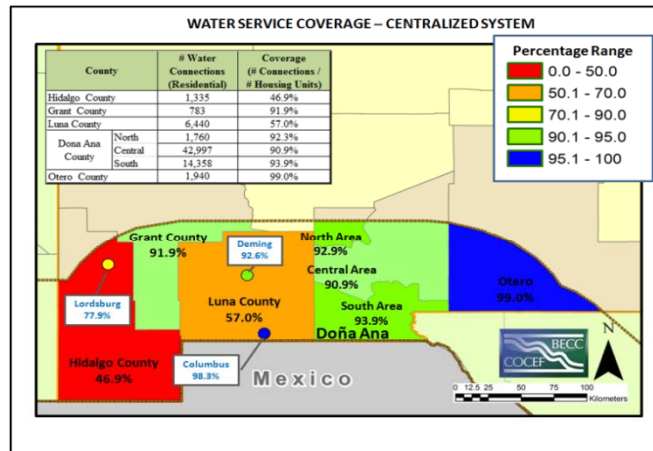
- Needs Assessment and Financing Opportunities
- Identification of Project Sponsors and Potential Projects
- Project Development and Implementation
- Results Measurement

Ubicación de Infraestructura Regional

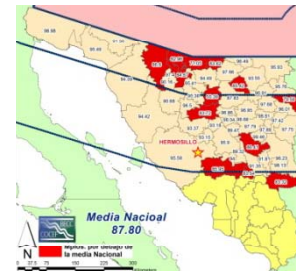
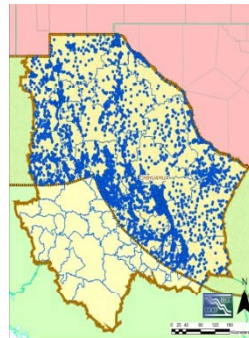
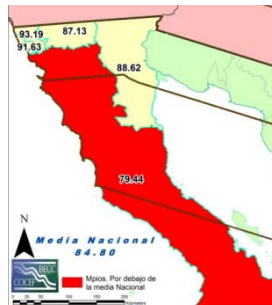
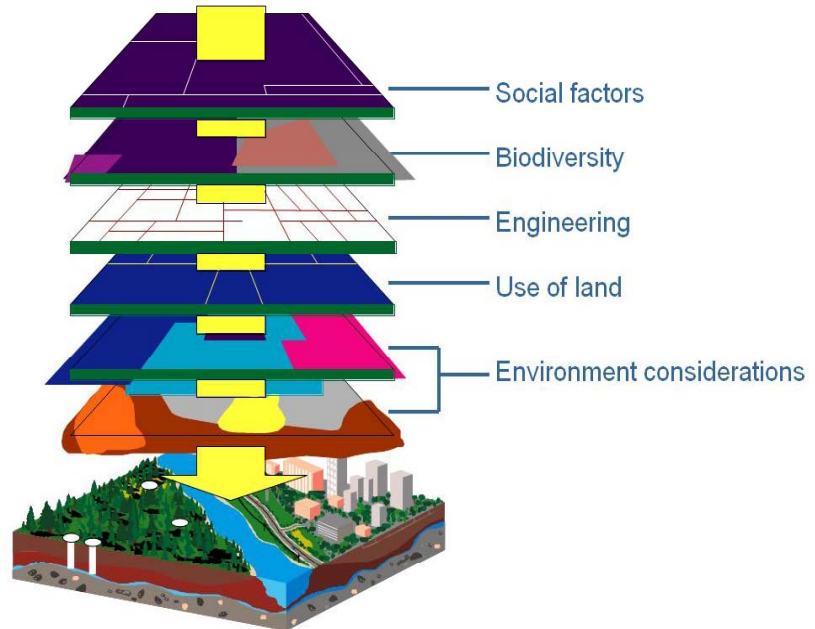




BECC Data on GIS Platform.



