

Schacht & McElroy

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July 30, 2010

Luly Massaro, Clerk
Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

Re: Docket No. 4185

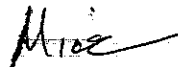
Dear Luly:

As you know, this office represents Toray Plastics (America), Inc.

Enclosed for filing in this matter are an original and 12 copies of Toray's Responses to National Grid's data requests of July 23, 2010.

If you have any questions, please feel free to call.

Very truly yours,



Michael R. McElroy

MRMc:tmg
cc: Service List

**National Grid – Review of Proposed Town of New Shoreham Project
Docket No. 4185 – Service List Updated 7/23/10**

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Toray Plastics (America), Inc.'s Responses to National Grid's data requests of 7/23/10

1-1 Please provide electronic copies of all documents (whether electronic or hard copy) that were relied upon by Mr. Osada for any of the opinions offered in his testimony that are not already included among the exhibits attached to the testimony.

1-1 Response

My opinions in my testimony were based on my personal knowledge, experience and direct involvement with all utility issues at Toray.

I will attach all documents I used to form my opinions. Almost all data was prepared or collected by me. I will go over each opinion an attempt to identify the related documents you are asking for.

First of all, regarding my personal knowledge, as I mentioned in my direct testimony on page 4, I am responsible for all utility issues at Toray Plastics (America), Inc. (TPA).

I am now directly involved in, or have led, or I am now leading the following:

- 1) Utility system management for Co-Gen, Boiler, Chiller, Cooling Tower, Air Compressor, Nitrogen generator, and CO2 generator.
- 2) Direct power purchasing from ISO-NE.
- 3) Negotiation with nuclear power plant as a lateral contract of power purchase.
- 4) Negotiation with power marketer for long term power purchase contract.
- 5) Introduction of on-line reverse auction system for selection of power marketer for long term power purchase contract.
- 6) Standard Offer Service (SOS) and Last Resort Service (LRS) price tracking and kwh for SOS, LRS and Power Marketer customer to evaluate electricity deregulation status. This data is necessary to do items 2) to 5) shown above.
- 7) Direct watch for forward capacity market (FCM) initiated by ISO-NE because this directly affects TPA's electricity price related to FCM. Also, this will affect TPA's involvement in the Emergency Response Program (ERP) initiated by ISO-NE. which we (TPA) have activated since 2007 (load shed on the day of emergency call by ISO-NE).
- 8) Watch FCM auction status.

- 9) Direct discussions with ISO-NE representatives, visiting them directly in MA.
- 10) Sending TPA Engineer to ISO-NE school to fulfill our knowledge requirements for any ISO-NE issue.
- 11) Utility price data collection from all Toray USA groups, which consist of seven manufacturing plants in USA with 14,000 employees.
- 12) ISO-NE Market price watching every day.
- 13) Leading utility task team in TPA in weekly discussions of all utility issues including following up regarding existing energy saving project, utility modifications, and renewable energy project which is on going with stimulus money.
- 14) Update renewable power generation status by collecting related information in the world from vendor or web site since we were officially rejected by the FAA for a 3MW wind turbine project in 2005.
- 15) NYMEX natural gas purchasing.
- 16) Participation on Distributed Generation (DG) committee which State of RI initiated.
- 17) Utility budget making for TPA and making utility monthly reports.
- 18) Participation to TEC-RI meeting and board member meeting.

1. Price evaluation in page 6

As I mentioned above, I am heavily involved in ISO-NE. That is why I am of the strong opinion that the price to be used for comparison purposes should be ISO-NE.

I have no other documents I used except my attachments in exhibits 4 to 7 to make my opinion.

Price comparison with US Department Energy, State of RI and Bluewater Wind

As I mentioned above (item 14), I led our own 3 MW wind power project in TPA. We officially applied to FAA to get permission for height extension (FAA application, attachment 1). However, unfortunately our application was rejected by FAA. We asked EDC to help. Since this trial, I am always instructing my people to update

the status by getting information because the technology of renewable energy (wind and solar) is drastically changing day by day.

We are doing so aggressively. Therefore, our capability to collect the renewable information and updates is very strong. This data collection was made by me personally and my people.

They are shown in exhibits 8, 9 and 10, which I relied on to render my opinion in my testimony (page 6 to 8). I did not rely on other document.

2. Deregulation of Electricity (page 8-9)

Deregulation of electricity is my strong personal interest since this was implemented in 1998. I was always updating how many customers went to competitive marketers, because this is a very strong barometer to measure if deregulation is working well or not.

As I mentioned above, I am collecting SOS, LRS price and kwh data for each (SOS, LRS and marketer) through the annual report issued by NG.

I made a chart to evaluate the deregulation status with regard to how many customers went to competitive marketers using the NG annual report.

I made a presentation to Governor Carcieri when we invited him to TPA on March 6 2003. I explained the deregulation status to him directly using this presentation material. Even updated data from the NG annual report in 2008 is showing this situation has not so improved.

I attached this presentation material regarding deregulation in attachment 2. The updated market status chart made by myself using NG annual report is shown in attachment 3,

I am very much concerned about deregulation, I formed my opinion using my own data collection and my own knowledge. I did not rely on other documents to form the opinion in my testimony.

3. Price sustainability (page 10).

As I mentioned above, I led a 3MW wind project at TPA, and now we have made application to the State of RI for stimulus money to build our own solar and wind power generation. We got an award for solar but not for wind. I attached our application to the State in attachment 4.

The bottom line of this project in own opinion is price sustainability.

Also, I believe this concept is the common consensus in the world.

I did not rely on any other documents to form my opinion in my testimony on

this issue.

4. Environmental benefits (page 10, 11).

Toray Industries, Inc (Toray), which is the parent company for TPA, is very aggressive regarding environmental improvement, especially reducing waste and green house gas emissions.

This is our policy of CSR (Corporate Society Responsibility).

TPA makes an annual environmental report to Toray.

We have a bench mark calculation method for CO2 emissions.

I used this data sheet which we (Toray) are using worldwide to calculate CO2 emissions (attachment 5).

Toray has also developed the concept of the cost of "environmental benefit" called E2A (Eco-Efficiency Analysis).

Toray has many environmental friendly products and requiring measuring the value of these products from the view point of financially, not only environmentally. If the products we develop do not make financial sense, even though they have environmental value, these are not good products.

I made my own calculation and evaluation. I formed my opinion in my testimony on my own and I did not rely on other document.

5. Economic impact (page 11-13).

Cost impact was officially verified by NG in their response to our data request, and the number was even higher than my original estimation (\$304 thousand compared to my estimation of \$287 thousand).

The calculation method was clearly shown in my exhibits 12, 13, and 14.

My opinion of economic impact was made by my own analysis from my experience as a TPA's executive and my position as a member of the Board.

My opinion regarding major expansion projects and related utility costs is TPA's common consensus based on my own data regarding other Toray USA company's utility costs which was shared in the TPA and Toray USA group. I attached an electricity price comparison trend in the Toray USA group in attachment 6.

It is obvious that TPA in RI is at a disadvantage compared to southern states.

I also made a presentation to Governor Carcieri about this issue when I invited him to TPA on November 24, 2009.

My own presentation material to the Governor was attached in attachment 7.

6. Large scale impact (page 13, 14).

Economic impact of the large scale project was calculated by me, using NG data which was submitted at Docket 4111. It is very simple to calculate from that data.

How I calculated it is shown in exhibit 14. All data I used to calculate this was shown in this exhibit.

7. ISO-NE price suppression (page14).

As I mentioned above, I am heavily involved in ISO-NE through day ahead price tracking, FCM, ERP.

This opinion was made by me based on my experience as described above.

Prepared by: Shigeru Osada/TPA

1-2 Please provide electronic copies of all of Mr. Osada's workpapers utilized in the development of his testimony, including without limitation any spreadsheets used to perform any calculations.

1-2 Response

Please refer to my response for question 1-1 which include all document I referred. I attached all spread sheet I used in development for my testimony in attachment 8.

Prepared by: Shigeru Osada/TPA

1-3 Please identify any studies performed by Mr. Osada or anyone under his supervision that were relied upon by Mr. Osada in forming his opinions expressed in his testimony.

1-3 Response

Please refer to my response in 1-1.

Prepared by: Shigeru Osada/TPA

1-4 Referring to the presentation comprising Mr. Osada's Exhibit 8, are there any other materials or documents that are in Mr. Osada's possession that came with the presentation or supported the underlying conclusions contained in the presentation? If so, please provide copies. Please also explain how the presentation came into Mr. Osada's possession.

1-4 Response

Please refer to my response for 1-1.

I have no other documentation.

Document of exhibit 8 is available as a public information.

(<http://www.nrel.gov/docs/gen/fy07/40462.pdf>)

Prepared by: Shigeru Osada/TPA

1-5 Referring to Mr. Osada's Exhibit 10, please identify the origin of this document and how it came into Mr. Osada's possession.

1-5 Response

Please refer to my response for question 1-1.

This exhibit 10 is available as a public information.

(http://www.delmarva.com/_res/documents/62308DelmarvaKeyPoints.pdf)

Prepared by: Shigeru Osada/TPA

1-6 Referring to Mr. Osada's testimony on page 13, lines 8 through 11, has Mr. Osada reviewed or prepared any studies, memoranda, or presentations in the last 24 months that discuss the feasibility of TPA doing a major expansion in Rhode Island or otherwise make recommendations to expand or not to expand in Rhode Island, or state the conditions for such an expansion? If yes, please provide copies.

1-6 Response

Please refer to my response for question 1-1.

We have one new major expansion project in last 24 month, which is additional polypropylene film manufacturing plant to fulfill Frito-Lay's European demand. Toray decided to build in France in various reason.

TPA including myself fully supported by various division like engineering, process technical, operation, and we sent more than twenty people for start up support to France for six month.

This line is very similar line with TPA's newest line which was build in 1997.

In TPA we have no any new situation regarding major expansion like a new film manufacturing plant in USA in last 24 month.

I am updating Toray USA group's historical price trend of utility every year, I presented to Governor Carcieri on Nov 24/2009.

1c/kwh price difference between RI and other state is equivalent to \$1.1MM cost difference. The data is very obvious why TPA would not execute major expansion project in RI if utility situation did not improved when situation arise. Who will make decision while we are expecting additional potential utility cost increase of \$1.8MM for first year and \$51MM for 20 years ?

I clearly mentioned to Governor what my testimony is exactly saying.

I also had a chance to make a testimony at public testimony regarding Docket 4065 at PUC, I clearly mentioned exact same contents in my testimony on November/2009..

I also did same presentation at the Environmental and Agriculture Committee in House on June 9/2010.

Prepared by: Shigeru Osada/TPA

1-7 Has TPA considered in the last three years installing or contracting for any on-site renewable generation projects in Rhode Island? If so, please explain the details of the project being considered and its status.

1-7 Response

Yes, TPA studied wind and solar power generation project.

These are 225kw wind and 375kw solar project.

We officially applied stimulus money request to the State.

Solar project was awarded by State and wind project was rejected.

Application was already attached in attachment 4.

Prepared by: Shigeru Osada/TPA

Attachment 1



Federal Aviation Administration
New England Regional Office
12 New England Executive Park-ANE-520
Burlington, MA 01803

Aeronautical Study No.
2005-ANE-74-OE
Prior Study No.
2005-ANE-73-OE

Issued Date: 3/25/2005

JOSEPH R CARTY
TORAY PLASTICS AMERICA
50 BELVER AVE
NORTH KINGSTOWN, RI 02852

**** DETERMINATION OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure Type: Wind Turbine
Location: WARWICK, RI
Latitude: 41-35-34.1 NAD 83
Longitude: 71-25-47.1
Heights: 341 feet above ground level (AGL)
380 feet above mean sea level (AMSL)

The initial findings of this study indicated that the structure as described above would exceed obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Therefore, pending resolution of the issues described below, it is hereby determined that the structure is presumed to be a hazard to air navigation.

See attachment for additional information.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

NOTE: PENDING RESOLUTION OF THE ISSUES DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS DETERMINATION DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUES DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (781)238-7523. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2005-ANE-74-OE.

Signature Control No: 409863-356643

James Powers
Specialist

(DPH)

Attachment(s)
Additional Information

Additional Information for ASN 2005-ANE-74-OE

The aeronautical study indicates that the structure exceeds the Obstruction Standards of Federal Aviation Regulations (FAR) Part 77 as follows:

Section 77.23(a)(2) by 141 feet, structures that exceed a specified height of 200 feet within three (3) nautical miles of an airport reference point, as applied to Quonset State Airport (OQU), Quonset, RI.

Section 77.25(a) by 212 feet, structures that exceed the horizontal surface. A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of the runway, as applied to OQU. The arcs are then connected by tangents.

OTHER AERONAUTICAL EFFECTS:

Due to their nature, size and proximity, the anemometer tower and wind turbines create an adverse impact to the OQU Runway 16 Localizer and DME facilities at the airport. In addition, the potential relocation of the Providence VOR (PVD) to the Quonset State Airport (project is currently under study) would be jeopardized by this proposal.

This structure will also raise the OQU NDB Runway 16 Minimum Descent Altitude (MDA) from 520 to 680 AMSL. Additionally, it will raise the circling minimums for all approaches, all categories of aircraft, from 580 to 680 AMSL.

This determination concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of compliance relating to laws, ordinances, or regulations required by other governmental bodies.

Please refer to Aeronautical Study Number 2005-ANE-74 -OE in any correspondence.



Federal Aviation Administration
New England Regional Office
12 New England Executive Park-ANE-520
Burlington, MA 01803

Aeronautical Study No.
2005-ANE-75-OE

Issued Date: 3/25/2005

JOSEPH R CARTY
TORAY PLASTICS AMERICA
50 BELVER AVE
NORTH KINGSTOWN, RI 02852

**** DETERMINATION OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

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Location: WARWICK, RI
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If we can be of further assistance, please contact our office at (781)238-7523. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2005-ANE-75-OE.

Signature Control No: 409864-356644

James Powers
Specialist

(DPH)

Attachment(s)
Additional Information

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This determination concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of compliance relating to laws, ordinances, or regulations required by other governmental bodies.

Please refer to Aeronautical Study Number 2005-ANE-75 -OE in any correspondence.

Attachment 2

Toray Plastics (America), Inc.

Welcome

Governor Carcieri

March 06, 2003

Un-competitiveness of Electricity in RI

March 6, 2003

Shigeru Osada

Vice President, Engineering & Maintenance

De-Regulation

Started in 1998

- Split to **Power generation** and **Power distribution**
- Utility (NECO) can not own Power generator and Power distribution both
 - Power generation go to free power market
 - Power distribution continue to belong to NECO (Monopoly continue)

SOS : Standard Offer Service

- Buy the power through NECO
- Most of the residences is applying SOS (No competition)
- NECO is purchasing the power through the power market to sell the electricity to the SOS customer

LRS : Last Resort Service

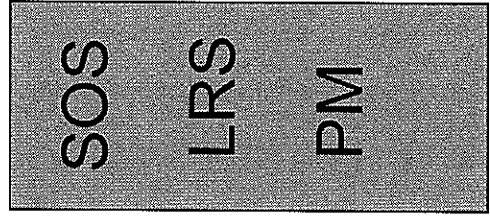
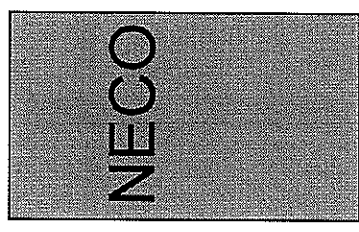
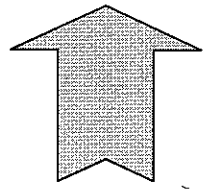
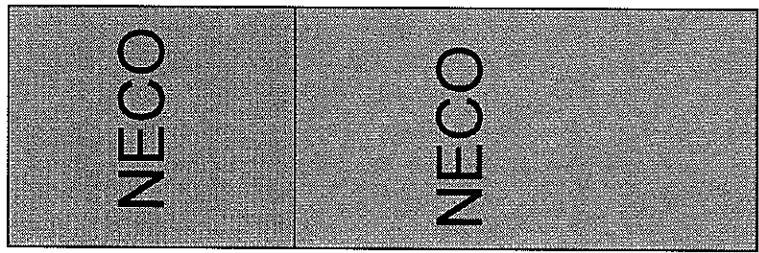
- Power consumer who left SOS and went to PM (Power Marketer) can come back only to LRS (not SOS)

Before De-Regulation

After De-Regulation

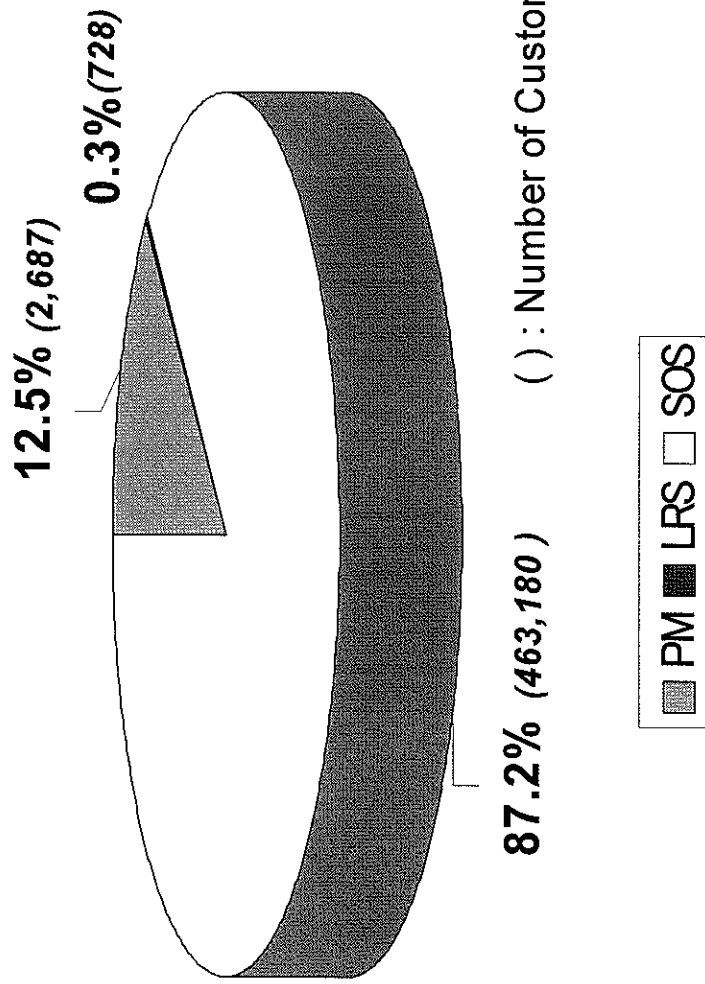
Distribution
Fee

Generation
Fee

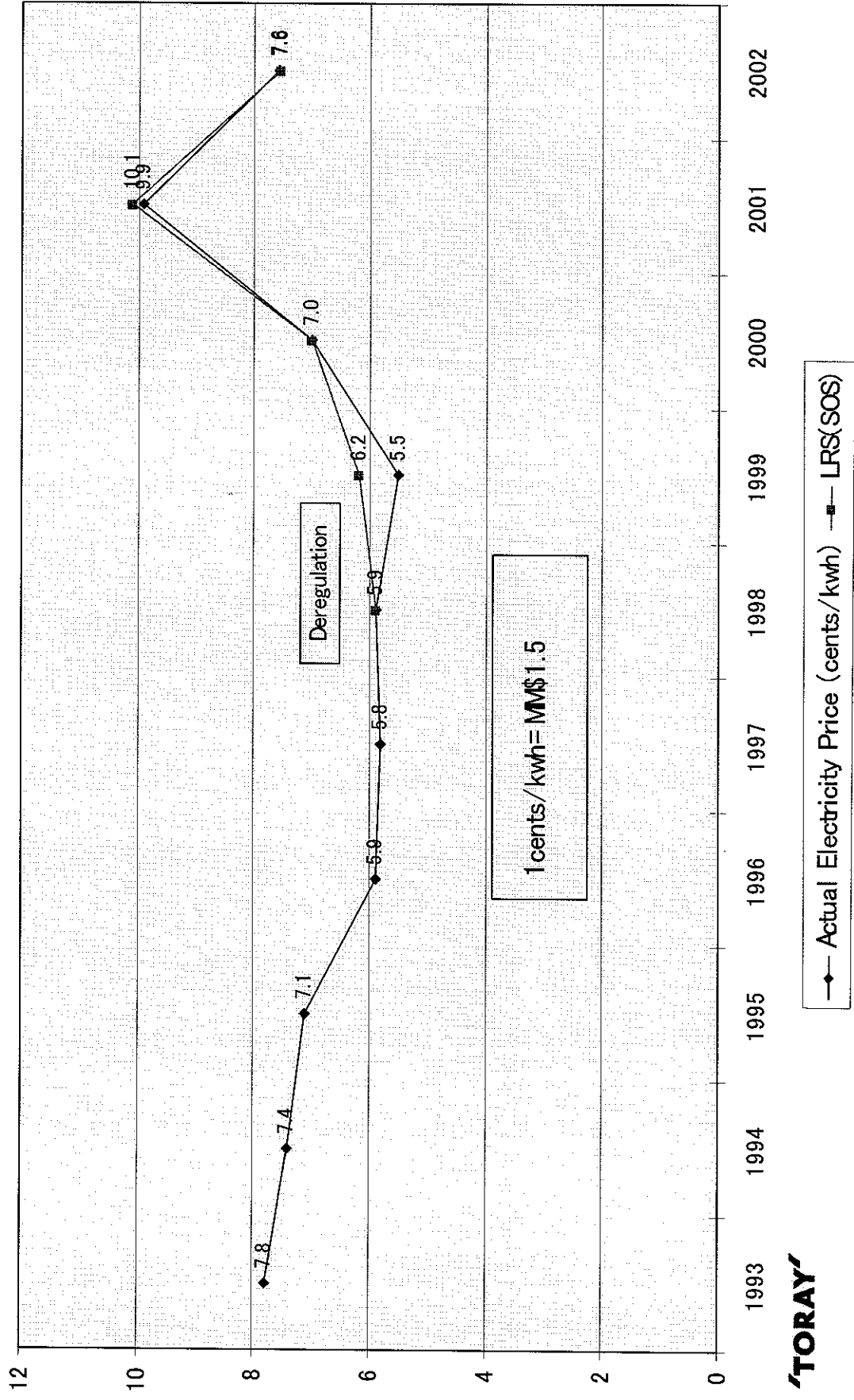


Status of De-Regulation in 2002

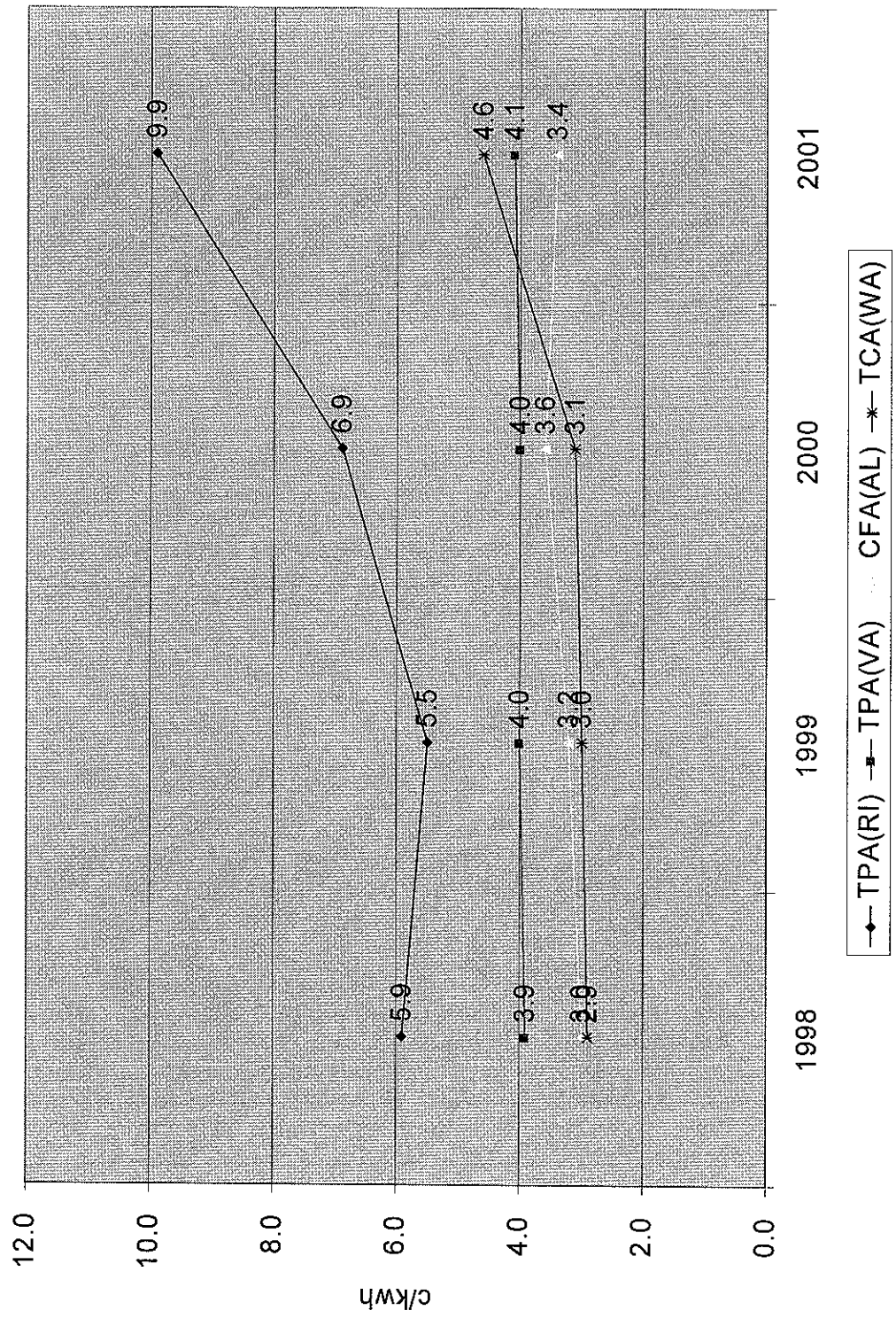
% of electricity consumption base



TPA Electricity Price Trend (cents/kwh)



Electricity Costs in Other States

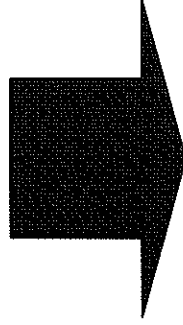


Three Major Problems

High
Electricity
Price

High Back
Up Charge

Low Power
Reliability

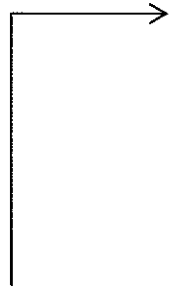


Solution

Islandized Co-Generation

Advanced Notice, Exit Fee

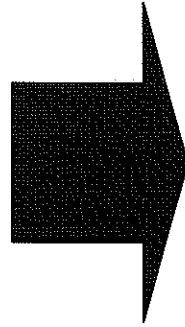
IF



**High
Electricity
Price**

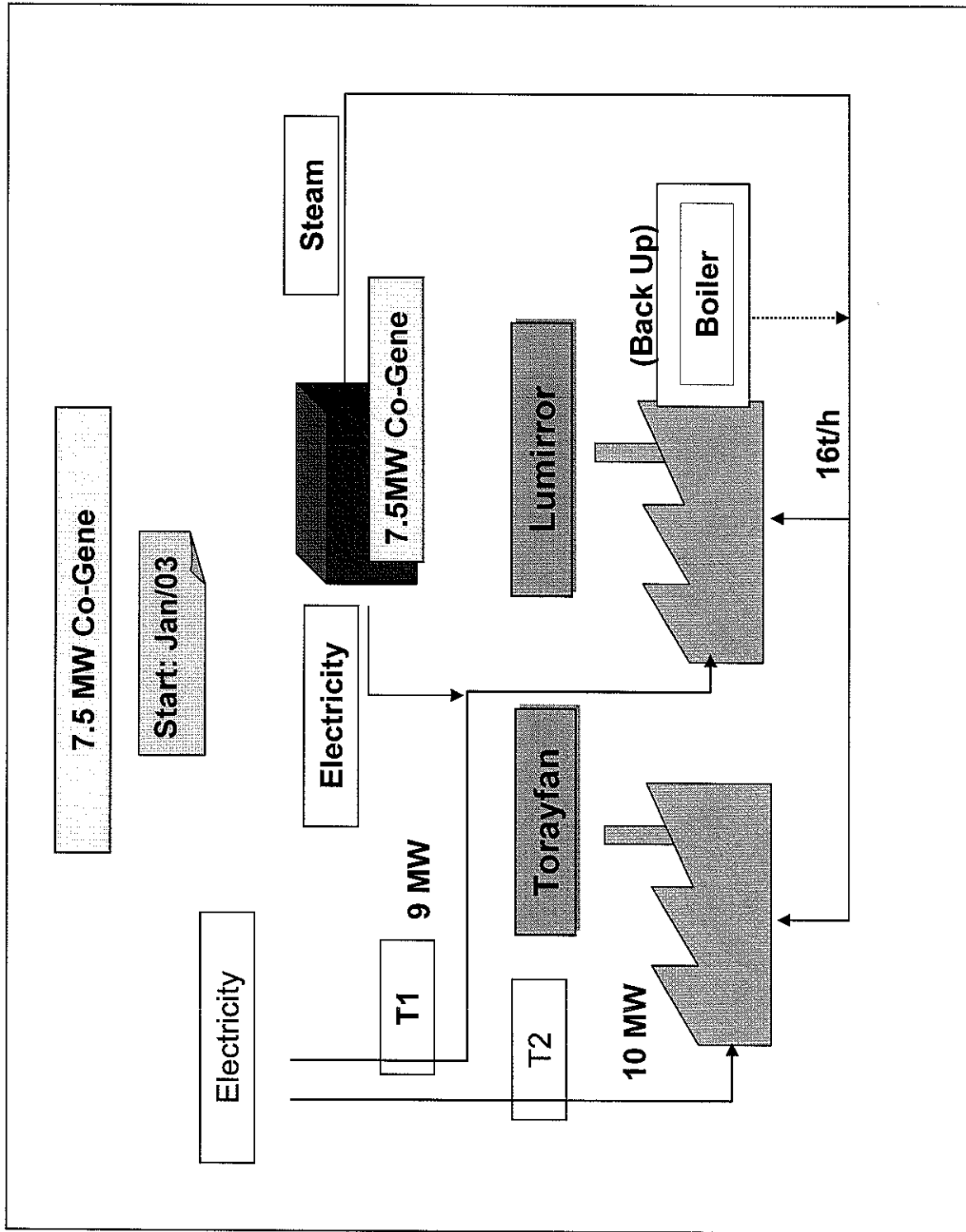
*Reasonable
Back Up
Charge*

**Low Power
Reliability**



Solution

**Co-Generation with supplemental
power from NECO**



Back-up Rate - 7.5 MW

Back Up Service Charge by B-62 rate <New Rate effective 1/1/2002>	Existing Back-Up Rate			Toray's Position for Back Up Rate		
	Main Service	Back up Service	Back up Service	Main Service	Back up Service	Incremental Servy
Capacity	12	7.5	7.5	12	7.5	7.5
usage	96,000,000	58,000,000	58,000,000	90,730,000	58,000,000	5,270,000
Customer Charge per Month		17,119	17,119		17,119	0
Distribution Demand Charge per kw	9,000	5,625	5,625	9,000	4,219	1,406
Distribution Energy Charge per kwh	31,680	19,140	19,140	29,941	0	20,869
Transmission Demand charge per Kw	16,680	10,426	10,426	16,680	0	10,426
Transmission Adjustment Factor per Kw	5,040	3,045	3,045	4,763	0	3,320
Non-bypassable Transition charge per kw	68,920	0	0	66,082	0	46,060
C&LM Adjustment per kwh	18,400	0	0	17,390	0	12,121
High Voltage Metering Discount	-1,507			-1,439		-942
Total (\$/Mo)	149,213	55,354	55,354	142,417	21,338	93,259
Total (\$/year)	1,790,554	664,245	664,245	1,709,007	256,053	93,259
		2,454,798				2,058,320

Back-up Rate - 20 MW

Back Up Service Charge by B-62 rate		Existing B-U Rate		Toray's Position for Back Up Rate	
<New Rate effective 1/1/2002>					
Capacity	MW	20	20	20	20
Usage	kwh/y	154,000,000	154,000,000	141,167,000	12,833,000
Customer Charge per Month		17,119	17,119	17,119	0
Distribution Demand Charge per kw	0.75	15,000	15,000	11,250	3,750
Distribution Energy Charge per kwh	0.004	50,820	50,820	0	50,819
Transmission Demand charge per kw	1.39	27,800	27,800	0	27,800
Transmission Adjustment Factor per kwh	0.0006	8,085	8,085	0	8,085
Non-bypassable Transition charge per kw	0.0087	0	0	0	112,160
C&LM Adjustment per kwh	0.0023	0	0	0	29,516
High Voltage Metering Discount	1%				-2,321
Total (\$/Mo)		118,824	118,824	28,369	229,808
Total (\$/Year)		1,425,885	1,425,885	340,428	229,808
					570,236

Suggestion

- **Encourage Co-Gen by changing back-up rate(cost basis not generated power basis) ASAP.**

Co-Gen

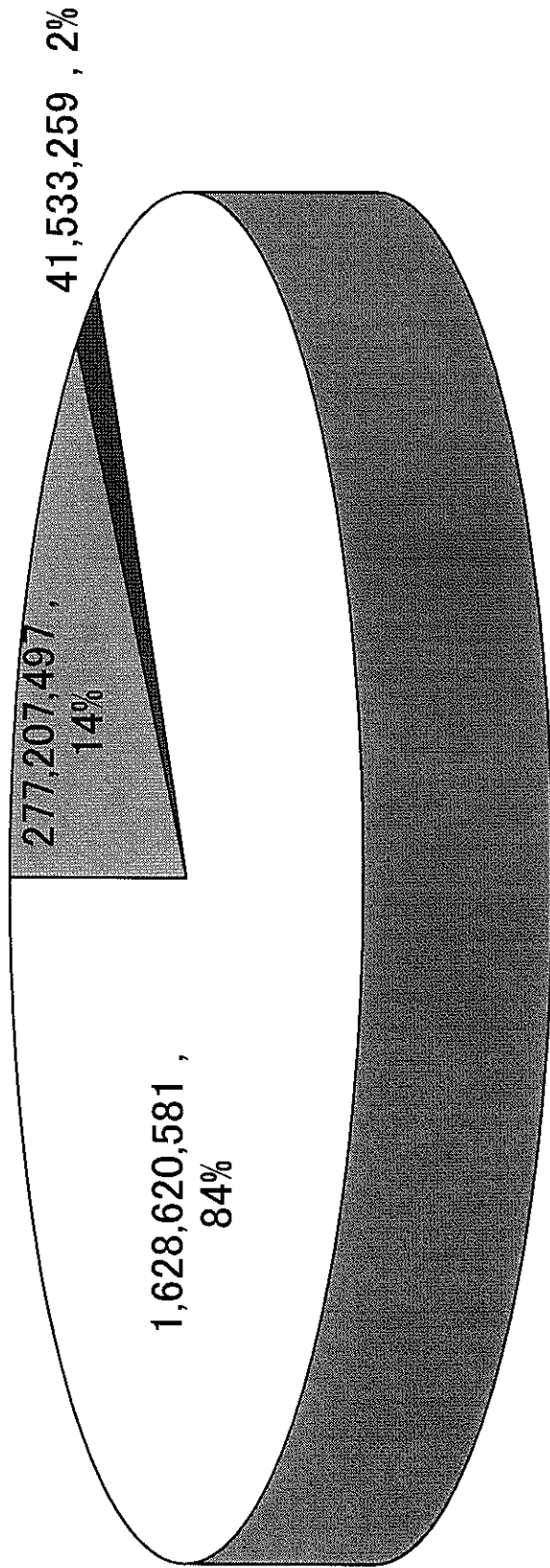
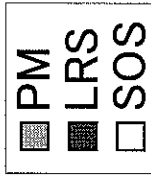
Effective energy source

Relieve peak demand

Can increase power capacity in RI

Attachment 3

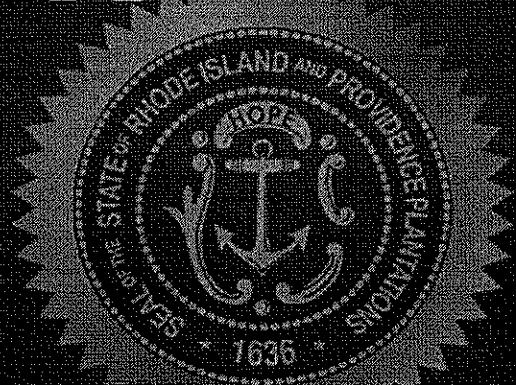
kwh/2008 Jan-Mar



Attachment 4

ARRA State Energy Program

Non-Utility Scale Renewable Energy Application



State of Rhode Island
Office of Energy Resources

Funding Opportunity Announcement
RIOER-001

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy

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This Application Package is composed of 3 parts. The first part (pp. 2-6) describes this funding opportunity. The second part (pp. 7-14) provides a narrative explaining how to fill out the application. The third part (pp. 15-22) is the application.

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy funding opportunity description

The Rhode Island Office of Energy Resources (RIOER) is soliciting applications for funding for non-utility scale renewable energy projects.

Funding Source

Funding for this program is available through a grant to Rhode Island from the federal Department of Energy's American Recovery and Reinvestment Act (ARRA) State Energy Program (SEP). Information on the State Energy Program can be found at http://apps1.eere.energy.gov/state_energy_program/. As this is an ARRA (stimulus) funded program, all applicable provisions and limitations on funds set forth in PL 111-05 shall be enforced. Further, this funding opportunity announcement is governed by the "Rules and Regulations for Non-Utility Scale Energy Projects," a Rhode Island regulation with the ERLID Number of 5924. This document can be found at: <http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOA/5924.pdf>.

Funding Purposes

The purposes of the program are the following and the fund shall be administered in a manner that accomplishes these purposes:

- (a) to create and retain jobs in Rhode Island,
- (b) to realize energy cost savings,
- (c) to reduce dependence on non-renewable forms of energy, especially fuels imported from other nations,
- (d) to achieve environmental benefits, especially reductions in greenhouse gases,
- (e) to leverage project funds and revenues,
- (f) to facilitate market transformation,
- (g) to provide opportunities for persons in all communities in the state to undertake non-utility scale renewable energy projects by assuring that projects from diverse renewable energy sources can be funded from program, and
- (h) to comply with the applicable requirements of the Recovery Act.

Eligible Entities

Project shall have the following characteristics in order to be eligible for support from this program:

- (a) The project shall have as its primary purpose the development and/or implementation of a renewable energy resource in Rhode Island.
- (b) Projects shall be categorized by size as follows:
 - (1) Residential projects to dwelling units, including premises of twelve dwelling units or less, with renewable energy.

- (2) Small commercial and industrial projects, projects that qualify for electrical rates for small commercial industrial electrical rates and premises with more than twelve dwelling units.
- (3) Large commercial and industrial, projects that qualify for large commercial-industrial electrical rates.
- (4) Community and institutional projects, projects that would supply renewable energy to one or more municipalities or to non-profit institutions or state agency institutional complexes that serve or house one thousand or more persons.

Funding Availability & Cost Sharing

A total of \$8,395,000.00 is available through this announcement. Expected number of awards will vary, as funding limits vary per applicant type. Funding for each project shall not be greater than:

- (1) [\$10,000] of support from the Fund per dwelling unit for residential projects, up to a total of \$500,000 for projects containing multiple dwelling units.
- (2) [\$ 500,000] of support from the Fund for commercial-industrial projects, or
- (3) [\$ 750,000] of support from the Fund for community and institutional projects.

The maximum level of support from this Fund shall be the funding level set forth in this section by type of entity or twenty-five percent (25%) of the total project cost, whichever amount is less. A project may involve the use of more than one renewable energy resources provided that the aggregate level of support from the Fund does not exceed the limitation set forth in this section.

The Office may administer a program for residential projects at the residence of individuals, including premises of four dwelling units or less, where the project shall not be greater than \$25,000 of support from the fund.

Ineligible Projects and Costs

Projects and costs that are ineligible under the Recovery Act SEP shall be ineligible for support from the Program and will include but not be limited to:

- (1) Projects that are wholly funded from Federal, State, RI Economic Development Corporation (hereafter referred to as Corporation) sources or by utility administered programs and projects that have, as of December 11, 2009, a contract to be funded or partially funded by Corporation programs, or any utility funded program;
- (2) Projects to be completed for casinos or other gambling establishments, aquariums, zoos, golf courses, or for swimming pools;
- (3) Outdoor and low-efficiency wood boilers. Low-efficiency wood boilers shall be defined as any boiler that does not meet or exceed a minimum thermal efficiency of 83 as measured by testing thermal efficiency using either the EN

- 303-5 or ASHRAE 155P methods, and using the lower heating value of wood. Wood boilers that use a fuel source other than wood pellets, wood chips, or firewood are not eligible under this announcement.
- (4) Projects that are part of construction of new facilities and new construction commissioning;
 - (5) Power quality, power factor, and power conditioning improvements;
 - (6) Personal computers and vehicles are not eligible costs;
 - (7) The Sub-Recipient's staff time for developing, designing, or implementing the project and in-kind services are not to be considered as cost-sharing;
 - (8) Passive solar projects;
 - (9) Projects that require the preparation of a Federal Environmental Impact Statement; only projects that are eligible for categorical exclusions or environmental assessments/finding of no significant impact shall be eligible; and;
 - (10) Projects that lack assurances that they will be installed correctly and safely.

Compliance with the Recovery Act

All entities and/or persons receiving funding from the Program shall comply with applicable Recovery Act requirements and guidance. No person shall receive funding for a project that is ineligible under the Recovery Act State Energy Program. **For a list of supplemental terms and conditions for contracts and Subawards, please see Appendix A to regulation 5924, which may be found at:**

<http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOA/5924.pdf>.

Duration of Awards

The Program shall commence as of December 11, 2009 and conclude for the purposes of developing and supporting projects on March 31, 2012. However, project performance monitoring and reporting requirements shall continue as required by the Recovery Act. With the exception of performance monitoring and reporting requirements, all projects funded by this Program must be completed on or before March 31, 2012.

Funding Rounds

There shall be a minimum of two funding rounds from the Program:

- (a) The first funding round shall total \$3.395 million with applications due by 5:00pm on **January 29, 2010**.
- (b) The second funding round shall total \$5.0 million with applications due by 5:00pm on **March 1, 2010**.
- (c) The first funding round may, in order to support one or more meritorious projects that would not be funded within the allocation set forth in paragraph (a) above, be increased by an amount not to exceed ten percent (10%) of the Recovery Act total funds allocated to the Program; in the event that the first

funding round is so increased, the second funding round shall be decreased by a corresponding amount.

(d) If funds from these two funding rounds, (a) and (b) above, are not fully obligated, the Office may establish one or more supplementary funding rounds to commit the un-obligated balance of the Fund available.

Coordination with Other Programs

This Program shall be coordinated with other renewable energy programs in Rhode Island, including but not limited to the Renewable Energy Development Fund, in order to optimize the benefits of renewable energy development in the state to accomplish the purposes set forth in Regulation 4.01 and consistent with the applicable Recovery Act requirements.

Evaluation Criteria

Applicants must meet a minimum threshold to be considered for funding. Beyond this threshold, applications will be ranked competitively. The threshold and competitive evaluation criteria are as follows:

(a) **Threshold Criteria.** All applications, in order to be considered for funding, shall (i) be complete and include all necessary assurances and (ii) demonstrate feasibility including: technical feasibility – applications must include documented evidence of technical feasibility for the proposed renewable energy technology, and financial viability – applications must include evidence of commitments or expressions of interest from all funding sources.