The system allows to visualize a comprehensive scenario



CFE Capacidad de Producción Regional

CENTRALES GENERADORAS, UNIDADES DE GENERACIÓN, CAPACIDAD EFECTIVA Y ENERGÍA ELÉCTRICA PRODUCIDA Y ENTREGADA 2006

ESTADO REGIÓN	CENTRALES GENERADORAS	UNIDADES DE GENERACIÓN	CAPACIDAD EFECTIVA (Megawatts)	ENERGÍA ELÉCTRICA PRODUCIDA (Gigawatts-hora)	ENERGÍA ELÉCTRICA ENTREGADA (Gigawatts-hora)	DIFERENCIA ENTRE ENERGÍA PRODUCIDA Y ENTREGADA (Gigawatts-hora)
TOTAL NACIONAL	175	592	48769	195 479	187 520	7 959
BAJA CALIFORNIA	6	25	1,919.2	8,688.5	8,283.1	405
SONORA	12	25	2,162.0	11,229.2	10,889.8	339
CHIHUAHUA	8	23	1,862.2	9,510.3	9,167.0	343
COAHUILA	6	15	2,754.0	18,028.0	16,702.0	1 326
NUEVO LEÓN	4	14	1,063.9	4,546.8	4,412.2	135
TAMAULIPAS	9	34	5,348.5	10,832.3	10,061.4	771
TOTAL ZONA NORTE	45	136	15,109.6	62,835.2	59,515.5	3 320
RESTO DEL PAÍS	130	456	33,659.4	132,643.8	128,004.5	4 639

Nota.- Se incluyen productores externos de Tamaulipas

Fuentes.-

Capacida nacional efectiva, centrales generadoras y unidades de generación la fuente es Informe anual 2006 CFE subdirección de transmisión

Energía producida y entregada nacional la fuente es "El sector energético en México 2007"/ INEGI

Información para los estados es de los Anuarios estadísticos del estado de Baja California, Sonora, Chihuahua, Coahuila de Zaragoza, Nuevo León y Tamaulipas respectivamente.

POISE 2008-2017/ VFE

CFE Volumen de ventas por sector

VOLUMEN DE LAS VENTAS DE ENERGÍA ELÉCTRICA SEGÚN TIPO DE SERVICIO 2006

(Megawatts-hora)

MUNICIPIO	TOTAL	INDUSTRIAL	RESIDENCIAL	COMERCIAL	AGRÍCOLA	ALUMBRADO	BOMBEO DE AGUAS	TEMPORAL
						PÚBLICO	POTABLES Y NEGRAS	
Total Nacional	175,371,000.0	103,153,000.0	44,452,000.0	13,210,000.0	7,960,000.0	4,302,000.0	10,252,000.0	6,208.0
Baja California	9,105,198.5	5,256,889.5	2,821,534.1	661,174.8	213,285.2	123,952.9	28,142.6	219.5
Sonora	8,317,399.0	4,631,830.0	2,328,999.0	372,431.0	854,151.0	92,774.0	37,022.0	192.0
Chihuahua	8,898,140.4	5,099,244.1	1,814,554.1	377,980.5	1,422,400.5	144,371.0	39,320.9	269.3
Coahuila de Zaragoza	8,743,532.0	6,118,520.0	1,569,862.0	275,263.0	642,734.0	123,754.0	13,158.0	241.0
Nuevo León	14,536,269.0	10,455,064.0	3,113,004.0	659,085.0	103,654.0	188,013.0	17,308.0	141.0
Tamaulipas	8,084,560.0	4,734,319.0	2,600,132.0	470,160.0	88,549.0	153,182.0	38,030.0	188.0
TOTAL ZONA NORTE	57,685,098.9	36,295,866.6	14,248,085.1	2,816,094.4	3,324,773.7	826,046.9	172,981.4	1,250.8
RESTO DEL PAÍS	117,685,901.1	66,857,133.4	30,203,914.9	10,393,905.6	4,635,226.3	3,475,953.1	10,079,018.6	4,957.2

Nota.- La suma de los parciales puede no coincidir con el total debido al redondeo de las cifras.