(b) **Competitive Criteria.** For each application scale and type of renewable energy resource, applications that meet all threshold criteria set forth in subsection (a) shall be ranked as follows:

1. Job creation/retention (40%)
 - Full-time
 - Part-time
2. Energy Savings (kwh equivalents) (30%)
 - Annual reduction in natural gas consumption (mmcf),
 - Annual reduction in electricity consumption (MWh),
 - Annual reduction in electricity demand (MW),
 - Annual reduction in fuel oil consumption (gallons),
 - Annual reduction in propane consumption (gallons), or
 - Annual reduction in gasoline and diesel fuel consumption (gallons).
3. Cost-Effectiveness Savings (10%)
 - Estimated energy produced over the life of the project/project costs and project operation and maintenance costs.

4. Funds Leveraged (20%)

- Funds leverage from the owner of the project.
- Funds leveraged from public sources other than the Program.
- Funds leveraged from private sources, including charitable and philanthropic sources.

(c) Bonus Criteria. To the competitive criteria set forth in subsection (b) above, there shall be added the following:

1. Benefits to low and moderate income households (up-to 5%).
2. Integration with other renewable or energy efficiency/energy conservation programs (up-to 5%).

Selection Process

The application selection and award process shall be conducted in accordance with the applicable provisions of the Rhode Island General Laws §§37-2-1 *et. seq.* and the State of Rhode Island Procurement Regulations as last adopted in January of 2009.

Method of Disbursement of Funds

The total amounts and types of disbursements from the Fund shall be at the sole discretion of the Office of Energy Resources subject only to the Office's application of the competitive and bonus criteria as set forth in this announcement. The Office may disburse from the Fund in the form of grants, rebates, loans, recoverable grants and other financial mechanisms, with or without security, for repayment, if any, and at rates, terms and other conditions as shall be deemed necessary, appropriate and in the best interest of the Fund as determined by the Office. The disbursement of funds may be in installments based on the level of completion of the project.

Repeat Funding and Maximum Funding Amount

Sub-Recipients, affiliates of Sub-Recipients and individuals are ineligible for repeat funding for a project. No project shall receive more than Seven Hundred Fifty Thousand Dollars (\$750,000) from the Fund.

Superseding Regulations

This funding opportunity announcement is governed by the "Rules and Regulations for Non-Utility Scale Energy Projects," a Rhode Island regulation with the ERLID Number of 5924, which supersedes any language found in the announcement. This regulation was posted with the Rhode Island Office of the Secretary of State on December 11, 2009.

For a copy of this regulation, please see:

<http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOA/5924.pdf>.

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy funding opportunity instructions

Section I

Applicant Information

The purpose of this section is to gather contact information of the applicant. The applicant shall be deemed the **primary contact** for purposes of the application. There are 10 fields in Section I, which are as follows:

1. **First Name** - The first name or given name of the applicant.
2. **Last Name** – The last name or surname of the applicant.
3. **Middle Name** – The middle name of the applicant. This field is recommended, but not required.
4. **Address** – The mailing address of the applicant. The mailing address may be the street number and street name of the applicant, or a Post Office Box,
5. **City/Town** – The city/town corresponding to the mailing address of the applicant.
6. **State** – The state corresponding to the mailing address of the applicant.
7. **Zip Code** – The 5-digit Zip Code corresponding to the mailing address of the applicant.
8. **Phone** – The primary phone number of the applicant to be used during business hours.
9. **Fax** – The primary fax number of the applicant to be used during business hours.
10. **E-Mail** – A valid working e-mail address for the applicant. Official correspondence may be sent by e-mail.

Section II

Project Site Information

The purpose of this section is to collect information on the physical location on which the project is to occur. The Office understands that entities and persons that apply for funding for projects to occur within the State of Rhode Island may have mailing addresses that differ from the project site location. **This section is not required if the applicant is an individual and all of the fields are the same as the applicant information requested above. If a P.O. Box is given above, the Project Site Address MUST be given in this section.**

11. **Company Name** – The official name or DBA of the Company. Company means an entity other than an individual which is acting as the applicant..
12. **CEO/Owner/Director of Company** – The responsible officer of the Company, if different from the primary applicant.
13. **Project Site Address** – The physical street number and name where the project is to occur. This section is required if it differs from the mailing address given above.
14. **Project Site City** – The physical city/town in which the project is to occur.
15. **Project Site State** – All projects must occur within the physical boundaries of the State of Rhode Island. Proposed projects outside of Rhode Island will not be considered for funding.
16. **Project Site Zip Code** – The Zip code corresponding to the Project Site Address

Section III

Renewable Application Information

The purpose of this section is to gather information on the renewable energy system and project for which the applicant is applying. All fields are required for combined heat and power (cogeneration) systems. For systems generating only power, field #20 may be left blank. For systems generating only heat, fields #18 and 19 may be left blank.

17. **Type of Renewable Energy of Interest** – Use the drop-down menu to select the type of renewable energy that is of interest in this project. Only eligible renewable energy sources can be selected as defined in 3.24 of the governing regulations ERLID 5924. If your project includes more than one type of renewable energy, please select the renewable energy source with the greatest potential capacity or heat generation here and detail all other sources, capacities, etc. in Section VII.
18. **System Capacity** – If the renewable energy system applied for generates electrical power, input the system capacity in Kilowatts (kW) here. This information may be obtained from the system manufacturer, vendor or contractor.
19. **System Electrical Generation** – If the renewable energy system applied for generates power, input the expected annual electrical generation in Kilowatt-hours (kWh) per year here. If the system applied for has a range of expected annual electrical generation, input the median of that range.
20. **System Heat Production** – If the renewable energy system applied for generates heat, input the expected annual heat production in British Thermal Units (BTUs) here.
21. **Type of Project Submission** – Please select whether this project is a(n) residential, small commercial or industrial, large commercial or industrial, or

community or institutional project from the drop-down menu. Project submission types are defined as follows:

- a. Residential projects are to supply dwelling units with renewable energy.
- b. Small Commercial or Industrial projects are facilities with an average demand usage of 200kW per month or less and are to supply facilities of all types of entities, including facilities of non-profit corporations, as defined in RIGL § 7-6-2, and charitable, educational and religious organizations and state and political subdivisions as described in RIGL § 44-18-30(5)(8), that qualify for electrical rates for Small Commercial/Industrial electrical rates and premises with more than twelve dwelling units with renewable energy.
- c. Large Commercial or Industrial projects are facilities with an average demand usage of greater than 200kW per month and are to supply facilities of all types of entities including facilities of non-profit corporations, as defined in RIGL § 7-6-2, and charitable, educational and religious organizations and state and political subdivisions as described in RIGL § 44-18-30(5)(8), that qualify for electrical rates for Large Commercial/Industrial electrical rates.
- d. Community and institutional projects are projects that would supply renewable energy to one or more municipalities or to hospital or educational institutions or state agency institutional complexes that serve or house one thousand or more persons.

- 22. Is Amount Requested Over \$25,000** – Select Yes or No from the drop-down menu. This question applies only to the amount requested from this program, and not to total project cost.
- 23. Amount Requested** – Input the total amount requested in United States Dollars. This question applies only to the amount requested from this program, and not to total project cost.
- 24. Total Cost of Project** – Input the total cost of the proposed project in United States Dollars. This means the sum of the amount requested and all other funds required to complete the project. For more information, see the section **Funding Availability & Cost Sharing** above.
- 25. Projected Start Date** – Please enter the projected date on which the project will start. Enter the date in the following format: mm/dd/yyyy. The Fund shall not reimburse for projects already underway as of December 11, 2009. See the section **Duration of Awards** above for more information.
- 26. Projected Completion Date** – Please enter the projected date on which the project will be completed. Enter the date in the following format: mm/dd/yyyy. This date may be no later than March 31, 2012. Please be advised that ARRA monitoring and reporting requirements may continue to apply after this date. See the section **Duration of Awards** above for more information.

Section IV

Job Creation and Retention Information

The purpose of this section is to gather job creation and retention data that is required for all awards under the American Recovery and Reinvestment Act. All fields in Section IV are required.

27. **Estimated # of Hours to Complete the Project** – Enter the estimated number of work hours that will be created by funding this project.
28. **Job Duration (Weeks)** – Enter the estimated number of work weeks it will take to complete the project.

Section V

System Life Information

The purpose of this section is to gather information on the life expectancy, warranty, and maintenance cost of the proposed renewable energy system. All fields are required.

29. **System Life Expectancy** – Input the life expectancy of the proposed renewable energy system in years.
30. **Warranty Duration** – Input the duration of any warranty associated with the proposed renewable energy system in months.
31. **Estimated Maintenance Cost Over Life Expectancy** – Input the estimated maintenance cost over the life of the renewable energy project in US dollars.

Section VI

Additional Applicant Information

The purpose of this section is to gather additional applicant information that may trigger applicable laws or programs or that may trigger bonuses in the evaluation criteria. All fields in this section are required.

32. Was the Property Built Before 1960? – Select Yes or No from the drop down menu

33. Is this Property in a Historic District? – Select Yes, No or Not Sure from the drop down menu. For more information, see item 40 at:

http://apps1.eere.energy.gov/state_energy_program/recovery_act_faqs.cfm

34. Is the Project Beneficiary LIHEAP Eligible? – Select Yes or No from the drop-down menu. A LIHEAP beneficiary resides in a residential unit and earns an amount less than or equal to 60% of Rhode Island state median income. Income guidelines are as follows:

Family Size	12-Month Income	3-Month Income	1-Month Income
1	25,971	6,493	2,164
2	33,962	8,490	2,830
3	41,953	10,488	3,496
4	49,945	12,486	4,162
5	57,936	14,484	4,828
6	65,927	16,482	5,494
7	67,426	16,857	5,618
8	68,924	17,231	5,744
9	70,422	17,605	5,868
10	71,920	17,980	5,993
11	73,419	18,355	6,118
12	74,916	18,729	6,243

Section VII

Project Description

The purpose of this section is to obtain a project description of one page or less in a font no smaller than 11 point. The project description shall set forth:

- (1) The nature of the proposed project
- (2) The location of the project
- (3) The type or types of renewable energy that are the subject of the proposed project
- (4) The energy savings of the proposed project (kWh equivalents) including, where applicable, the:
 - a. Annual reduction in natural gas consumption (mmcf),
 - b. Annual reduction in electricity consumption (MWh),
 - c. Annual reduction in electricity demand (MW),
 - d. Annual reduction in fuel oil consumption (gallons),
 - e. Annual reduction in propane consumption (gallons), or
 - f. Annual reduction in gasoline and diesel fuel consumption (gallons).
- (5) How the proposed project addresses the program purposes set forth in the section **Funding Purposes** on page 2 of this funding opportunity announcement
- (6) The extent to which it is coordinated with other renewable energy programs in Rhode Island, and
- (7) The amount and sources of funds leveraged through this project.

Section VIII

Project Schedule

The purpose of this section is to obtain a complete schedule of all major activities associated with the execution of a project. Provide a project schedule including all major activities from notice to proceed to project operation. See Section XI for more information.

Section IX

Qualification Statement

For Residential Projects involving less than 4 dwelling units, this section refers to the proposed vendor's qualifications.

The purpose of this section is to obtain a statement of qualifications assuring that the person or persons who will perform the proposed project have adequate experience and financial ability to execute the project. The qualification statement shall set forth:

- (1) The applicant's experience in renewable energy projects of the kind of the proposed project. If the project involves a team of persons provide as **Supplementary Documentation** to the application the experience of key team members and an organization chart for the project team

indicating the name of each team member, the team reporting structure and a narrative describing the responsibility of each team member.

- (2) Financial information demonstrating the capability of the person or team to complete the project successfully. Audited financial statements are not required for this application, but will be prior to the final award for projects other than residential projects involving four dwelling units or less
- (3) Other information, at the discretion of the proposer, that demonstrates the person's or team's ability to achieve the purposes set forth in the section **Funding Purposes** on page 2 of this funding opportunity announcement

Section X

Project Assurances

The purpose of this section is to ensure compliance with applicable state and federal laws. Project assurances shall include:

- (1) Assurances that the project will comply with the applicable requirements and guidance of the Recovery Act
- (2) Assurances that the project will comply with applicable provisions of municipal comprehensive plans, zoning ordinances, the Building Code, and state agency rules and regulations
- (3) Assurances that the project will comply with applicable requirements for protection of historic resources as administered by the Rhode Island Historical Preservation and Heritage Commission pursuant to section 106 of the National Historic Preservation Act
- (4) Assurance that there will be an independent inspection of the project after its completion to determine its consistency with the project application and design and its operational capability to meet energy projection levels
- (5) Assurance that the project will be completed, verified and inspected on or before March 21, 2012, and
- (6) Assurance that the project meets the definition of a non-utility scale project.

By checking the box in the project application, the applicant agrees to provide all assurances listed above as well as to follow the Rules and Regulations for Non-Utility Scale Energy Projects (ERLID Number 5924). The applicant must also print and sign as assurance a physical copy of this application to be delivered to the Rhode Island Office of Energy Resources on or before the dates set forth above in the section entitled **Funding Rounds** on page 4 of this funding opportunity announcement. See Section XI for more.

Section XI

Supplementary Documentation

Supplementary documentation may be provided related to Sections VIII-X of this funding opportunity announcement. There may be no more than 10 pages of supplementary documentation in a font no smaller than 11 point. **No supplementary documentation needs to be provided for residential projects involving four dwelling units or less.**

- (1) Supplementary documents are requested for **Section VIII: Project Schedule** only if the complexity of the project merits additional pages for timelines and project schedules.
- (2) Supplementary documents are **required for Section IX: Qualification Statement** only in the event that a team of persons is involved in the project.
- (3) Supplementary documents are requested for **Section X: Project Assurances** only if additional documentation is deemed by the applicant to be valuable to the office in ensuring compliance with applicable state and federal laws.

Section XII

Submission Instructions

Applicants are **required** to submit the application in two (2) ways. These are:

- (1) By clicking the submit button on the application package and subsequently sending the email generated by clicking the submit button
- (2) By signing and mailing the physical application to:

Office of Energy Resources
ATTN: Funding Notice RIOER-001
One Capitol Hill
Providence, RI 02908

Applicants other than for residential projects involving four dwelling units or less shall also provide their application, including supplementary documentation, in electronic format (CD-Rom, Diskette, or USB Flash Drive). Microsoft Word (.doc), Excel (.xls) or Adobe Acrobat (.pdf) format is preferable. Only one electronic copy is required. The CD/Diskette/Flash drive should be included in with the physical application and marked "original." All physical applications must include a filled-out W-9 form (attached).

Contact Information

Daniel T. Carrigg
Chief, Program Development
Rhode Island Office of Energy Resources
401-574-9104
dcarrigg@energy.ri.gov

State of Rhode Island
Office of Energy Resources

Non-utility scale renewable energy application

Section I: Applicant Information

1. First Name..... Steve

2. Last Name..... Kerr

3. Middle Name.....

4. Address..... 50 Belver Avenue

5. City/Town..... North Kingstown

6. State..... RI

7. Zip Code..... 02852

8. Phone..... (401) 667-4225

9. Fax..... (401) 295-9346

10. E-Mail..... steve.kerr@toraytpa.com

Section II: Project Site Information (if not the same as above)

11. Company Name (if applicable)..... Toray Plastics (America), Inc.

12. CEO/Owner/Director of Company..... Richard Schloesser (CEO)

13. Project Site Address (if not the same as above).....

14. Project Site City.....

15. Project Site State.....

16. Project Site Zip Code.....

State of Rhode Island
Office of Energy Resources

Non-utility scale renewable energy application

Section III. Renewable Application Information

- 17. Type of Renewable Energy of Interest..... Direct Solar
- 18. System Capacity (kW)..... 375
- 19. System Electrical Generation (kWh per year)..... 624,800
- 20. System Heat Production (BTUs).....
- 21. Type of Project Submission..... Large Commercial/Industrial
- 22. Is Amount Requested Over \$25,000..... Yes
- 23. Amount Requested..... \$500,000.00
- 24. Total Cost of Project..... \$2,014,939.00
- 25. Projected Start Date..... 03/15/2010
- 26. Projected Completion Date..... 10/20/2010

Section IV: Job Creation and Retention Information

- 27. Estimated # of Hours to Complete Project..... 7,316.00
- 28. Job Duration (Weeks)..... 32.00

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**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section V: System Life Information

- 29. System Effective Life Expectancy (in years)..... 25
- 30. Warranty Duration (in months)..... 300
- 31. Est. Maintenance Cost over Life Expectancy..... \$200,000

Section VI: Additional Applicant Information

- 32. Was the property built before 1960?..... No
- 33. Is this Property in an Historic District?..... No
- 34. Is the Project Beneficiary LIHEAP Eligible..... No

This Area Intentionally Left Blank

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section VII: Project Description

Toray Plastics (America), Inc. Solar Power Project

Toray Plastics (America), Inc. has three sites in the USA. There are two sites in RI, Quonset Point and Old Baptist Road in North Kingstown; and one site in Virginia. Toray has approximately \$750 Million in capital investments in our RI facilities and employs about 600 people in RI and 100 people in VA. Toray currently contributes approximately \$70 Million a year (2008) to RI wages and payments to RI vendors.

Toray manufactures polyester and polypropylene films at our North Kingstown facility. Energy costs are a substantial percentage of the final the cost of film. We pay approximately **\$0.105/kWh in RI and \$0.055/kWh in Virginia** for delivered electricity. The cost of electricity will be strongly considered when planning future expansions.

- **Project:** The proposed project will offset a portion of Toray's electrical load with affordable renewable energy.
 - **375 kW** Photo Voltaic (PV) Solar system
 - **1,650 PV** panels mounted on **single axis trackers**.
 - Energy production: **624,800 kWh's** per year.
 - CO2 reduction estimate: **330 tons** per year
 - **Location:** Quonset Point Facility, North Kingstown, RI
- **Green Supplier:**
 - Toray has an "Energy Team" tasked with to identifying and realizing energy saving and Sustainability projects.
 - We have invested in: Third Party and DOE Energy Audits, Electric use reduction (new Chillers, retrofit lighting), Natural Gas use reduction, Water use reduction, Scrap Recycle increase, Zero Landfill, Waste to Energy, Biodegradable product line.
 - Our customers are asking Toray to "Be Green" and we are pursuing every opportunity. Our current Sustainability efforts along with the proposed Solar Power project will help us **maintain existing customers and attract new ones**. Renewable energy onsite will allow us to **stay ahead of our competition**.
- **Cost:** This is a 375 KW solar PV project. The installed cost will be **\$5.37 per watt**.
 - Toray uses an Internal Rate of Return (IRR) calculation to analyze capital investments. A 15% IRR is required to invest in projects like this.
 - Project Cost, **\$2,014,939**
 - Vendor Quote for Solar Installation: \$1,964,939
 - Toray electrical Installation Cost Estimate: \$50,000
 - The following assumptions were made in calculating the IRR:
 - Annual Maintenance: \$8,000
 - Renewable Energy Certificates (RECs): \$0.03/kwh for the first 3 years
 - Total Federal and State Tax Credits: \$515,079
 - Toray's Investment: \$289,860
 - Interconnect requirements completed under Wind Power Project
 - In order to meet our required 15% IRR, Toray would need:
 - \$710,000 from the RI Renewable Energy Fund
 - **\$500,000** from the ARRA program

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section VIII: Project Schedule

See Attached Shedule

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section IX: Qualification Statement

We have two vendors bidding on this project; Opel Solar, Inc. and Alteris Renewables.

Please treat keep pricing information confidential until final vendor is chosen

Qualification sheets are attached.

State of Rhode Island
Office of Energy Resources

01/08/2010

Non-utility scale renewable energy application

Section X: Project Assurances



By Checking this Box I Agree to Provide Assurance to the State of Rhode Island that I have read and will follow the Rules and Regulations for Non-Utility Scale Energy Projects (ERLID Number 5924).

Further, I provide the following assurances:

1. Assurances that the project will comply with all requirements and guidance of the Recovery Act. This includes Davis-Bacon Wage Requirements detailed at <http://www.wdol.gov/dba.aspx#0>.
2. Assurances that the project will comply with applicable provisions of municipal comprehensive plans, zoning ordinances, the Building Code, and the state agency rules and regulations.
3. Assurance that the project will comply with applicable requirements for protection of historic resources as administered by the Rhode Island Historical Preservation and Heritage Commission pursuant to section 106 of the National Historic Preservation Act.
4. Assurance that there will be an independent inspection of the project after its completion to determine its consistency with the project application and design and its operational capability to meet energy production levels.
5. Assurance that the project will be completed, verified and inspected on or before March 31, 2010.
6. Assurance that the project meets the definition of a non-utility scale project.

Submit

Reset Form

Print Form

SIGN HERE

NAME

Steve Kerr

DATE

1/27/2010

State of Rhode Island
PAYER'S REQUEST FOR TAXPAYER
IDENTIFICATION NUMBER AND CERTIFICATION

THE IRS REQUIRES THAT YOU FURNISH YOUR TAXPAYER IDENTIFICATION NUMBER TO US. FAILURE TO PROVIDE THIS INFORMATION CAN RESULT IN A \$50 PENALTY BY THE IRS. IF YOU ARE AN INDIVIDUAL, PLEASE PROVIDE US WITH YOUR SOCIAL SECURITY NUMBER (SSN) IN THE SPACE INDICATED BELOW. IF YOU ARE A COMPANY OR A CORPORATION, PLEASE PROVIDE US WITH YOUR EMPLOYER IDENTIFICATION NUMBER (EIN) WHERE INDICATED.

Taxpayer Identification Number (T.I.N.)

Enter your taxpayer identification number in the appropriate box. For most individuals, this is your social security number.

Social Security No. (SSN)

--	--	--

Employer ID No. (EIN)

--	--

NAME _____

ADDRESS _____

(REMITTANCE ADDRESS, IF DIFFERENT) _____

CITY, STATE AND ZIP CODE _____

CERTIFICATION: Under penalties of perjury, I certify that:

- (1) The number shown on this form is my correct Taxpayer Identification Number (or I am waiting for a number to be issued to me), **and**
- (2) I am not subject to backup withholding either because: (A) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (B) the IRS has notified me that I am no longer subject to backup withholding.
- (3) As it relates to the "E-Verify" program, I/We certify that I/We have registered to utilize the e-verify program (www.dhs.gov/E-Verify) to ensure compliance with federal and state law. I understand and agree that I am required to continue to utilize the services of the E-Verify program for as long as I continue to do business with the State of Rhode Island. I further understand that my failure to continue to utilize the services of the E-Verify program will adversely affect my ability to continue to do business with the State of Rhode Island and my ability to do business with the State of Rhode Island in the future.