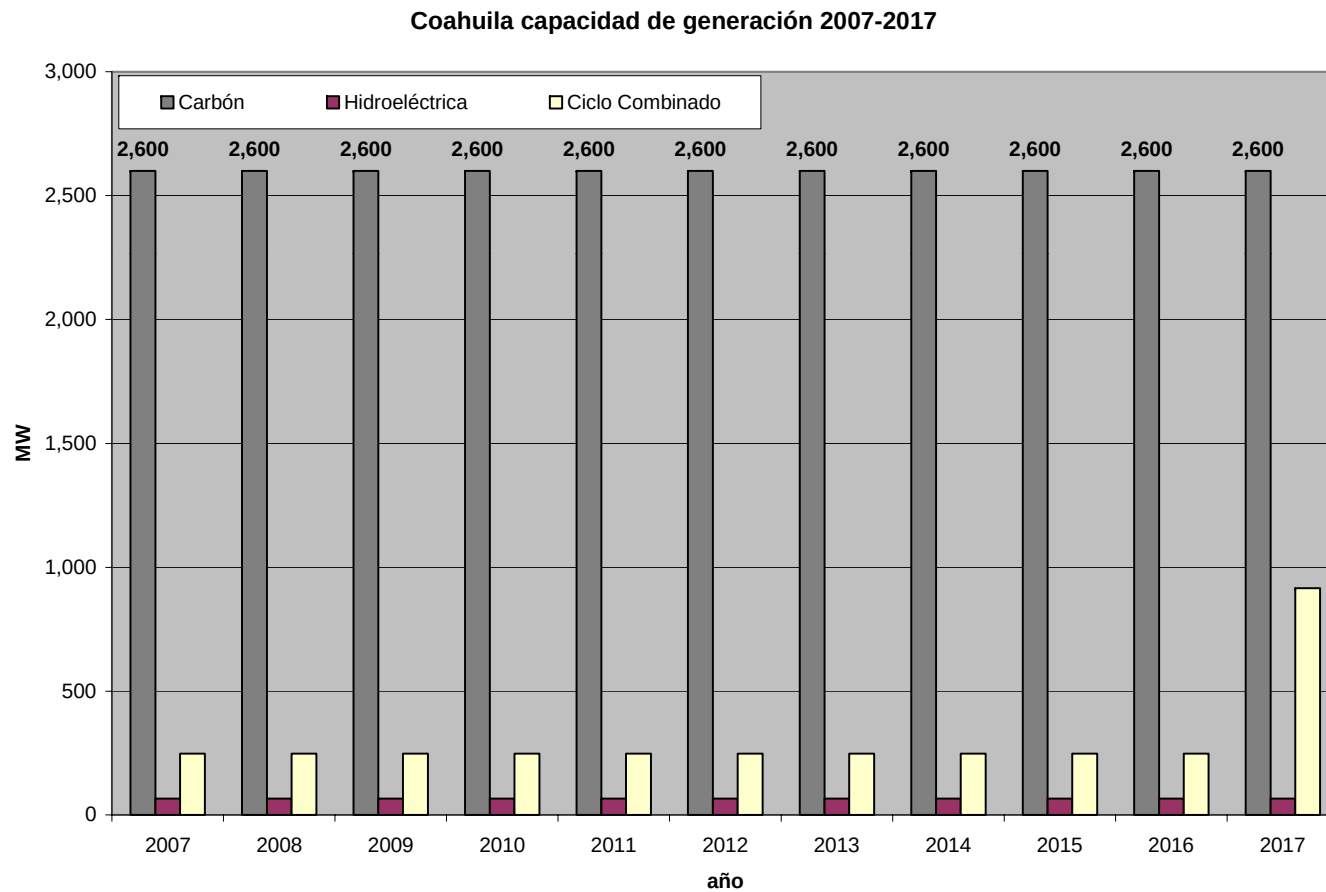
Total temporal nacional estimado con datos porcentuales 2008 de CFE

Fuente.- Anuarios estadísticos 2007, INEGI de los estados que se indican.