Certification Instructions – You must cross out item (2) above if you have been notified by IRS that you are subject to backup withholding because of under-reporting interest or dividends on your tax return. However, if after being notified by IRS that you were subject to backup withholding you received another notification from IRS that you are no longer subject to backup withholding, do not cross out item (2).

PLEASE SIGN HERE

SIGNATURE _____ TITLE _____ DATE _____ TEL NO. _____

BUSINESS DESIGNATION:

Please Check One: Individual Medical Services Corporation Government/Nonprofit Corporation
Partnership Corporation Trust/Estate Legal Services Corporation

NAME:– Be sure to enter your full and correct name as listed in the IRS file for you or your business. **ADDRESS, CITY, STATE AND ZIP CODE** – Enter your primary business address and remittance address if different from your primary address). If you operate a business at more than one location, adhere to the following:

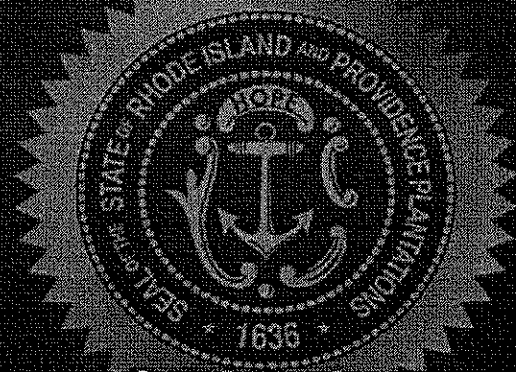
- 1) Same T.I.N. with more than one location – attach a list of location addresses with remittance address for each location and indicate to which location the year-end tax information return should be mailed.
- 2) Different T.I.N. for each different location – submit a completed W-9 form for each T.I.N. and location. (One year-end tax information return will be reported for each T.I.N. and remittance address.)

CERTIFICATION – Sign the certification, enter your title, date, and your telephone number (including area code and extension). **BUSINESS TYPE CHECK-OFF** -- Check the appropriate box for the type of business ownership.

Mail to: Supplier Coordinator, One Capitol Hill, Providence, RI 02908

ARRA State Energy Program

Non-Utility Scale Renewable Energy Application



State of Rhode Island
Office of Energy Resources

Funding Opportunity Announcement
RIOER-001

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy

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This Application Package is composed of 3 parts. The first part (pp. 2-6) describes this funding opportunity. The second part (pp. 7-14) provides a narrative explaining how to fill out the application. The third part (pp. 15-22) is the application.

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy funding opportunity description

The Rhode Island Office of Energy Resources (RIOER) is soliciting applications for funding for non-utility scale renewable energy projects.

Funding Source

Funding for this program is available through a grant to Rhode Island from the federal Department of Energy's American Recovery and Reinvestment Act (ARRA) State Energy Program (SEP). Information on the State Energy Program can be found at http://apps1.eere.energy.gov/state_energy_program/. As this is an ARRA (stimulus) funded program, all applicable provisions and limitations on funds set forth in PL 111-05 shall be enforced. Further, this funding opportunity announcement is governed by the "Rules and Regulations for Non-Utility Scale Energy Projects," a Rhode Island regulation with the ERLID Number of 5924. This document can be found at: <http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOA/5924.pdf>.

Funding Purposes

The purposes of the program are the following and the fund shall be administered in a manner that accomplishes these purposes:

- (a) to create and retain jobs in Rhode Island,
- (b) to realize energy cost savings,
- (c) to reduce dependence on non-renewable forms of energy, especially fuels imported from other nations,
- (d) to achieve environmental benefits, especially reductions in greenhouse gases,
- (e) to leverage project funds and revenues,
- (f) to facilitate market transformation,
- (g) to provide opportunities for persons in all communities in the state to undertake non-utility scale renewable energy projects by assuring that projects from diverse renewable energy sources can be funded from program, and
- (h) to comply with the applicable requirements of the Recovery Act.

Eligible Entities

Project shall have the following characteristics in order to be eligible for support from this program:

- (a) The project shall have as its primary purpose the development and/or implementation of a renewable energy resource in Rhode Island.
- (b) Projects shall be categorized by size as follows:
 - (1) Residential projects to dwelling units, including premises of twelve dwelling units or less, with renewable energy.

- (2) Small commercial and industrial projects, projects that qualify for electrical rates for small commercial industrial electrical rates and premises with more than twelve dwelling units.
- (3) Large commercial and industrial, projects that qualify for large commercial-industrial electrical rates.
- (4) Community and institutional projects, projects that would supply renewable energy to one or more municipalities or to non-profit institutions or state agency institutional complexes that serve or house one thousand or more persons.

Funding Availability & Cost Sharing

A total of \$8,395,000.00 is available through this announcement. Expected number of awards will vary, as funding limits vary per applicant type. Funding for each project shall not be greater than:

- (1) [\$10,000] of support from the Fund per dwelling unit for residential projects, up to a total of \$500,000 for projects containing multiple dwelling units.
- (2) [\$ 500,000] of support from the Fund for commercial-industrial projects, or
- (3) [\$ 750,000] of support from the Fund for community and institutional projects.

The maximum level of support from this Fund shall be the funding level set forth in this section by type of entity or twenty-five percent (25%) of the total project cost, whichever amount is less. A project may involve the use of more than one renewable energy resources provided that the aggregate level of support from the Fund does not exceed the limitation set forth in this section.

The Office may administer a program for residential projects at the residence of individuals, including premises of four dwelling units or less, where the project shall not be greater than \$25,000 of support from the fund.

Ineligible Projects and Costs

Projects and costs that are ineligible under the Recovery Act SEP shall be ineligible for support from the Program and will include but not be limited to:

- (1) Projects that are wholly funded from Federal, State, RI Economic Development Corporation (hereafter referred to as Corporation) sources or by utility administered programs and projects that have, as of December 11, 2009, a contract to be funded or partially funded by Corporation programs, or any utility funded program;
- (2) Projects to be completed for casinos or other gambling establishments, aquariums, zoos, golf courses, or for swimming pools;
- (3) Outdoor and low-efficiency wood boilers. Low-efficiency wood boilers shall be defined as any boiler that does not meet or exceed a minimum thermal efficiency of 83 as measured by testing thermal efficiency using either the EN

- 303-5 or ASHRAE 155P methods, and using the lower heating value of wood. Wood boilers that use a fuel source other than wood pellets, wood chips, or firewood are not eligible under this announcement.
- (4) Projects that are part of construction of new facilities and new construction commissioning;
 - (5) Power quality, power factor, and power conditioning improvements;
 - (6) Personal computers and vehicles are not eligible costs;
 - (7) The Sub-Recipient's staff time for developing, designing, or implementing the project and in-kind services are not to be considered as cost-sharing;
 - (8) Passive solar projects;
 - (9) Projects that require the preparation of a Federal Environmental Impact Statement; only projects that are eligible for categorical exclusions or environmental assessments/finding of no significant impact shall be eligible; and;
 - (10) Projects that lack assurances that they will be installed correctly and safely.

Compliance with the Recovery Act

All entities and/or persons receiving funding from the Program shall comply with applicable Recovery Act requirements and guidance. No person shall receive funding for a project that is ineligible under the Recovery Act State Energy Program. **For a list of supplemental terms and conditions for contracts and Subawards, please see Appendix A to regulation 5924, which may be found at:**

<http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOA/5924.pdf>.

Duration of Awards

The Program shall commence as of December 11, 2009 and conclude for the purposes of developing and supporting projects on March 31, 2012. However, project performance monitoring and reporting requirements shall continue as required by the Recovery Act. With the exception of performance monitoring and reporting requirements, all projects funded by this Program must be completed on or before March 31, 2012.

Funding Rounds

There shall be a minimum of two funding rounds from the Program:

- (a) The first funding round shall total \$3.395 million with applications due by 5:00pm on **January 29, 2010**.
- (b) The second funding round shall total \$5.0 million with applications due by 5:00pm on **March 1, 2010**.
- (c) The first funding round may, in order to support one or more meritorious projects that would not be funded within the allocation set forth in paragraph (a) above, be increased by an amount not to exceed ten percent (10%) of the Recovery Act total funds allocated to the Program; in the event that the first

funding round is so increased, the second funding round shall be decreased by a corresponding amount.

(d) If funds from these two funding rounds, (a) and (b) above, are not fully obligated, the Office may establish one or more supplementary funding rounds to commit the un-obligated balance of the Fund available.

Coordination with Other Programs

This Program shall be coordinated with other renewable energy programs in Rhode Island, including but not limited to the Renewable Energy Development Fund, in order to optimize the benefits of renewable energy development in the state to accomplish the purposes set forth in Regulation 4.01 and consistent with the applicable Recovery Act requirements.

Evaluation Criteria

Applicants must meet a minimum threshold to be considered for funding. Beyond this threshold, applications will be ranked competitively. The threshold and competitive evaluation criteria are as follows:

(a) **Threshold Criteria.** All applications, in order to be considered for funding, shall (i) be complete and include all necessary assurances and (ii) demonstrate feasibility including: technical feasibility – applications must include documented evidence of technical feasibility for the proposed renewable energy technology, and financial viability – applications must include evidence of commitments or expressions of interest from all funding sources.

(b) **Competitive Criteria.** For each application scale and type of renewable energy resource, applications that meet all threshold criteria set forth in subsection (a) shall be ranked as follows:

1. Job creation/retention (40%)
 - Full-time
 - Part-time
2. Energy Savings (kwh equivalents) (30%)
 - Annual reduction in natural gas consumption (mmcf),
 - Annual reduction in electricity consumption (MWh),
 - Annual reduction in electricity demand (MW),
 - Annual reduction in fuel oil consumption (gallons),
 - Annual reduction in propane consumption (gallons), or
 - Annual reduction in gasoline and diesel fuel consumption (gallons).
3. Cost-Effectiveness Savings (10%)
 - Estimated energy produced over the life of the project/project costs and project operation and maintenance costs.

4. Funds Leveraged (20%)

- Funds leverage from the owner of the project.
- Funds leveraged from public sources other than the Program.
- Funds leveraged from private sources, including charitable and philanthropic sources.

(c) Bonus Criteria. To the competitive criteria set forth in subsection (b) above, there shall be added the following:

1. Benefits to low and moderate income households (up-to 5%).
2. Integration with other renewable or energy efficiency/energy conservation programs (up-to 5%).

Selection Process

The application selection and award process shall be conducted in accordance with the applicable provisions of the Rhode Island General Laws §§37-2-1 *et. seq.* and the State of Rhode Island Procurement Regulations as last adopted in January of 2009.

Method of Disbursement of Funds

The total amounts and types of disbursements from the Fund shall be at the sole discretion of the Office of Energy Resources subject only to the Office's application of the competitive and bonus criteria as set forth in this announcement. The Office may disburse from the Fund in the form of grants, rebates, loans, recoverable grants and other financial mechanisms, with or without security, for repayment, if any, and at rates, terms and other conditions as shall be deemed necessary, appropriate and in the best interest of the Fund as determined by the Office. The disbursement of funds may be in installments based on the level of completion of the project.

Repeat Funding and Maximum Funding Amount

Sub-Recipients, affiliates of Sub-Recipients and individuals are ineligible for repeat funding for a project. No project shall receive more than Seven Hundred Fifty Thousand Dollars (\$750,000) from the Fund.

Superseding Regulations

This funding opportunity announcement is governed by the "Rules and Regulations for Non-Utility Scale Energy Projects," a Rhode Island regulation with the ERLID Number of 5924, which supersedes any language found in the announcement. This regulation was posted with the Rhode Island Office of the Secretary of State on December 11, 2009.

For a copy of this regulation, please see:

<http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOA/5924.pdf>.

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy funding opportunity instructions

Section I

Applicant Information

The purpose of this section is to gather contact information of the applicant. The applicant shall be deemed the **primary contact** for purposes of the application. There are 10 fields in Section I, which are as follows:

1. **First Name** - The first name or given name of the applicant.
2. **Last Name** - The last name or surname of the applicant.
3. **Middle Name** - The middle name of the applicant. This field is recommended, but not required.
4. **Address** - The mailing address of the applicant. The mailing address may be the street number and street name of the applicant, or a Post Office Box,
5. **City/Town** - The city/town corresponding to the mailing address of the applicant.
6. **State** - The state corresponding to the mailing address of the applicant.
7. **Zip Code** - The 5-digit Zip Code corresponding to the mailing address of the applicant.
8. **Phone** - The primary phone number of the applicant to be used during business hours.
9. **Fax** - The primary fax number of the applicant to be used during business hours.
10. **E-Mail** - A valid working e-mail address for the applicant. Official correspondence may be sent by e-mail.

Section II

Project Site Information

The purpose of this section is to collect information on the physical location on which the project is to occur. The Office understands that entities and persons that apply for funding for projects to occur within the State of Rhode Island may have mailing addresses that differ from the project site location. **This section is not required if the applicant is an individual and all of the fields are the same as the applicant information requested above. If a P.O. Box is given above, the Project Site Address MUST be given in this section.**

11. **Company Name** – The official name or DBA of the Company. Company means an entity other than an individual which is acting as the applicant..
12. **CEO/Owner/Director of Company** – The responsible officer of the Company, if different from the primary applicant.
13. **Project Site Address** – The physical street number and name where the project is to occur. This section is required if it differs from the mailing address given above.
14. **Project Site City** – The physical city/town in which the project is to occur.
15. **Project Site State** – All projects must occur within the physical boundaries of the State of Rhode Island. Proposed projects outside of Rhode Island will not be considered for funding.
16. **Project Site Zip Code** – The Zip code corresponding to the Project Site Address

Section III

Renewable Application Information

The purpose of this section is to gather information on the renewable energy system and project for which the applicant is applying. All fields are required for combined heat and power (cogeneration) systems. For systems generating only power, field #20 may be left blank. For systems generating only heat, fields #18 and 19 may be left blank.

17. **Type of Renewable Energy of Interest** – Use the drop-down menu to select the type of renewable energy that is of interest in this project. Only eligible renewable energy sources can be selected as defined in 3.24 of the governing regulations ERLID 5924. If your project includes more than one type of renewable energy, please select the renewable energy source with the greatest potential capacity or heat generation here and detail all other sources, capacities, etc. in Section VII.
18. **System Capacity** – If the renewable energy system applied for generates electrical power, input the system capacity in Kilowatts (kW) here. This information may be obtained from the system manufacturer, vendor or contractor.
19. **System Electrical Generation** – If the renewable energy system applied for generates power, input the expected annual electrical generation in Kilowatt-hours (kWh) per year here. If the system applied for has a range of expected annual electrical generation, input the median of that range.
20. **System Heat Production** – If the renewable energy system applied for generates heat, input the expected annual heat production in British Thermal Units (BTUs) here.
21. **Type of Project Submission** – Please select whether this project is a(n) residential, small commercial or industrial, large commercial or industrial, or

community or institutional project from the drop-down menu. Project submission types are defined as follows:

- a. Residential projects are to supply dwelling units with renewable energy.
 - b. Small Commercial or Industrial projects are facilities with an average demand usage of 200kW per month or less and are to supply facilities of all types of entities, including facilities of non-profit corporations, as defined in RIGL § 7-6-2, and charitable, educational and religious organizations and state and political subdivisions as described in RIGL § 44-18-30(5)(8), that qualify for electrical rates for Small Commercial/Industrial electrical rates and premises with more than twelve dwelling units with renewable energy.
 - c. Large Commercial or Industrial projects are facilities with an average demand usage of greater than 200kW per month and are to supply facilities of all types of entities including facilities of non-profit corporations, as defined in RIGL § 7-6-2, and charitable, educational and religious organizations and state and political subdivisions as described in RIGL § 44-18-30(5)(8), that qualify for electrical rates for Large Commercial/Industrial electrical rates.
 - d. Community and institutional projects are projects that would supply renewable energy to one or more municipalities or to hospital or educational institutions or state agency institutional complexes that serve or house one thousand or more persons.
- 22. Is Amount Requested Over \$25,000** – Select Yes or No from the drop-down menu. This question applies only to the amount requested from this program, and not to total project cost.
- 23. Amount Requested** – Input the total amount requested in United States Dollars. This question applies only to the amount requested from this program, and not to total project cost.
- 24. Total Cost of Project** – Input the total cost of the proposed project in United States Dollars. This means the sum of the amount requested and all other funds required to complete the project. For more information, see the section **Funding Availability & Cost Sharing** above.
- 25. Projected Start Date** – Please enter the projected date on which the project will start. Enter the date in the following format: mm/dd/yyyy. The Fund shall not reimburse for projects already underway as of December 11, 2009. See the section **Duration of Awards** above for more information.
- 26. Projected Completion Date** – Please enter the projected date on which the project will be completed. Enter the date in the following format: mm/dd/yyyy. This date may be no later than March 31, 2012. Please be advised that ARRA monitoring and reporting requirements may continue to apply after this date. See the section **Duration of Awards** above for more information.

Section IV

Job Creation and Retention Information

The purpose of this section is to gather job creation and retention data that is required for all awards under the American Recovery and Reinvestment Act. All fields in Section IV are required.

27. **Estimated # of Hours to Complete the Project** – Enter the estimated number of work hours that will be created by funding this project.
28. **Job Duration (Weeks)** – Enter the estimated number of work weeks it will take to complete the project.

Section V

System Life Information

The purpose of this section is to gather information on the life expectancy, warranty, and maintenance cost of the proposed renewable energy system. All fields are required.

29. **System Life Expectancy** – Input the life expectancy of the proposed renewable energy system in years.
30. **Warranty Duration** – Input the duration of any warranty associated with the proposed renewable energy system in months.
31. **Estimated Maintenance Cost Over Life Expectancy** – Input the estimated maintenance cost over the life of the renewable energy project in US dollars.

Section VI

Additional Applicant Information

The purpose of this section is to gather additional applicant information that may trigger applicable laws or programs or that may trigger bonuses in the evaluation criteria. All fields in this section are required.

32. Was the Property Built Before 1960? – Select Yes or No from the drop down menu

33. Is this Property in a Historic District? – Select Yes, No or Not Sure from the drop down menu. For more information, see item 40 at:

http://apps1.eere.energy.gov/state_energy_program/recovery_act_faqs.cfm

34. Is the Project Beneficiary LIHEAP Eligible? – Select Yes or No from the drop-down menu. A LIHEAP beneficiary resides in a residential unit and earns an amount less than or equal to 60% of Rhode Island state median income. Income guidelines are as follows:

Family Size	12-Month Income	3-Month Income	1-Month Income
1	25,971	6,493	2,164
2	33,962	8,490	2,830
3	41,953	10,488	3,496
4	49,945	12,486	4,162
5	57,936	14,484	4,828
6	65,927	16,482	5,494
7	67,426	16,857	5,618
8	68,924	17,231	5,744
9	70,422	17,605	5,868
10	71,920	17,980	5,993
11	73,419	18,355	6,118
12	74,916	18,729	6,243

Section VII

Project Description

The purpose of this section is to obtain a project description of one page or less in a font no smaller than 11 point. The project description shall set forth:

- (1) The nature of the proposed project
- (2) The location of the project
- (3) The type or types of renewable energy that are the subject of the proposed project
- (4) The energy savings of the proposed project (kWh equivalents) including, where applicable, the:
 - a. Annual reduction in natural gas consumption (mmcf),
 - b. Annual reduction in electricity consumption (MWh),
 - c. Annual reduction in electricity demand (MW),
 - d. Annual reduction in fuel oil consumption (gallons),
 - e. Annual reduction in propane consumption (gallons), or
 - f. Annual reduction in gasoline and diesel fuel consumption (gallons).
- (5) How the proposed project addresses the program purposes set forth in the section **Funding Purposes** on page 2 of this funding opportunity announcement
- (6) The extent to which it is coordinated with other renewable energy programs in Rhode Island, and
- (7) The amount and sources of funds leveraged through this project.

Section VIII

Project Schedule

The purpose of this section is to obtain a complete schedule of all major activities associated with the execution of a project. Provide a project schedule including all major activities from notice to proceed to project operation. See Section XI for more information.

Section IX

Qualification Statement

For Residential Projects involving less than 4 dwelling units, this section refers to the proposed vendor's qualifications.

The purpose of this section is to obtain a statement of qualifications assuring that the person or persons who will perform the proposed project have adequate experience and financial ability to execute the project. The qualification statement shall set forth:

- (1) The applicant's experience in renewable energy projects of the kind of the proposed project. If the project involves a team of persons provide as **Supplementary Documentation** to the application the experience of key team members and an organization chart for the project team

indicating the name of each team member, the team reporting structure and a narrative describing the responsibility of each team member.

- (2) Financial information demonstrating the capability of the person or team to complete the project successfully. Audited financial statements are not required for this application, but will be prior to the final award for projects other than residential projects involving four dwelling units or less
- (3) Other information, at the discretion of the proposer, that demonstrates the person's or team's ability to achieve the purposes set forth in the section **Funding Purposes** on page 2 of this funding opportunity announcement

Section X

Project Assurances

The purpose of this section is to ensure compliance with applicable state and federal laws. Project assurances shall include:

- (1) Assurances that the project will comply with the applicable requirements and guidance of the Recovery Act
- (2) Assurances that the project will comply with applicable provisions of municipal comprehensive plans, zoning ordinances, the Building Code, and state agency rules and regulations
- (3) Assurances that the project will comply with applicable requirements for protection of historic resources as administered by the Rhode Island Historical Preservation and Heritage Commission pursuant to section 106 of the National Historic Preservation Act
- (4) Assurance that there will be an independent inspection of the project after its completion to determine its consistency with the project application and design and its operational capability to meet energy projection levels
- (5) Assurance that the project will be completed, verified and inspected on or before March 21, 2012, and
- (6) Assurance that the project meets the definition of a non-utility scale project.

By checking the box in the project application, the applicant agrees to provide all assurances listed above as well as to follow the Rules and Regulations for Non-Utility Scale Energy Projects (ERLID Number 5924). The applicant must also print and sign as assurance a physical copy of this application to be delivered to the Rhode Island Office of Energy Resources on or before the dates set forth above in the section entitled **Funding Rounds** on page 4 of this funding opportunity announcement. See Section XI for more.

Section XI

Supplementary Documentation

Supplementary documentation may be provided related to Sections VIII-X of this funding opportunity announcement. There may be no more than 10 pages of supplementary documentation in a font no smaller than 11 point. **No supplementary documentation needs to be provided for residential projects involving four dwelling units or less.**

- (1) Supplementary documents are requested for **Section VIII: Project Schedule** only if the complexity of the project merits additional pages for timelines and project schedules.
- (2) Supplementary documents are **required for Section IX: Qualification Statement** only in the event that a team of persons is involved in the project.
- (3) Supplementary documents are requested for **Section X: Project Assurances** only if additional documentation is deemed by the applicant to be valuable to the office in ensuring compliance with applicable state and federal laws.

Section XII

Submission Instructions

Applicants are **required** to submit the application in two (2) ways. These are:

- (1) By clicking the submit button on the application package and subsequently sending the email generated by clicking the submit button
- (2) By signing and mailing the physical application to:

Office of Energy Resources
ATTN: Funding Notice RIOER-001
One Capitol Hill
Providence, RI 02908

Applicants other than for residential projects involving four dwelling units or less shall also provide their application, including supplementary documentation, in electronic format (CD-Rom, Diskette, or USB Flash Drive). Microsoft Word (.doc), Excel (.xls) or Adobe Acrobat (.pdf) format is preferable. Only one electronic copy is required. The CD/Diskette/Flash drive should be included in with the physical application and marked "original." All physical applications must include a filled-out W-9 form (attached).

Contact Information

Daniel T. Carrigg
Chief, Program Development
Rhode Island Office of Energy Resources
401-574-9104
dcarrigg@energy.ri.gov

State of Rhode Island
Office of Energy Resources

Non-utility scale renewable energy application

Section I: Applicant Information

1. First Name.....	Steve
2. Last Name.....	Kerr
3. Middle Name.....	
4. Address.....	50 Belver Avenue
5. City/Town.....	North Kingstown
6. State.....	RI
7. Zip Code.....	02852
8. Phone.....	(401) 667-4225
9. Fax.....	(401) 295-9346
10. E-Mail.....	steve.kerr@toraytpa.com

Section II: Project Site Information (if not the same as above)

11. Company Name (if applicable).....	Toray Plastics (America), Inc.
12. CEO/Owner/Director of Company.....	Richard Schloesser (CEO)
13. Project Site Address (if not the same as above)...	
14. Project Site City.....	
15. Project Site State.....	
16. Project Site Zip Code.....	

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section III. Renewable Application Information

- 17. Type of Renewable Energy of Interest..... Wind
- 18. System Capacity (kW)..... 225
- 19. System Electrical Generation (kWh per year)..... 213,000
- 20. System Heat Production (BTUs).....
- 21. Type of Project Submission..... Large Commercial/Industrial
- 22. Is Amount Requested Over \$25,000..... Yes
- 23. Amount Requested..... \$259,200.00
- 24. Total Cost of Project..... \$1,036,800.00
- 25. Projected Start Date..... 04/01/2010
- 26. Projected Completion Date..... 10/01/2010

Section IV: Job Creation and Retention Information

- 27. Estimated # of Hours to Complete Project..... 3,100.00
- 28. Job Duration (Weeks)..... 30.00

This Area Intentionally Left Blank

State of Rhode Island
Office of Energy Resources

Non-utility scale renewable energy application

Section V: System Life Information

- 29. System Effective Life Expectancy (in years)..... 20
- 30. Warranty Duration (in months)..... 48
- 31. Est. Maintenance Cost over Life Expectancy..... \$150,000

Section VI: Additional Applicant Information

- 32. Was the property built before 1960?..... No
- 33. Is this Property in an Historic District?..... No
- 34. Is the Project Beneficiary LIHEAP Eligible..... No

This Area Intentionally Left Blank

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section VII: Project Description

Toray Plastics (America), Inc. Wind Power Project

Toray Plastics (America), Inc. has three sites in the USA. There are two sites in RI, Quonset Point and Old Baptist Road in North Kingstown; and one site in Virginia. Toray has approximately \$750 Million in capital investments in our RI facilities and employs about 600 people in RI and 100 people in VA. Toray currently contributes approximately \$70 Million a year (2008) to RI wages and payments to RI vendors.

Toray manufactures polyester and polypropylene films at our North Kingstown facility. Energy costs are a substantial percentage of the final the cost of film. We pay approximately **\$0.105/kWh in RI** and **\$0.055/kWh in Virginia** for delivered electricity. The cost of electricity will be strongly considered when planning future expansions.

- **Project:** The proposed project will offset a portion of Toray's electrical load with affordable renewable energy.
 - **225 kW** Norwin Wind Turbine
 - Energy production: **213,800 kWh's** per year.
 - CO2 reduction estimate: **115 tons** per year
 - **Location:** Quonset Point Facility, North Kingstown, RI
- **Green Supplier:**
 - Toray has an "Energy Team" tasked with to identifying and realizing energy saving and Sustainability projects.
 - We have invested in: Third Party and DOE Energy Audits, Electric use reduction (New Chillers, retrofit lighting), Natural Gas use reduction, Water use reduction, Scrap Recycle increase, Zero Landfill, Waste to Energy, Biodegradable product line.
 - Our customers are asking Toray to "Be Green" and we are pursuing every opportunity. Our current Sustainability efforts along with the proposed Solar Power project will help us **maintain existing customers and attract new ones**. Renewable energy onsite will allow us to **stay ahead of our competition**.
- **Cost:** This is a 225 kW wind turbine project. The installed cost will be **\$4.61 per watt**.
 - Toray uses an Internal Rate of Return (IRR) calculation to analyze capital investments. A 15% IRR is required to invest in projects like this.
 - Project Cost, **\$1,036,800**
 - Vendor Quote for Turbine Installation: \$886,800
 - Toray electrical Installation Cost Estimate: \$50,000
 - National Grid Interconnect Estimate: \$100,000
 - The following assumptions were made in calculating the IRR:
 - Annual Maintenance: \$7,500
 - Renewable Energy Certificates (RECs): \$0.03/kwh for the first 3 years
 - Total Federal and State Tax Credits: \$3,064
 - Toray's Investment: \$59,136
 - In order to meet our required 15% IRR, Toray would need:
 - \$716,000 from the RI Renewable Energy Fund
 - **\$259,200 (25%)** from the ARRA program

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section VIII: Project Schedule

See Attached Shedule

**State of Rhode Island
Office of Energy Resources**

Non-utility scale renewable energy application

Section IX: Qualification Statement

We have two vendors bidding on this project; Integrity Energy Group and Alteris Renewables

Please treat the pricing information confidential until final vendor is chosen

Qualification statements are attached

**State of Rhode Island
Office of Energy Resources**

01/08/2010

Non-utility scale renewable energy application

Section X: Project Assurances

By Checking this Box I Agree to Provide Assurance to the State of Rhode Island that I have read and will follow the Rules and Regulations for Non-Utility Scale Energy Projects (ERLID Number 5924).

Further, I provide the following assurances:

1. Assurances that the project will comply with all requirements and guidance of the Recovery Act.
This includes Davis-Bacon Wage Requirements detailed at <http://www.wdol.gov/dba.aspx#0>.
2. Assurances that the project will comply with applicable provisions of municipal comprehensive plans, zoning ordinances, the Building Code, and the state agency rules and regulations.
3. Assurance that the project will comply with applicable requirements for protection of historic resources as administered by the Rhode Island Historical Preservation and Heritage Commission pursuant to section 106 of the National Historic Preservation Act.
4. Assurance that there will be an independent inspection of the project after its completion to determine its consistency with the project application and design and its operational capability to meet energy production levels.
5. Assurance that the project will be completed, verified and inspected on or before March 31, 2010.
6. Assurance that the project meets the definition of a non-utility scale project.

Submit

Reset Form

Print Form

SIGN HERE

NAME

Steve Kerr

DATE

1/27/10

State of Rhode Island
**PAYER'S REQUEST FOR TAXPAYER
 IDENTIFICATION NUMBER AND CERTIFICATION**

THE IRS REQUIRES THAT YOU FURNISH YOUR TAXPAYER IDENTIFICATION NUMBER TO US. FAILURE TO PROVIDE THIS INFORMATION CAN RESULT IN A \$50 PENALTY BY THE IRS. IF YOU ARE AN INDIVIDUAL, PLEASE PROVIDE US WITH YOUR SOCIAL SECURITY NUMBER (SSN) IN THE SPACE INDICATED BELOW. IF YOU ARE A COMPANY OR A CORPORATION, PLEASE PROVIDE US WITH YOUR EMPLOYER IDENTIFICATION NUMBER (EIN) WHERE INDICATED.

Taxpayer Identification Number (T.I.N.)

Enter your taxpayer identification number in the appropriate box. For most individuals, this is your social security number.

Social Security No. (SSN)**Employer ID No. (EIN)**

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NAME _____**ADDRESS** _____**(REMITTANCE ADDRESS, IF DIFFERENT)** _____**CITY, STATE AND ZIP CODE** _____**CERTIFICATION:** Under penalties of perjury, I certify that:

- (1) The number shown on this form is my correct Taxpayer Identification Number (or I am waiting for a number to be issued to me), **and**
- (2) I am not subject to backup withholding either because: (A) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (B) the IRS has notified me that I am no longer subject to backup withholding.
- (3) As it relates to the "E-Verify" program, I/We certify that I/We have registered to utilize the e-verify program (www.dhs.gov/E-Verify) to ensure compliance with federal and state law. I understand and agree that I am required to continue to utilize the services of the E-Verify program for as long as I continue to do business with the State of Rhode Island. I further understand that my failure to continue to utilize the services of the E-Verify program will adversely affect my ability to continue to do business with the State of Rhode Island and my ability to do business with the State of Rhode Island in the future.

Certification Instructions – You must cross out item (2) above if you have been notified by IRS that you are subject to backup withholding because of under-reporting interest or dividends on your tax return. However, if after being notified by IRS that you were subject to backup withholding you received another notification from IRS that you are no longer subject to backup withholding, do not cross out item (2).

PLEASE SIGN HERE

SIGNATURE _____ TITLE _____ DATE _____ TEL NO. _____

BUSINESS DESIGNATION:

Please Check One: Individual Medical Services Corporation Government/Nonprofit Corporation
 Partnership Corporation Trust/Estate Legal Services Corporation

NAME:– Be sure to enter your full and correct name as listed in the IRS file for you or your business. **ADDRESS, CITY, STATE AND ZIP CODE** – Enter your primary business address and remittance address if different from your primary address). If you operate a business at more than one location, adhere to the following:

- 1) Same T.I.N. with more than one location – attach a list of location addresses with remittance address for each location and indicate to which location the year-end tax information return should be mailed.
- 2) Different T.I.N. for each different location – submit a completed W-9 form for each T.I.N. and location. (One year-end tax information return will be reported for each T.I.N. and remittance address.)

CERTIFICATION – Sign the certification, enter your title, date, and your telephone number (including area code and extension).

BUSINESS TYPE CHECK-OFF -- Check the appropriate box for the type of business ownership.

Mail to: Supplier Coordinator, One Capitol Hill, Providence, RI 02908

Attachment 5

CO₂ emission

Guideline

主要用役のCO₂排出原単位 (目安値)

用役名	CO ₂ 排出原単位		根拠 (炭素排出係数は環境庁ガイドラインを使用)
		単位	
蒸気	重油* 1t	180	kgCO ₂ /t蒸気 C重油排出係数=802KgC/KL C重油平均発熱量=9,800Kcal/L (H) ボイラ効率=0.9 発生蒸気発熱量=539Kcal/Kg $802 \div 9,800 \div 0.9 \times 539 \times 44 \div 12$
	石炭* 1t	221	kgCO ₂ /t蒸気 石炭排出係数=705KgC/t 石炭平均発熱量=6,990Kcal/Kg (H) ボイラ効率=0.9 発生蒸気発熱量=539Kcal/Kg $705 \div 6,990 \div 0.9 \times 539 \times 44 \div 12$
自家発電 Onsite Power Generation	重油* 1t Boiler (oil)	0.735	kgCO ₂ /Kwh C重油排出係数=802KgC/KL C重油平均発熱量=9,800Kcal/L (H) 電力カロリー = 2,450Kcal/Kwh $2,450 \div 9800 \times 802 \div 10^3 \times 44 \div 12$
	石炭* 1t Boiler (Coal)	0.906	kgCO ₂ /Kwh 石炭排出係数=705KgC/t 石炭平均発熱量=6,990Kcal/Kg (H) 電力カロリー = 2,450Kcal/Kwh $2,450 \div 6,990 \times 705 \div 10^3 \times 44 \div 12$
買電電力		0.381	kgCO ₂ /Kwh 非化石燃料比率40% (原子力30%, 水力10%)
Average of Power Purchase 電力平均 (自買平均)	例えば	0.594	kgCO ₂ /Kwh 自家発、買電の平均を使用する場合は 自家発、買電の平均負荷率で計算する 例えば 重油ボイラで自家発比率=60%の場合 $0.735 \times 0.6 + 0.381 \times 0.4$
圧縮空気		0.042	kgCO ₂ /Nm ³ 電力原単位=0.11Kwh/Nm ³ 電力原単位×買電炭素排出原単位 $0.11 \times 0.381 = 0.042$
チルド水		0.419	kgCO ₂ /JRT 冷ト (5℃) 原単位=1.1Kw/JRT (冷凍ト) 電力原単位×買電炭素排出原単位 $1.1 \times 0.381 = 0.419$
用水		0.057	kgCO ₂ /m ³ 電力原単位=0.15Kwh/m ³ 電力原単位×買電炭素排出原単位 $0.15 \times 0.381 = 0.057$
窒素		0.191	kgCO ₂ /Nm ³ 電力原単位=0.5Kwh/Nm ³ 電力原単位×買電炭素排出原単位 $0.5 \times 0.381 = 0.191$

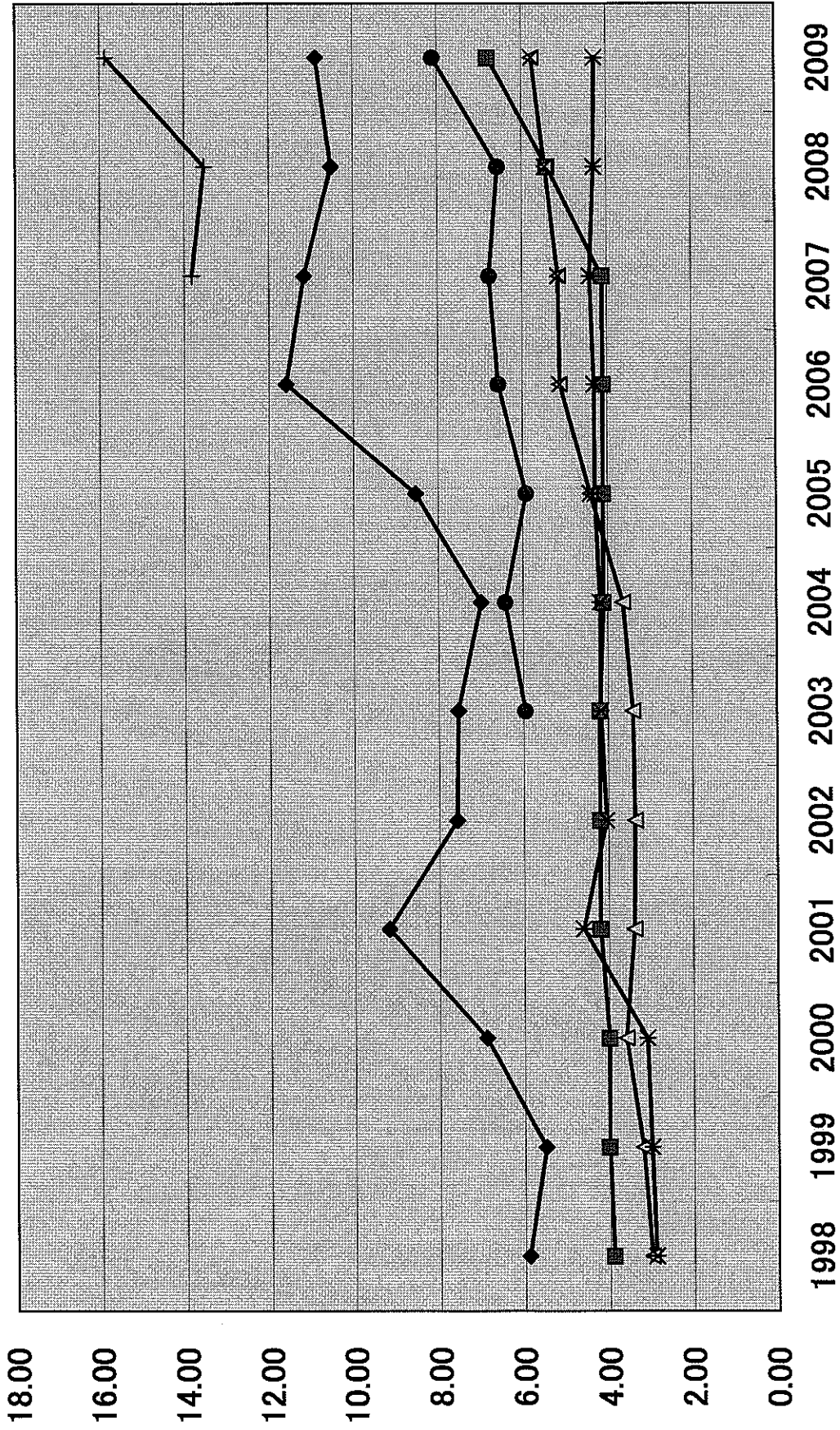
この表の使い方、CO₂削減量の考え方

- (1) 電力量を削減した場合原則として、買電を削減したものとする。
- (2) 各工場の特異な場合は、環境庁のガイドを参考に作成する。

例. 省エネにより電力量を削減した場合 (100kwh/年の削減とすると)
 $100\text{Kwh}/\text{年} \times 0.381\text{KgCO}_2/\text{Kwh} = 38.1\text{kgCO}_2/\text{年}$ となる。

Attachment 6

Electricity Cost in Other Toray in USA (c/kwh)



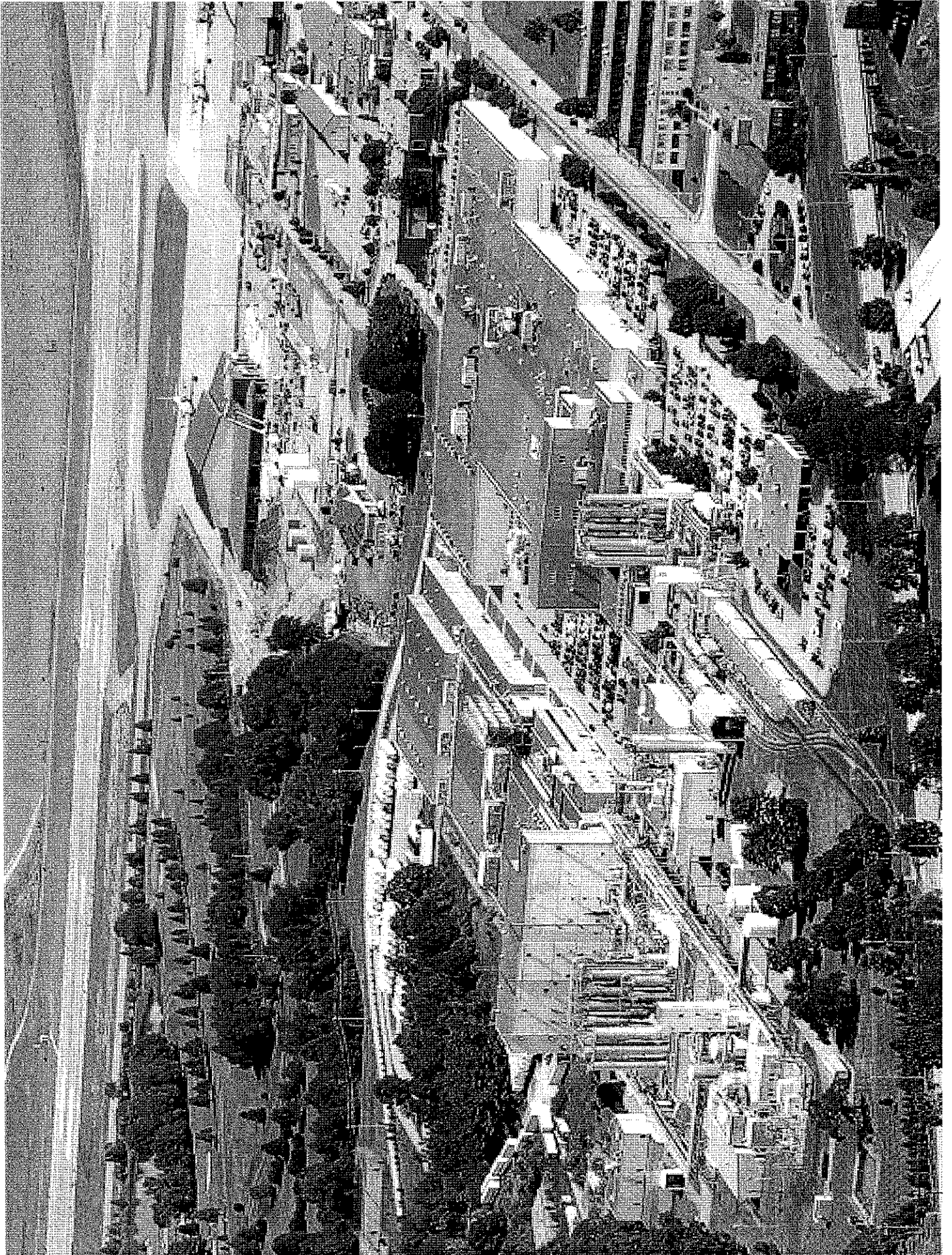
Legend: TPA(RI) (diamond), TPA(VA) (square), CFA(AL) (triangle), TFA(AL) (cross), TCA(WA) (asterisk), TREC(IN) (circle), TMUS(CA) (plus)