Programa de obras e inversión del sector eléctrico 2008-2017

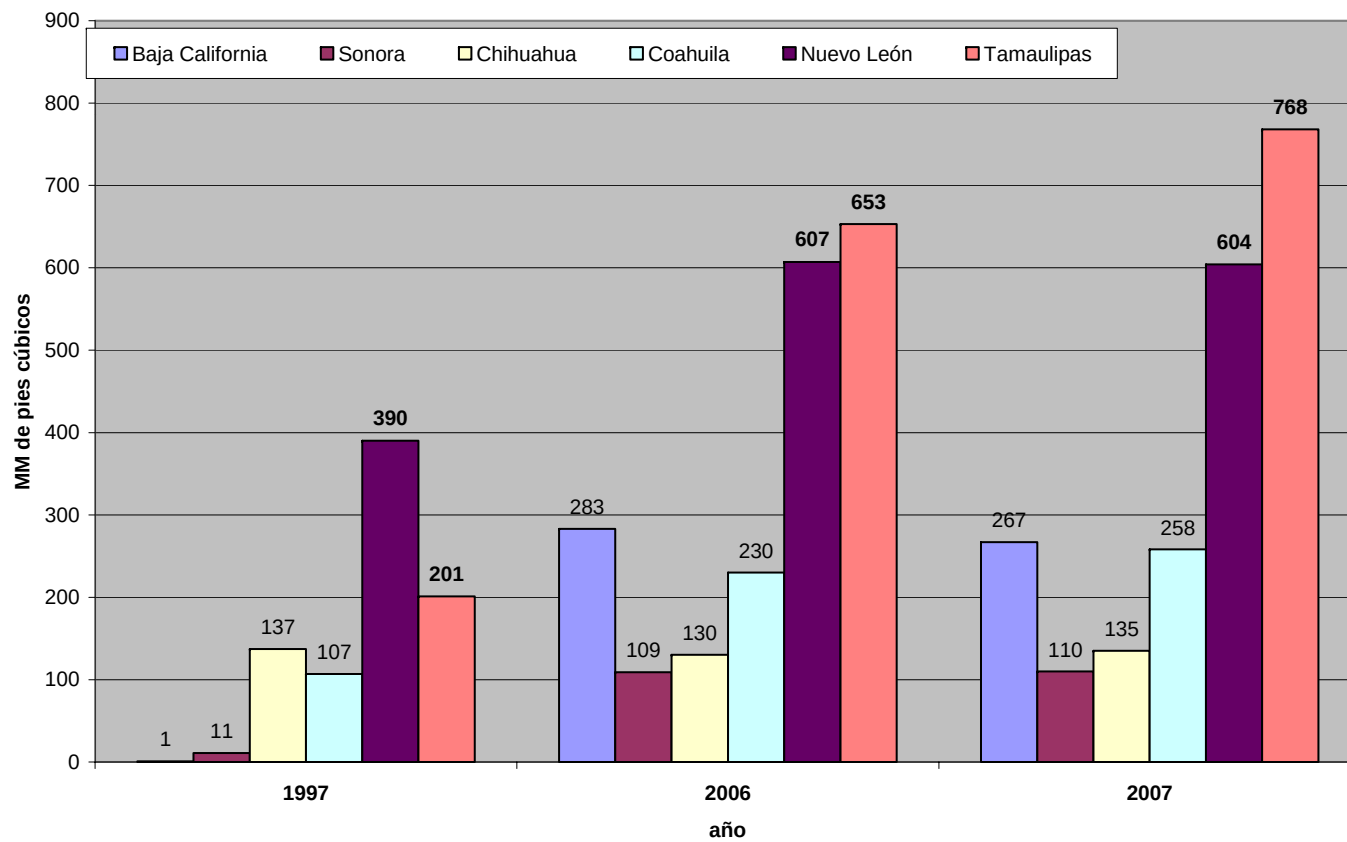
Total nacional de alumbrado público, bombeo de aguas potables y negras son datos de El sector Eléctrico en México 2007/INEGI