Attachment 7

Welcome

Governor Don Carcieri

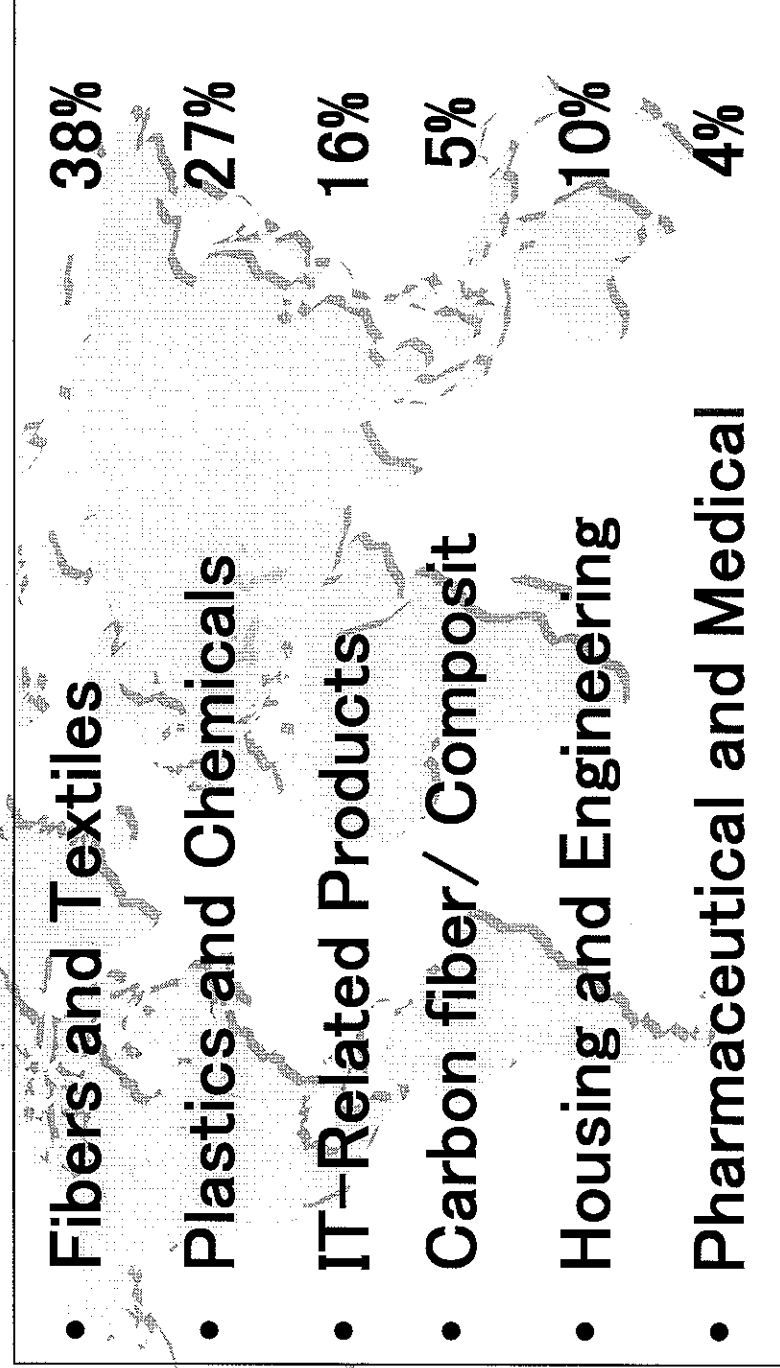
November 24, 2009
Senior Vice President, Shigeru Osada



Toray Industries, Inc

- **Global company based in Tokyo**
- **200 subsidiaries/6 divisions**
- **19 countries**
- **35,000 employees**
- **Net Sales \$16.0 billion**
- **World leader in synthetic fibers**
- **World leader in carbon fiber technology**
(Supplier for Boeing 787 Dreamliner)
- **World's #1 BO-PET film manufacturer**

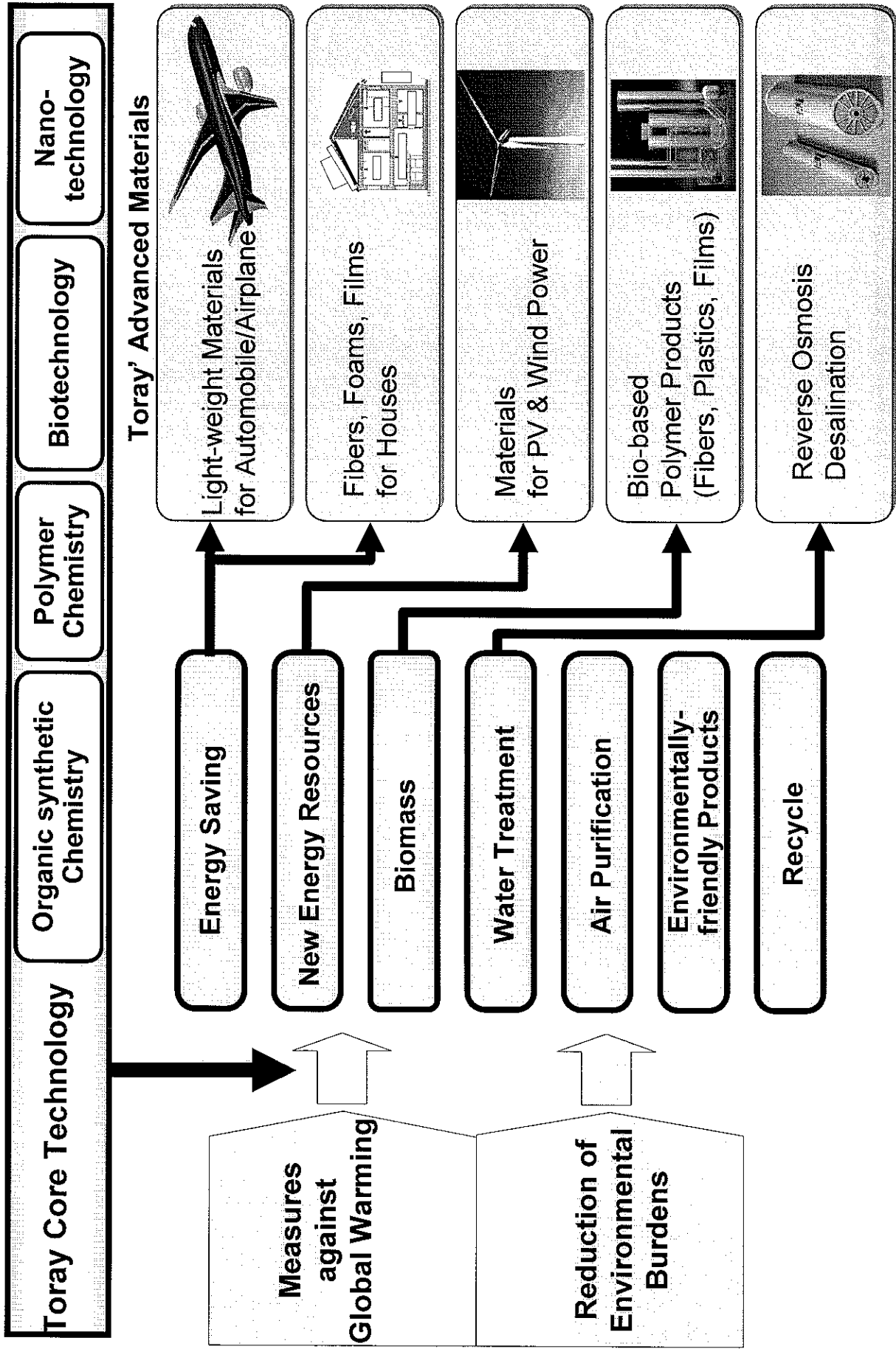
Principal Products



Solution to Global Environmental Issues - Environmentally-friendly Products -

TORAY

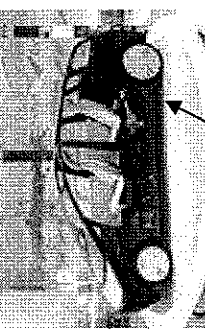
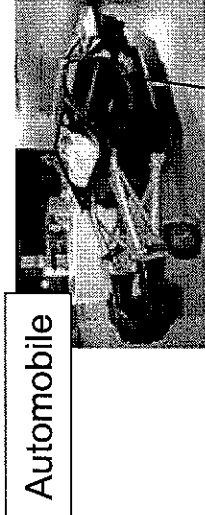
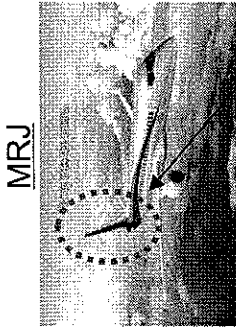
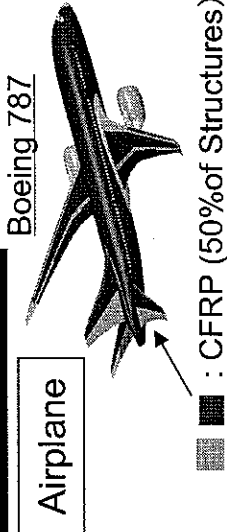
Innovation by Chemistry



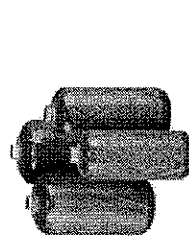
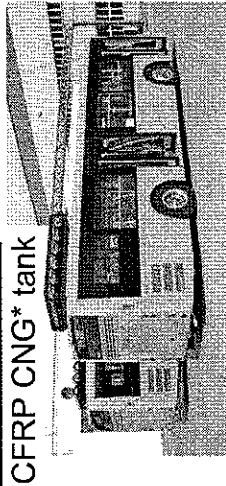
Contribution of Carbon Fibers to Global Warming

Reduction of CO₂ Emission

Light Weight



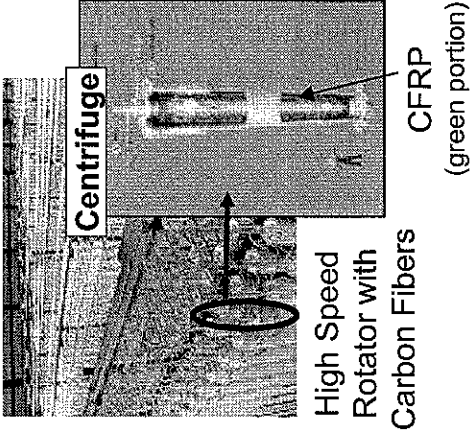
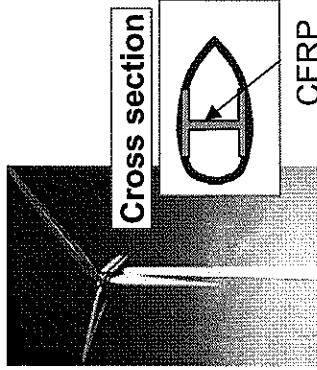
Clean Fuel



(*CNG; Compressed Natural Gas
* CFRP : Carbon Fiber reinforced Plastics

Generation of Clean Energies

Higher Efficiency



Large Scale Windmill

Uranium Enrichment

Special Function



Electrode with C/C Composites

Hydrogen Tank

**Carbon Fibers contribute to reduce CO₂ Emission during usage
and to generate Clean Energies**

LCA (Life Cycle Assessment) of Airplane:

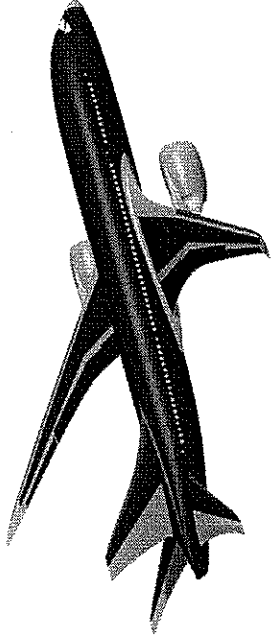
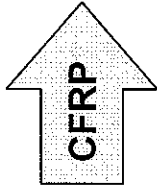
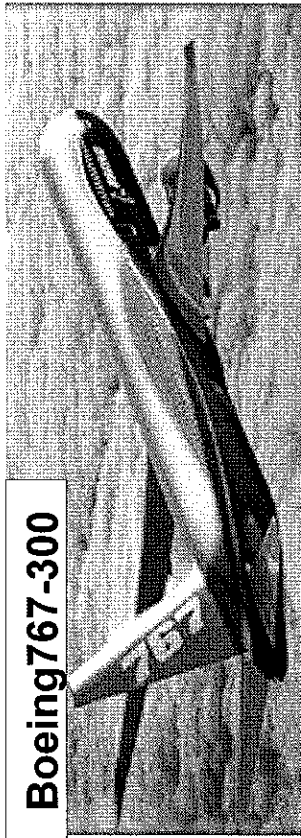
'TORAY'

Innovation by Chemistry

"JCMA Model"

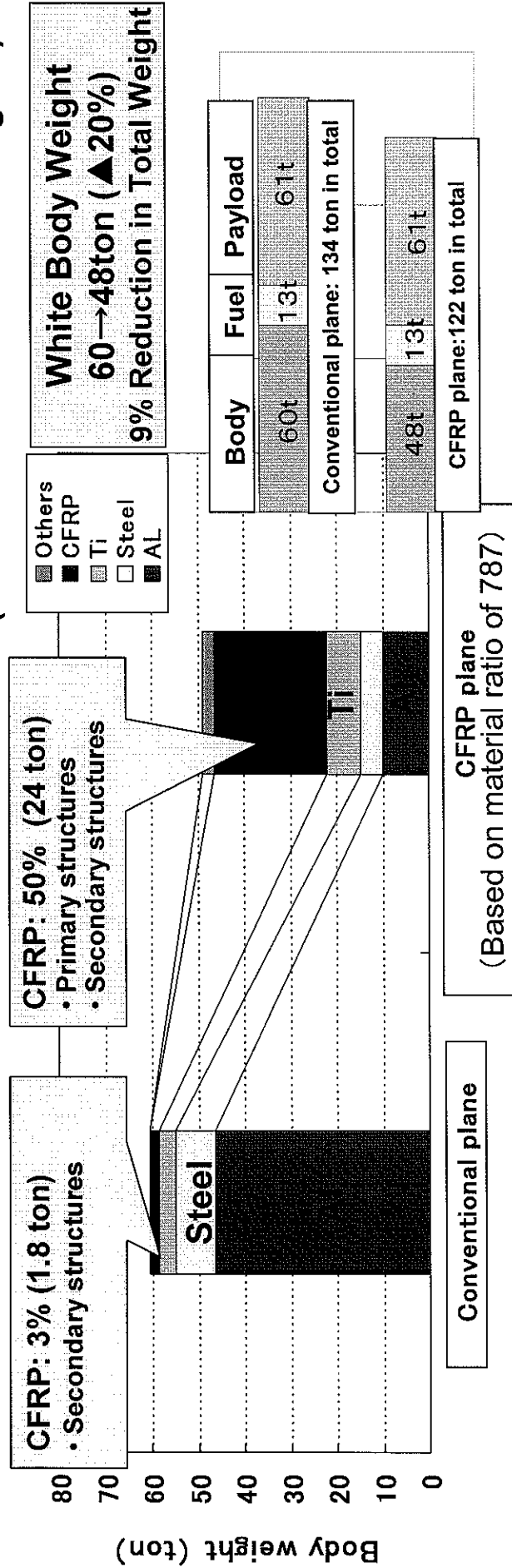
(JCMA: The Japan Carbon Fiber Manufacturers Association)

◆ Conventional and CFRP Airplane



CFRP airplane model

(same material ratio as Boeing787)



50% of Structures: CFRP → Structure Weight: 20% Reduction

Automobile & Airplane Development Center

New Center started in Nagoya to develop Plastics & Composite Technologies

A&A Center (Automobile · Airplane Development Center)

Plastics Development Center
(existing)

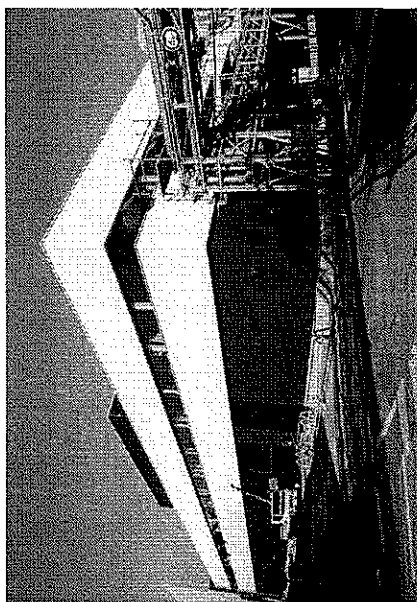
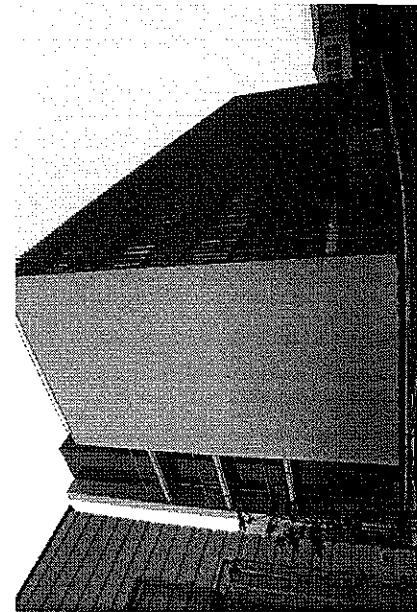
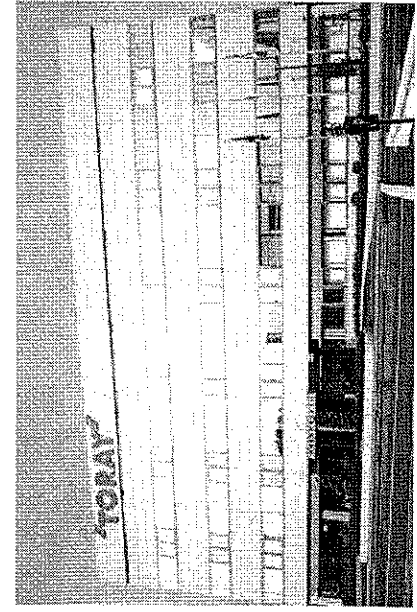
- Plastics for
- **Automobile**
 - **Electronics · IT**
 - **Industrial**

Automotive Center
(2008, June)

Advanced Materials, Parts & Systems for **Automobile**

Advanced Composite Center
(2009, April)

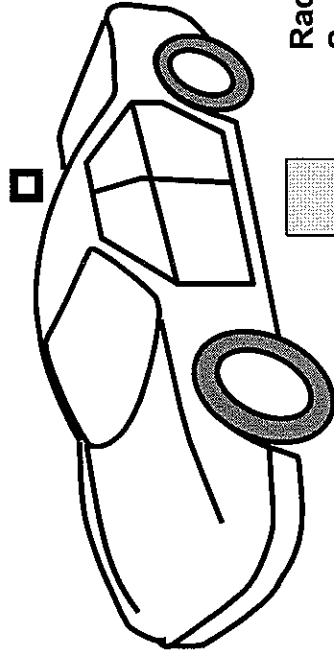
- Composite Materials for
- **Automobile**
 - **Airplane (including MRJ)**
 - **IT**



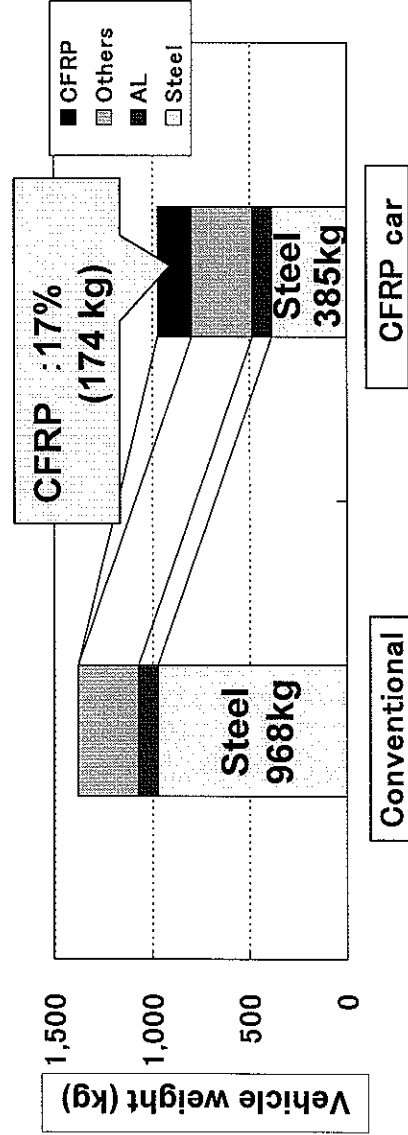
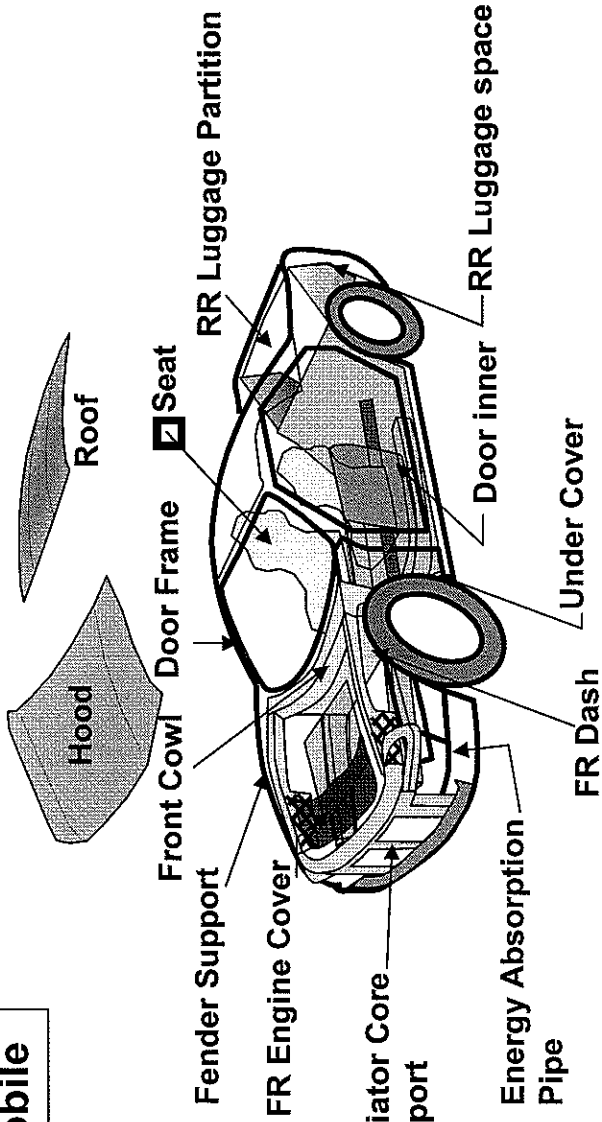
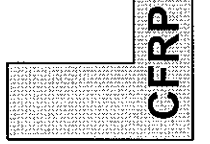
LCA of Automobile: "JCMA Model"

◆ Conventional and CFRP Automobile

(JCMA: The Japan Carbon Fiber Manufacturers Association)



Standard sedan



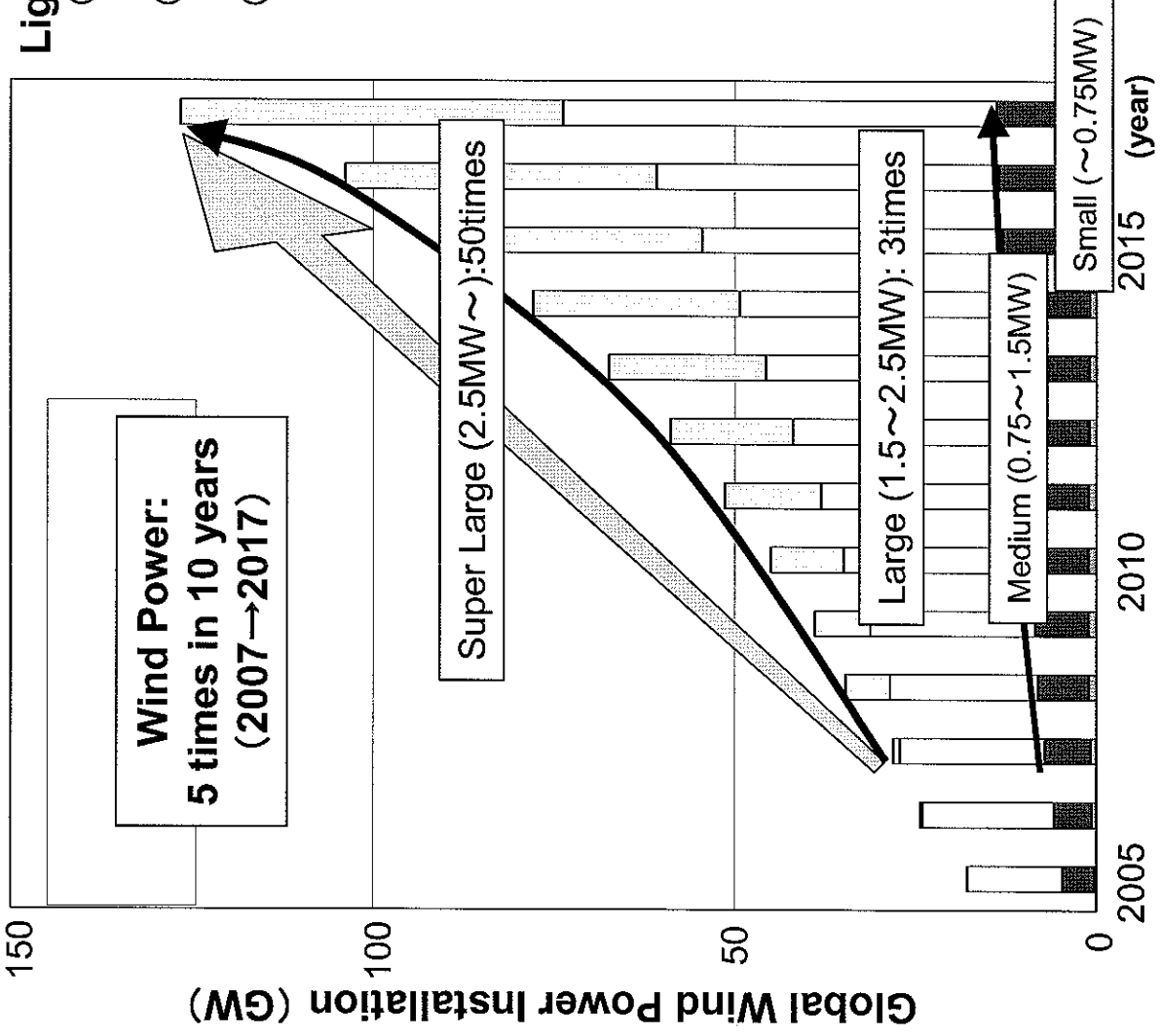
Thermoset CFRP; Panels, Structures
(Weight: 30% of Steel)

Thermoplastic CFRP; Other Parts
(Weight: 50% of Steel)

White Body Weight
1380 → 970kg (▲30%)

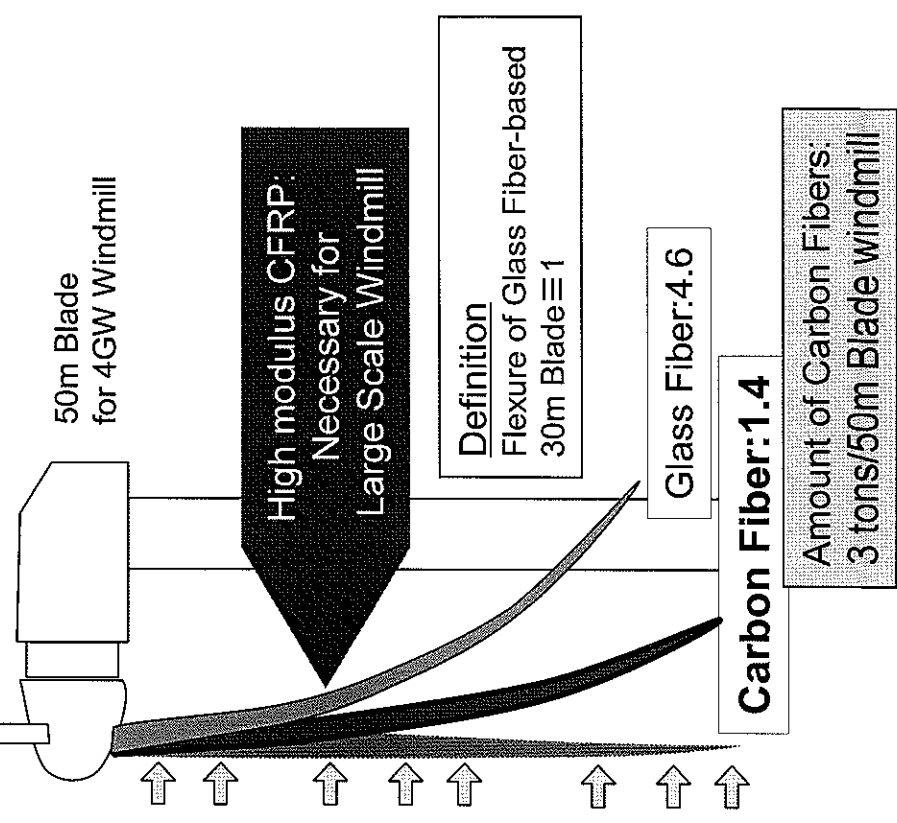
17% of Body: CFRP → Body Weight: 30% Reduction

Large Scale Windmill



Light Weight & Large Scale Blade with CFRP

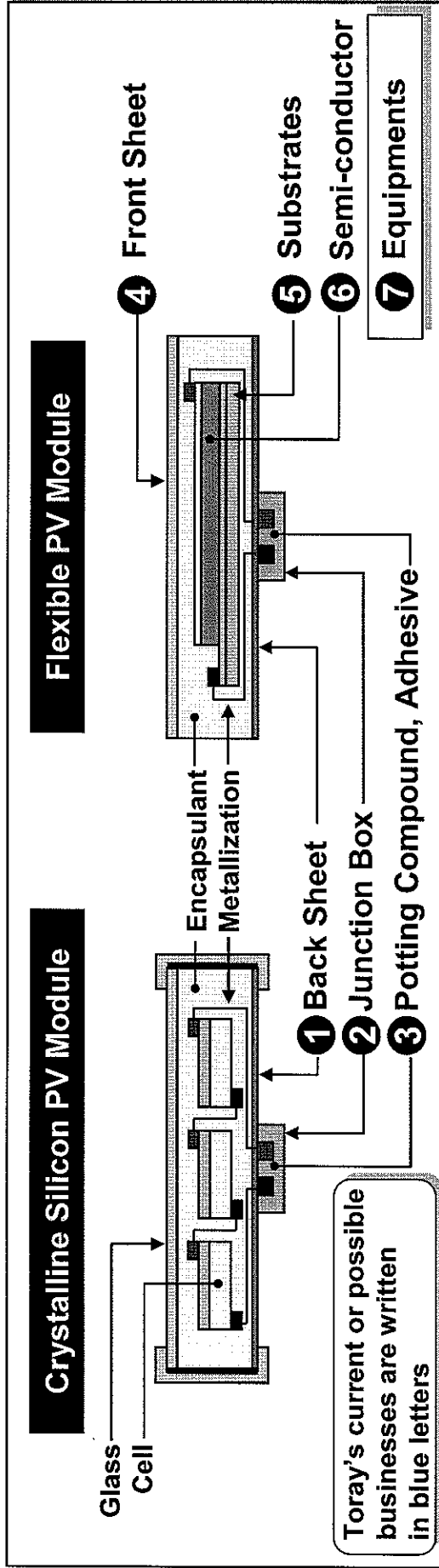
- ① Power Generation: Proportional to (Blade Length)²
- ② High Modulus CFRP: To prevent collision to Windmill Tower
- ③ Light Weight Blade: Total Cost Down



(Ref.) Composites Industry Monthly (March 2008)

Toray's Activities in PV Industry

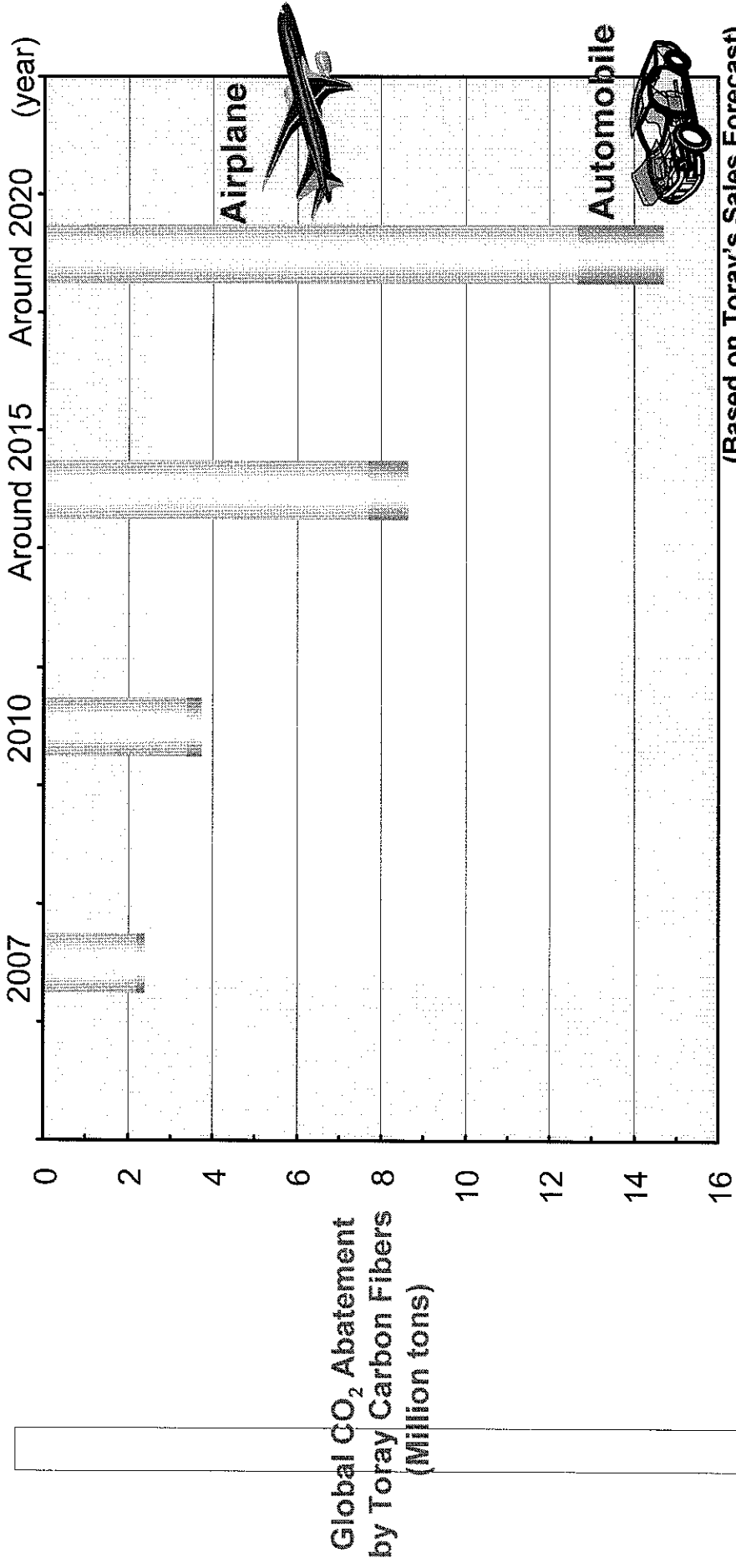
Toray's Business Opportunities in PV Industry



Solar Materials	Toray's Products
1 Back Sheet	"Lumirror" (PET Films) Engineering Plastics
2 Junction Box	Silicone Resins
3 Potting Compound, Adhesive	"Toyoflon" (ETFE Films) "Kapton" (Polyimide Films)
4 Front Sheet	(Dow Corning Toray)
5 Substrates	(Toray Advanced Film) (DuPont-Toray)
6 Semi-conductor	Organic Semi-conductor
7 Equipments	Coater, Titrer, Bonder, Inspection Device (Toray Engineering)

Global Share #1

Toray's Contribution to CO₂ Abatement



< Airplane Application >

2007: 2.2 Million tons / year, 2020: 12 Million tons / year

< Automobile Application (including CNG Tank) >

2007: 0.2 Million tons / year, 2020: 2 Million tons / year

(Based on Toray's Sales Forecast)

Toray Receives 2008 Humanitarian Award from the United Nations Association of New York

TORAY

Innovation by Chemistry

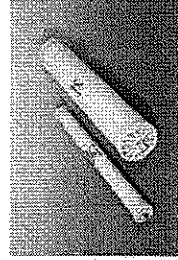
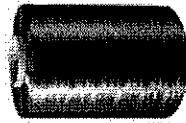
Toray receives the 2008 Humanitarian Award from the United Nations Association of New York (UNA-NY) in recognition of its Environmentally Friendly Business activities as well as its CSR activities targeting sustainable social growth.

Humanitarian Award from the United Nations Association of New York

UNA-NY has been selecting one Millennium Development Goal (of the eight 21st Century goals) each year as the theme for the award and the scope of the award was also expanded to include businesses, individuals and organizations in the given field. Past recipients include UNICEF and GE Foundation. The 2008 Humanitarian Award was themed around Climate Change. The scope of the award covered overall efforts combating environmental issues and the other recipients this year were Mr. Ban Ki-moon, Secretary-General of the United Nations, and Mr. Olafur Ragnar Grimsson, President of Iceland.

Background for winning the Award

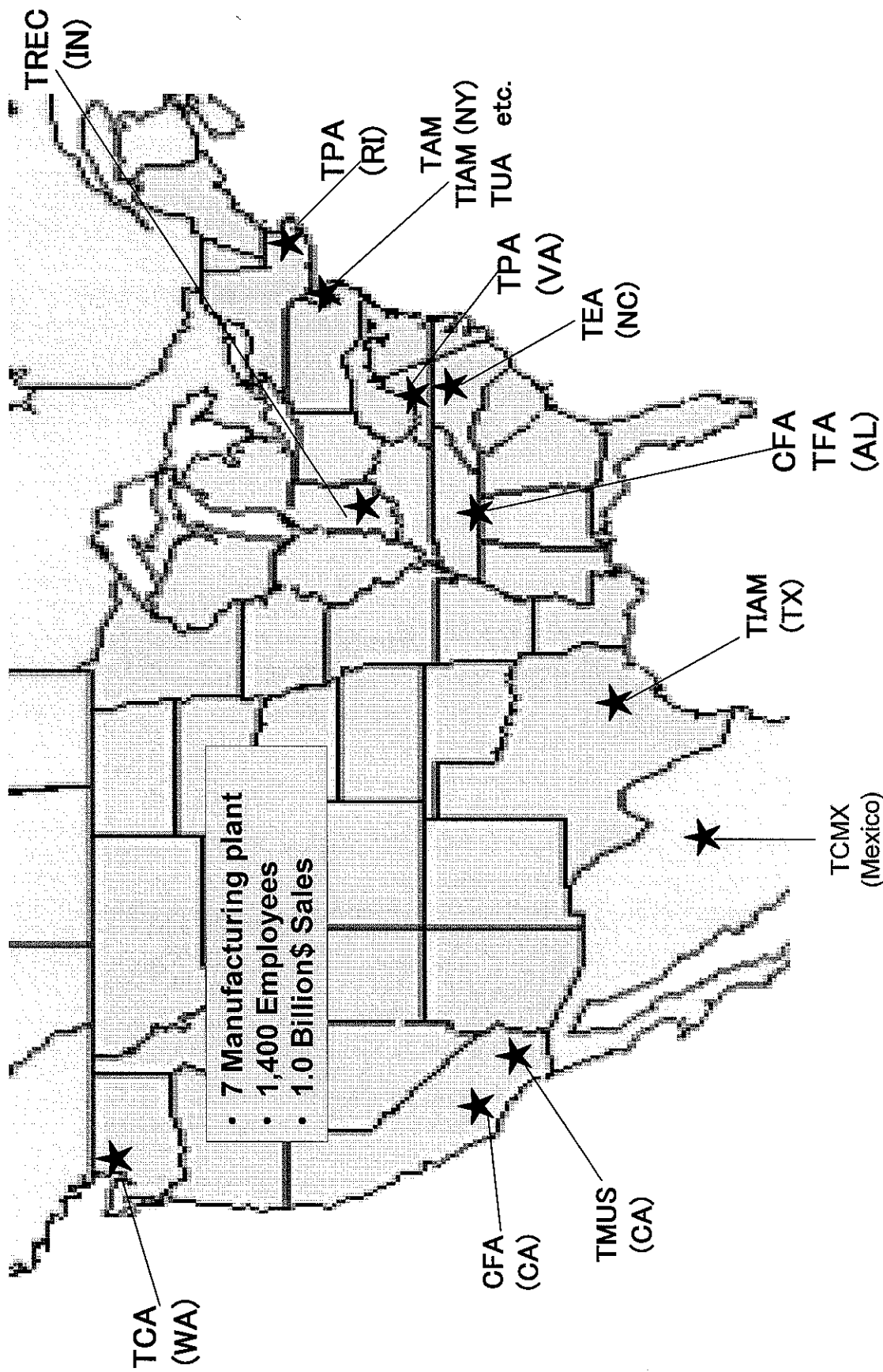
Environmentally friendly business activities including its involvement in such areas as, seawater desalination, water treatment and carbon fiber composite materials businesses as well as for its CSR activities targeting climate change prevention and sustainable social growth.



President Sakakibara is shown with United Nations Secretary-General Mr. Ban Ki-moon, who was also an award recipient.