CFE Prospectiva por tipo Coahuila



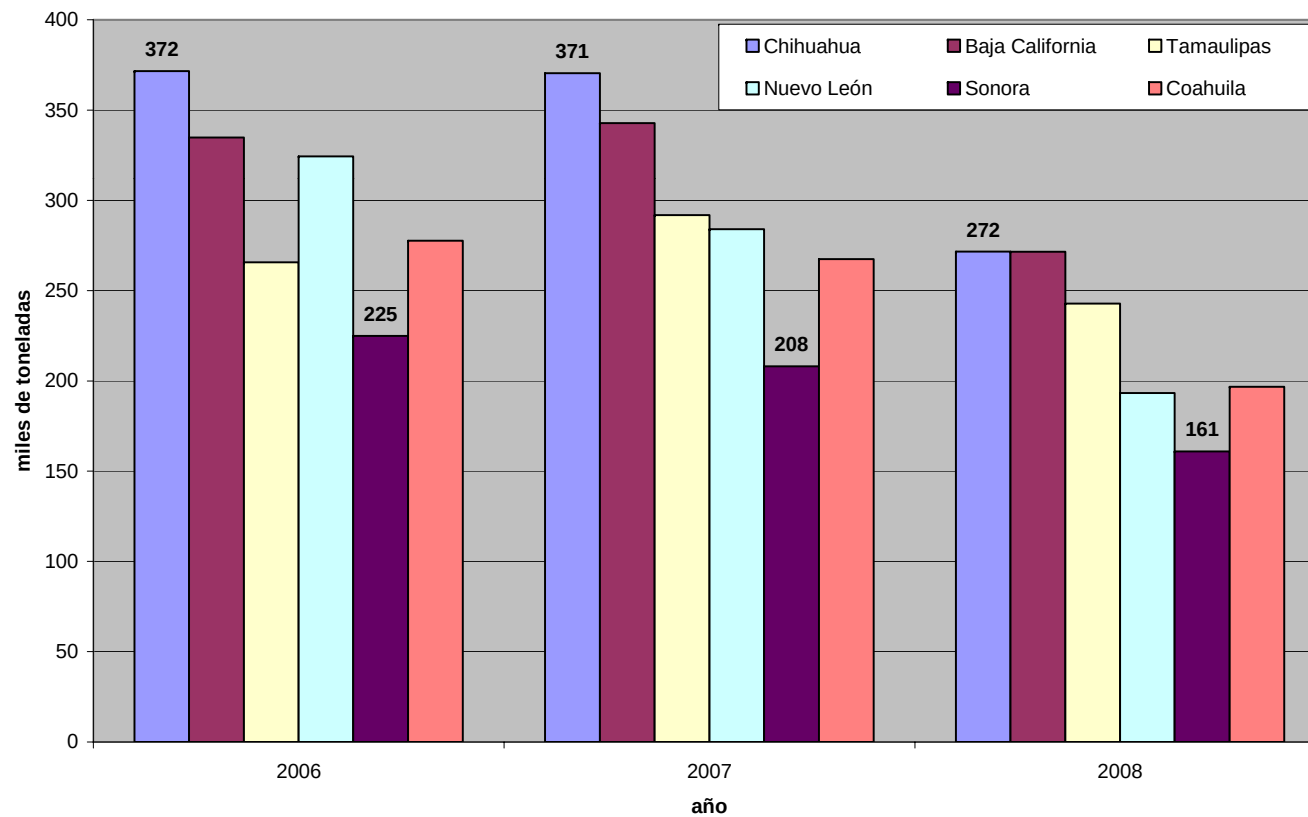
Gas Natural Consumo por Estados

Consumo de gas natural (millones de pies cúbicos diarios) zona norte 1997, 2006-2007



Gas LP - Ventas por Estado

Ventas zona norte de gas LP, 2006-2008



Avances del Inventario de Emisiones:

Tabla Resumen

TABLA RESUMEN EMISIONES GASES EFECTO INVERNADERO EN LA FRONTERA NORTE 2002

Clave PCCC	Categoría y Subcategorías de fuente		Baja California	Coahuila de Zaragoza	Chihuahua	Nuevo León	Sonora	Tamaulipas
1	Energía		15,183.670	20,357.502	17,142.616	26,890.199	10,989.154	20,670.018
1A	Fuentes Fijas de Combustión	[1A1+ 1A2+ 1A4]	12,523.727	22,049.947	14,233.580	15,417.761	8,707.932	12,792.047
1A1	Industrias de la Energía	*	179,613.283	317,970.414	203,123.799	219,240.633	124,748.876	183,805.698
1A2	Industrias de Manufactura y Construcción		1,931.085	2,431.955	2,895.449	4,040.475	1,129.709	1,582.464
1A3	Fuentes Móviles de Combustión	[1A3a+1A3b+1A3c+ 1A3d]	4,815.066	2,391.298	4,331.214	6,277.742	3,657.190	4,813.014
1A3a	Transporte Automotor		4,536.654	2,246.212	4,186.128	6,132.656	3,378.779	4,534.602
1A3b	Transporte Aéreo		109.671	109.671	109.671	109.671	109.671	109.671
1A3c	Transporte Ferroviario		35.415	35.415	35.415	35.415	35.415	35.415
1A3d	Transporte Marítimo		133.326	0.000	0.000	0.000	133.326	133.326
1A4	Otros Sectores	[1A4a+1A4b+1A4C]	891.184	803.468	1,324.057	1,312.397	971.545	956.057
1A4a	Sector Comercial		179.350	142.827	319.049	335.460	136.283	144.546
1A4b	Sector Residencial		614.612	533.983	734.700	868.572	522.554	671.846
1A4c	Sector Agropecuario		97.222	126.658	270.309	108.364	312.708	139.665
1B	Emisiones Fugitivas		134.98	1,670.42	214.76	3,649.85	87.96	4,663.24
1B1	Minado de Carbón		0.00	1,377.56	0.00	17.44	0.22	0.00
1B2	Petróleo y Gas Natural		134.98	292.87	214.76	3,632.41	87.74	4,663.24

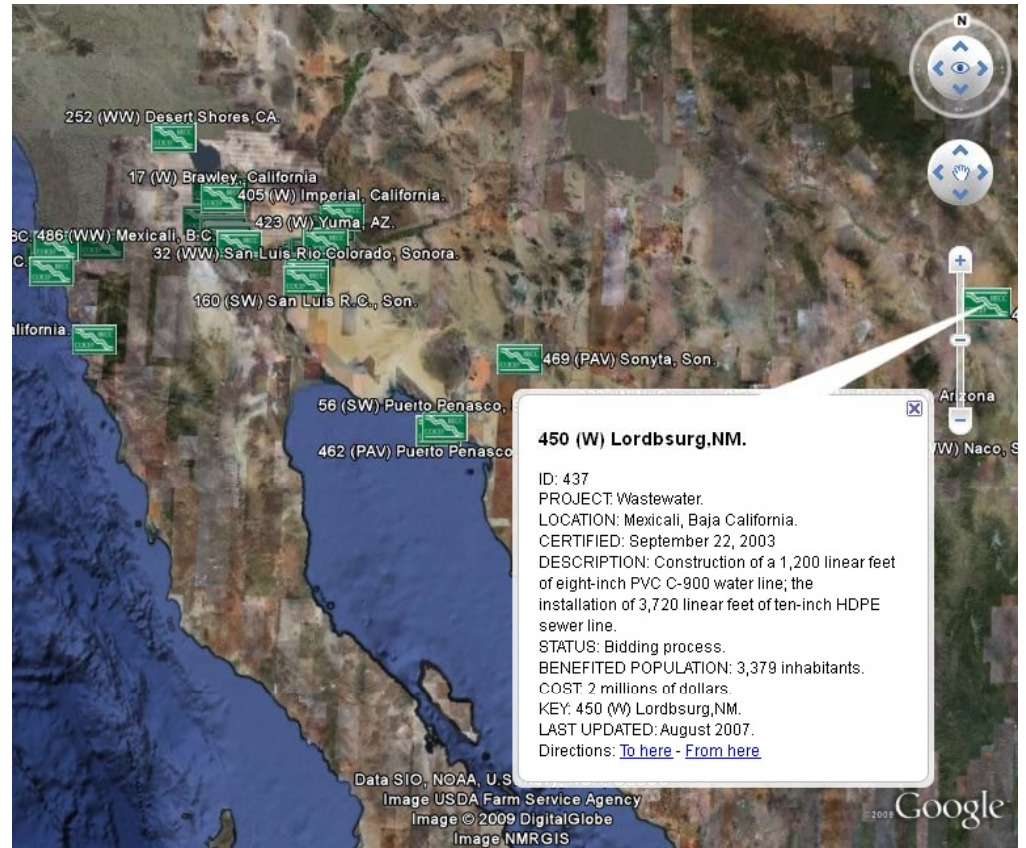
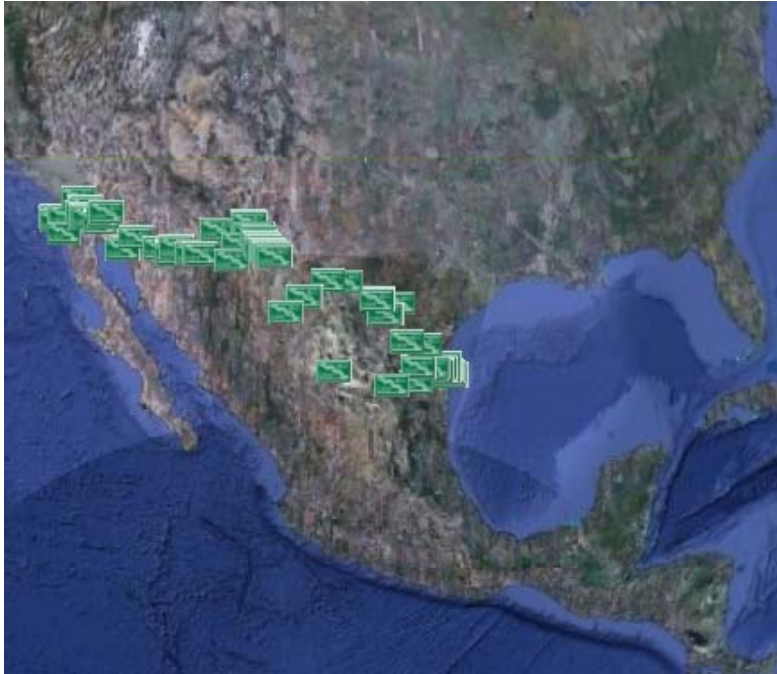
Nota- * Emisiones ponderadas con los valores correspondientes del potencial al calentamiento global (GWP) de cada gas efecto invernadero.

Pueden que algunos totales no coincidan en sus sumatorias debido a que como referencia se tomó la información de tablas del Inventario Nacional de Emisiones de Gases de Efecto Invernadero 1990 en el total de la categoría energía, en fuentes fijas de combustión y en emisiones fugitivas) siendo esta su estructura original así también como por redondeo de cifras.

FUENTE.- Inventario Nacional de Emisiones de gases efecto invernadero 2002

Fact sheets in Google Earth for certified projects.

Fact sheets for each BECC's Project are available in Google Earth



Climate Change Mitigation Projects Currently in BECC's Pipeline

	<i>Project Name</i>	<i>Type</i>	<i>Cost (M US\$)</i>	<i>State</i>	<i>Comments</i>
1	Hermosillo, Son. – Methane recovery and power generation from a landfill.	AQ	8.08	Son	
2	Ciudad Juárez, Chih. – Electric power generation using municipal sanitary landfill biogas.	CE	24.00	CHIH	20 MW
3	Webb County, TX – Rio Vista Wind energy	CE	203.00	TX	94 MW
4	Jim Hogg County, TX – Alta Mesa Wind energy	CE	180.00	TX	80 MW
5	Puerto de Valles, Tamps – Mini-Hydroelectric plants construction	CE		Tams.	3.5 MW
6	Nuevo Laredo, Tamps – Efficient energy use.	CE		Tams.	
7	Mpios. de Casas y Llera de Canales, Tamps – Tres Mesas Wind energy	CE		Tams.	100 MW
8	Matamoros, San Fernando y Valle Hermoso, Tamps. – Wind energy	CE	2000.00	Tams.	1000 MW
9	Candela, Coah. – Wind energy	CE	1200.00	Coah.	600 MW
10	Los Vergeles, Tamps. – Wind energy for street lighting	CE		Tams.	
11	Saltillo, Coah. – Methane to Markets feasibility study	CE		Coah.	
12	Nogales, Son. – Methane to Markets feasibility study	CE		Son.	
13	Frontera FIRST – Solar energy program in San Diego and Imperial Counties	CE	20.00	CA	



Mother
Nature

Educating High School Students on Climate Change 101



BECC's
Employees



Contact

Daniel Chacón Anaya
General Manager

BECC, Cd. Juárez, Chih.

☎ 011-52 (656) 688-4600

<http://www.cocef.org>