Toray USA Group

'TORAY'
Innovation by Chemistry

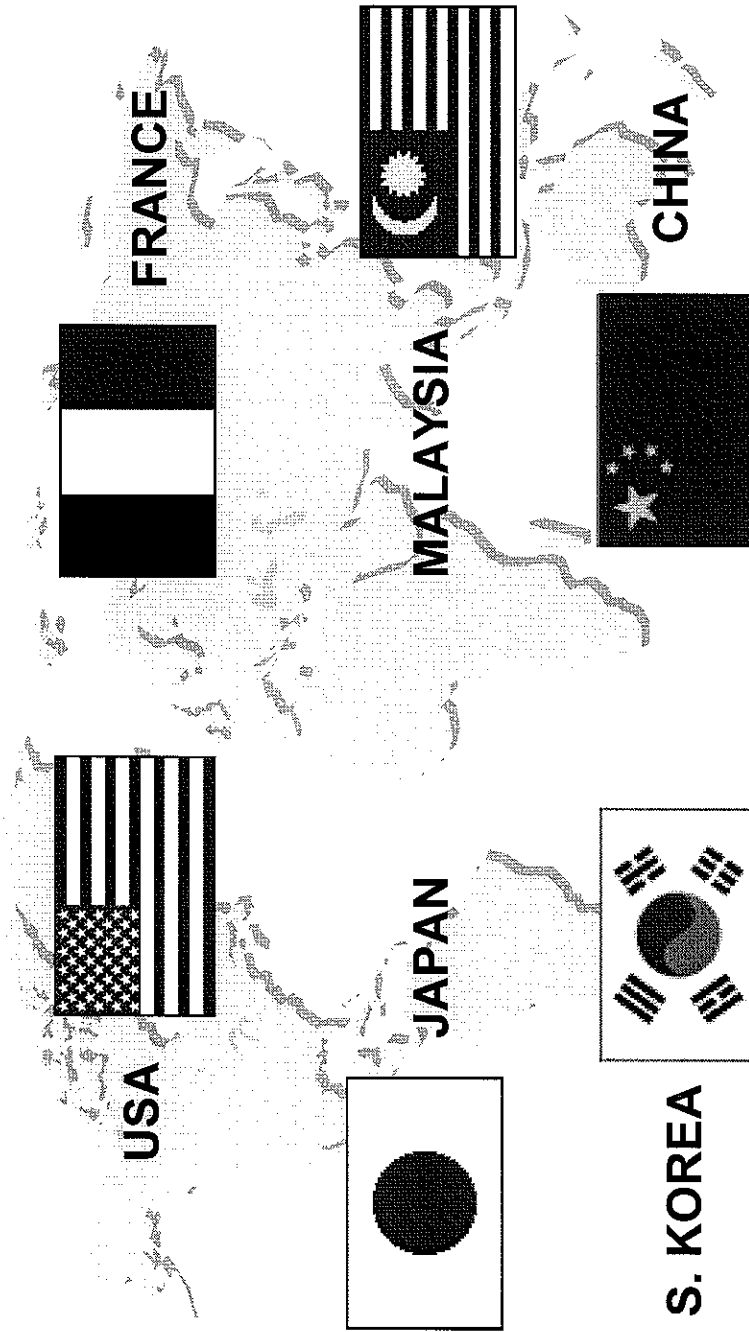


Plastics and Chemical Divisions

9 FULL SCALE FILM PRODUCTION SITES

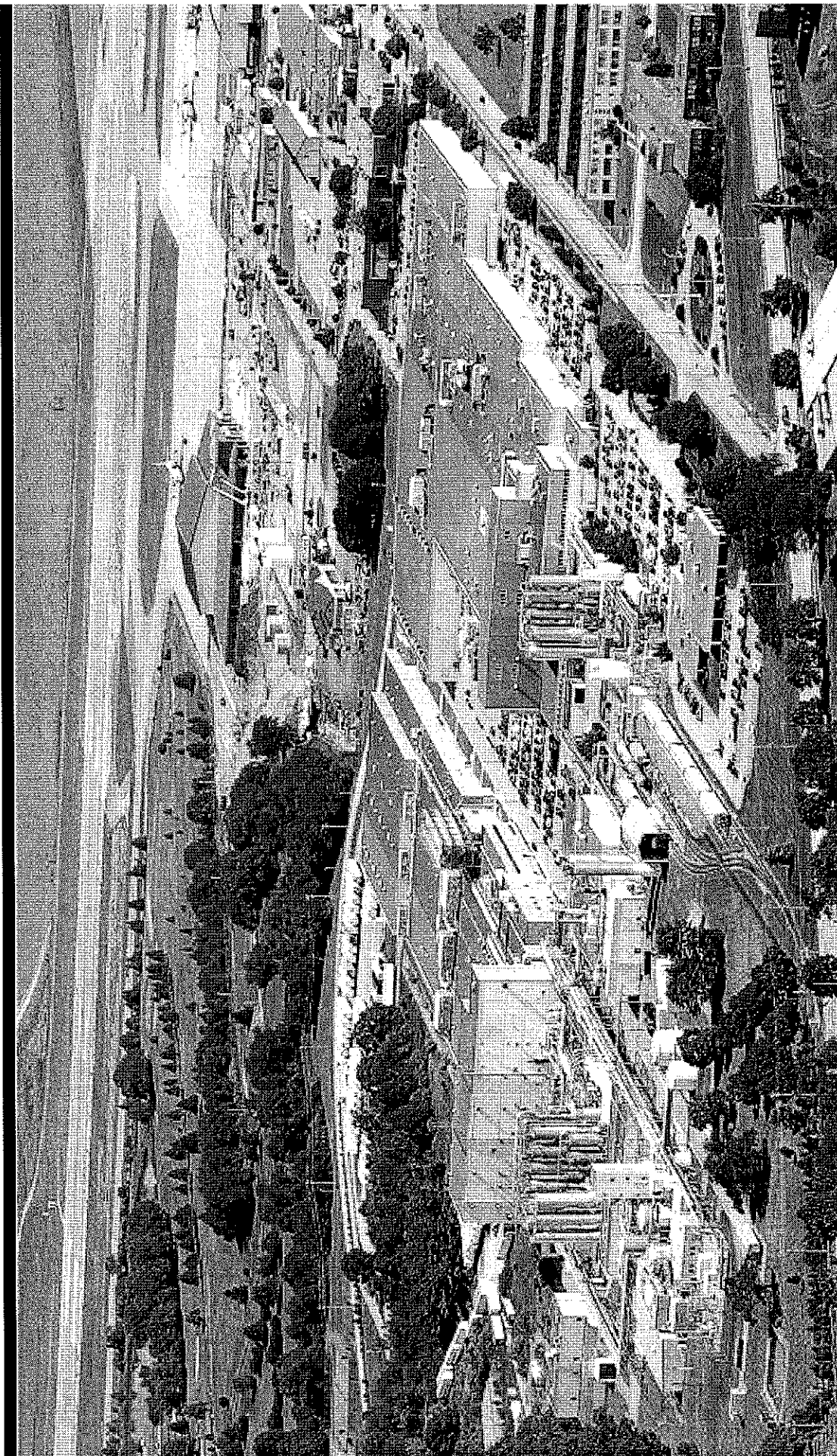
650 MILLION LBS - PET

173 MILLION LBS - OPP

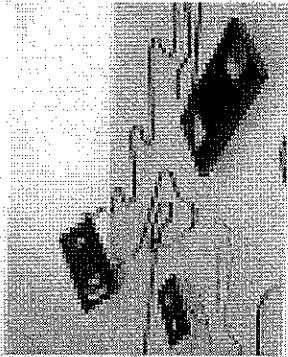


'TORAY'

Innovation by Chemistry



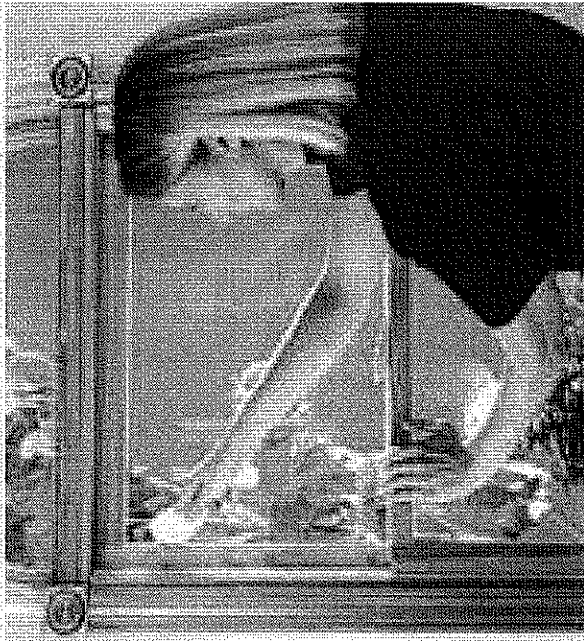
Polyester Film "Lumirror"



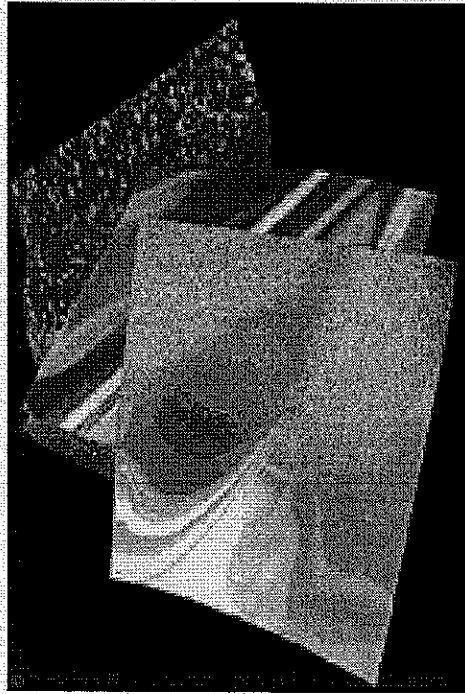
Video Tape



Solar Film
(Car)



Solar Film (Building)

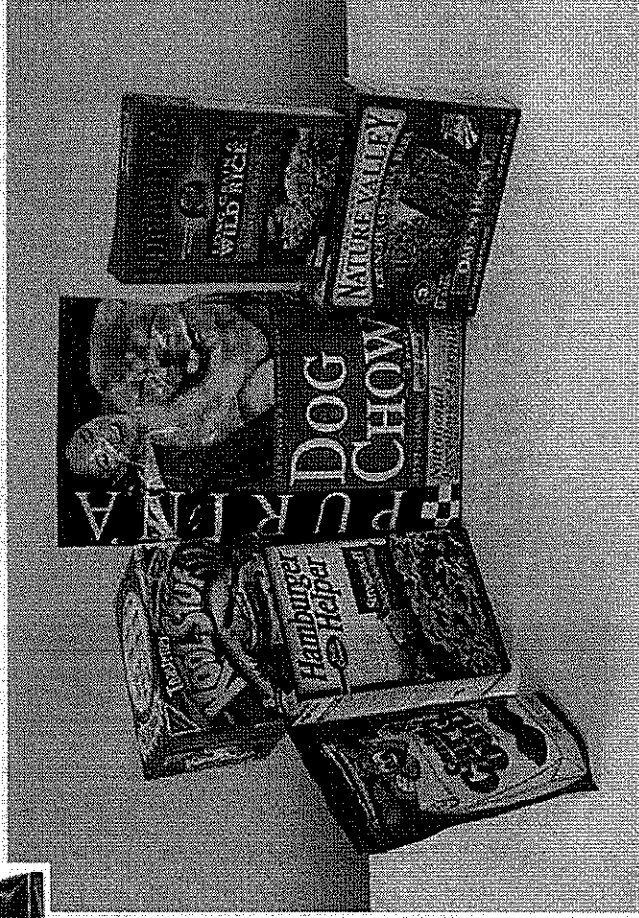


Emboss Film

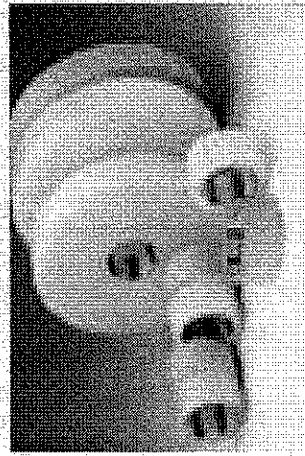
Polypropylene Film "Torayfan"



Potato Chips Bag



Various Packaging

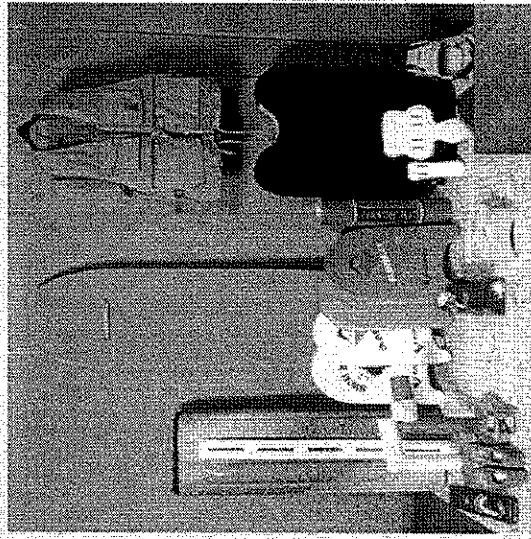
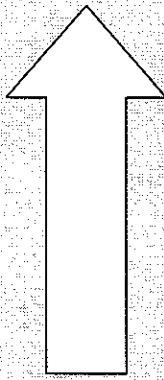


Tape

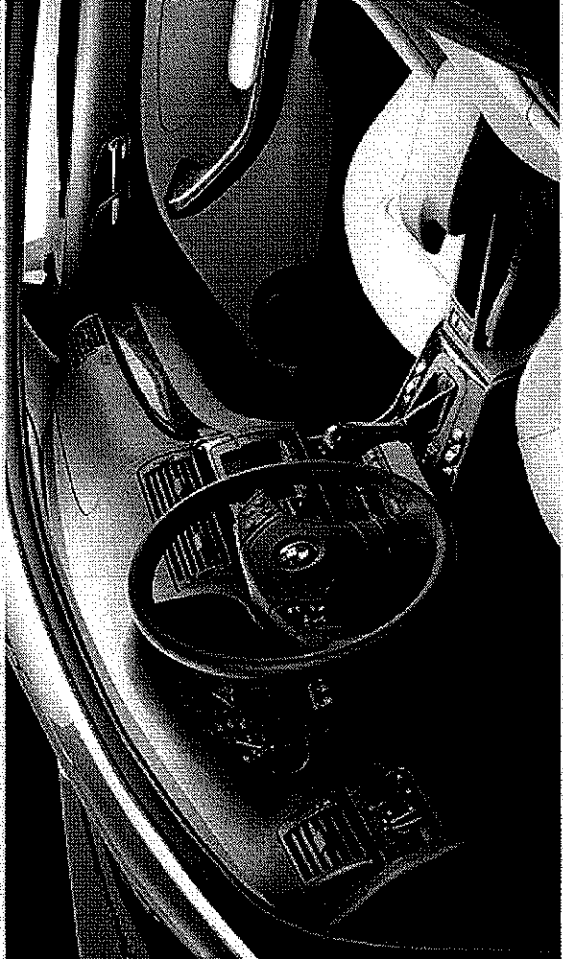
Polyolefin Foam "PEF"



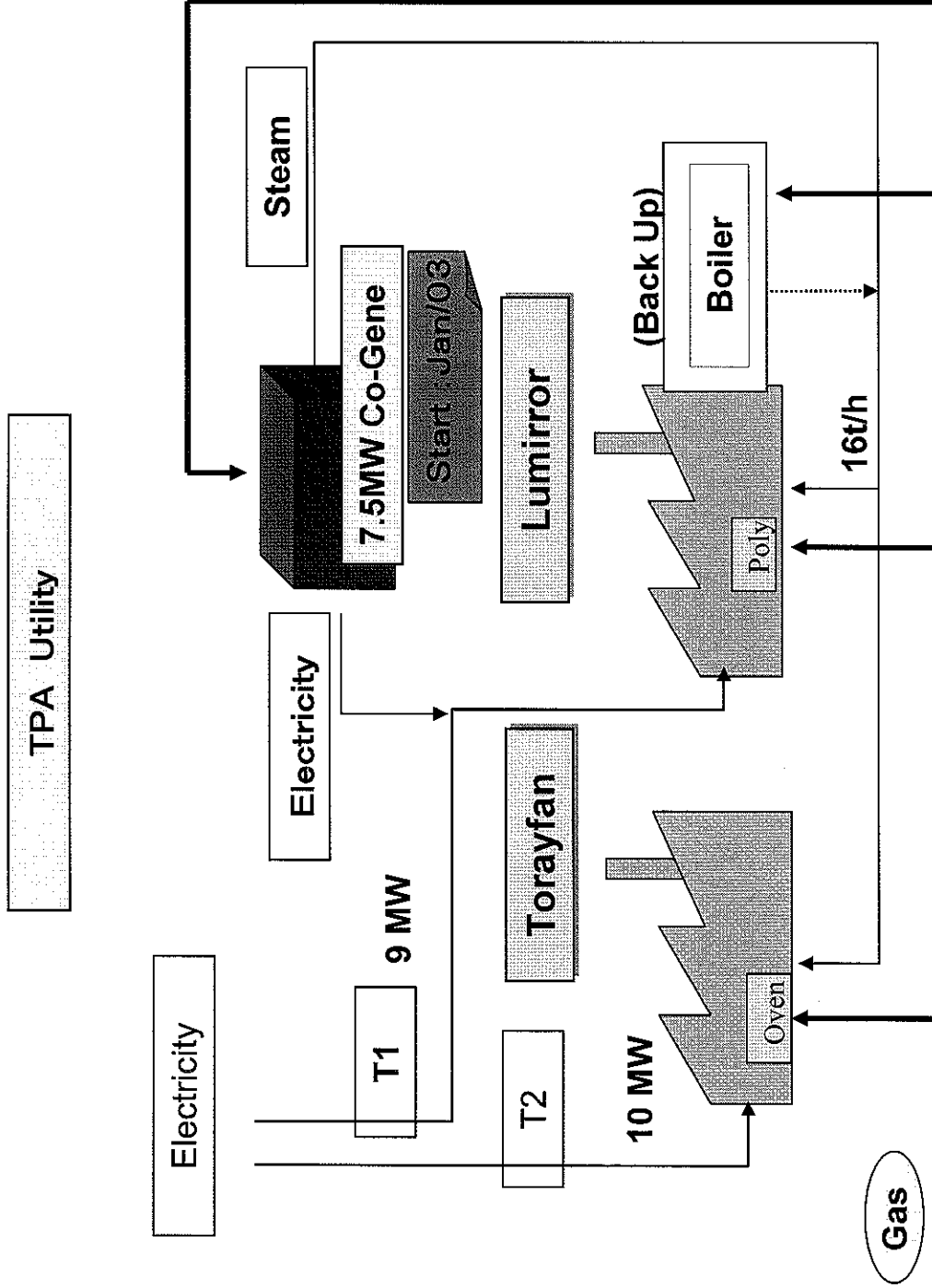
Door Panel



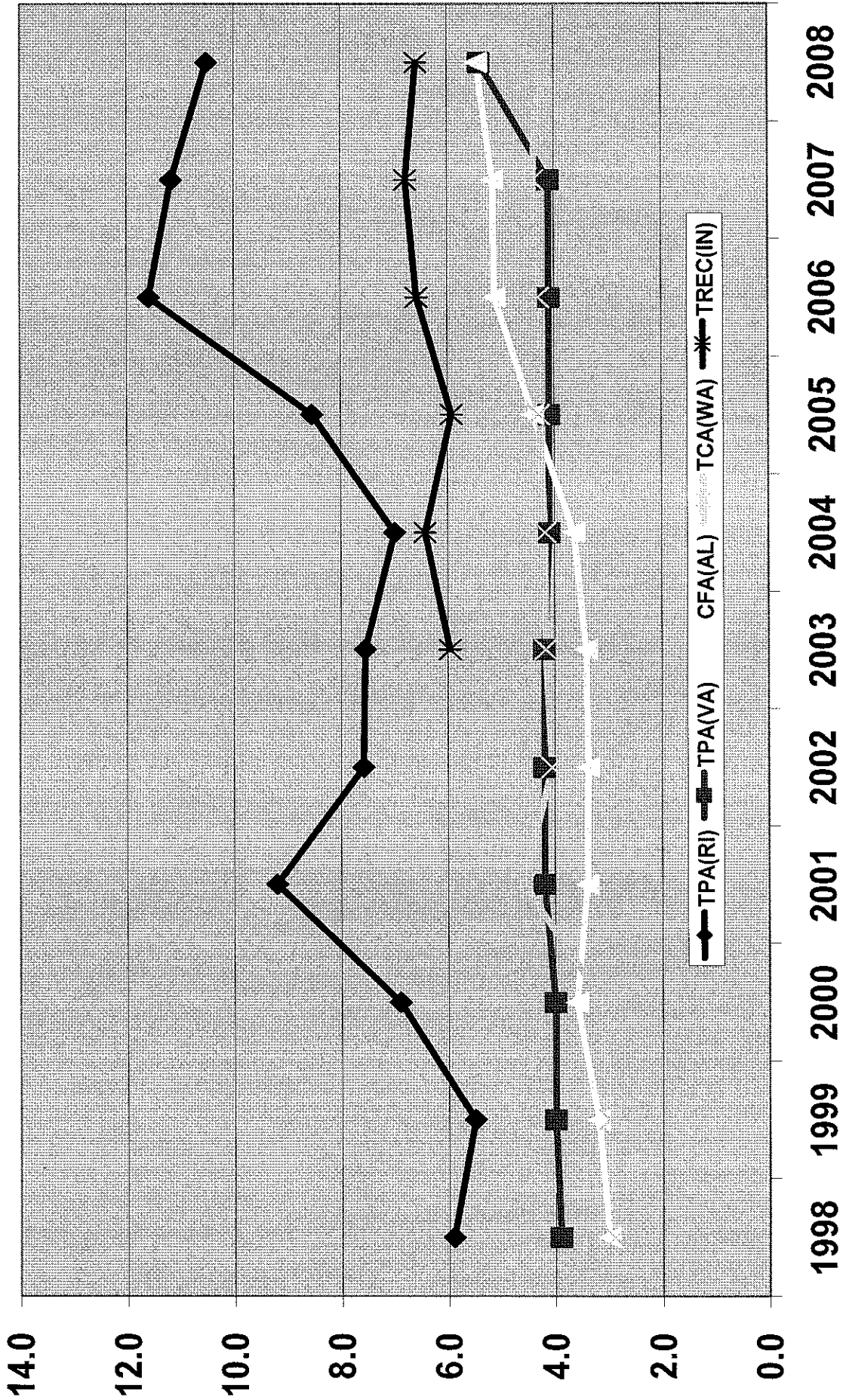
Sport Goods, Flooring



Car Interior



Electricity Price Comparison (c/kwh)



What TPA is doing regarding Utility Cost**1) Energy Saving Project**

- Lighting modification (\$600k), Chiller upgrade (\$7.7 mm), Free Cooling (\$200k)
- HVAC inverter (\$150k), Gas Furnace efficiency improvement (\$65k), Waste Water reuse (\$125k)
- Back Pressure Turbine , Gassifier, Direct gas fire oven are in investigation
- \$9.0 MM/3 years**

2) Built Co-Gen in 2003 to be eased from problem of power reliability

- Losing \$0.5MM/y by power outage
- Talked with NECO to improve reliability
- TPA chose Co-Gen even with unreasonably expensive back up charge
- Executed buy out option in 2008 (**\$6.6 MM**)
- **Continuing effort to reduce back up charge**

3) Investigating Wind Power Generation

- After State of RI passed new Bill S2082, TPA started investigation
- 3 MW wind turbine was investigated (2 of 1.5MW)
- Talked with RI Energy Office, they are very supportive

It will be a good and positive impact in Quonset Industrial Park for Renewable Energy Source

Docket 4065 by Nationalgrid

To collect additional distribution revenue
by \$75.3MM (33% in total revenue)

- Ramp-up capital investment
- Employee pension and post-retirement benefit
- Revenue decoupling
- Recovery of commodity-related, delivery-related uncollectible accounts

Affect to TPA

- Back Up charge from \$2.22/kw to \$5.11/kw
\$160k/y to \$360k/y (123%)
- Distribution charge increase by 124% (\$700k/y)
- Transmission charge decrease -23% (\$303k/y)
- Over all **23% increase (\$590k/y)**
just after **27% Increase in 2009 (\$550k/y)** for
Transmission charge (**50% increase in a year**)
- G62(B62) merge to G-32 (B32), no incentive for big user
- “Decoupling” will create another future increase



Innovation by Chemistry

Nationalgrnd Rate Change

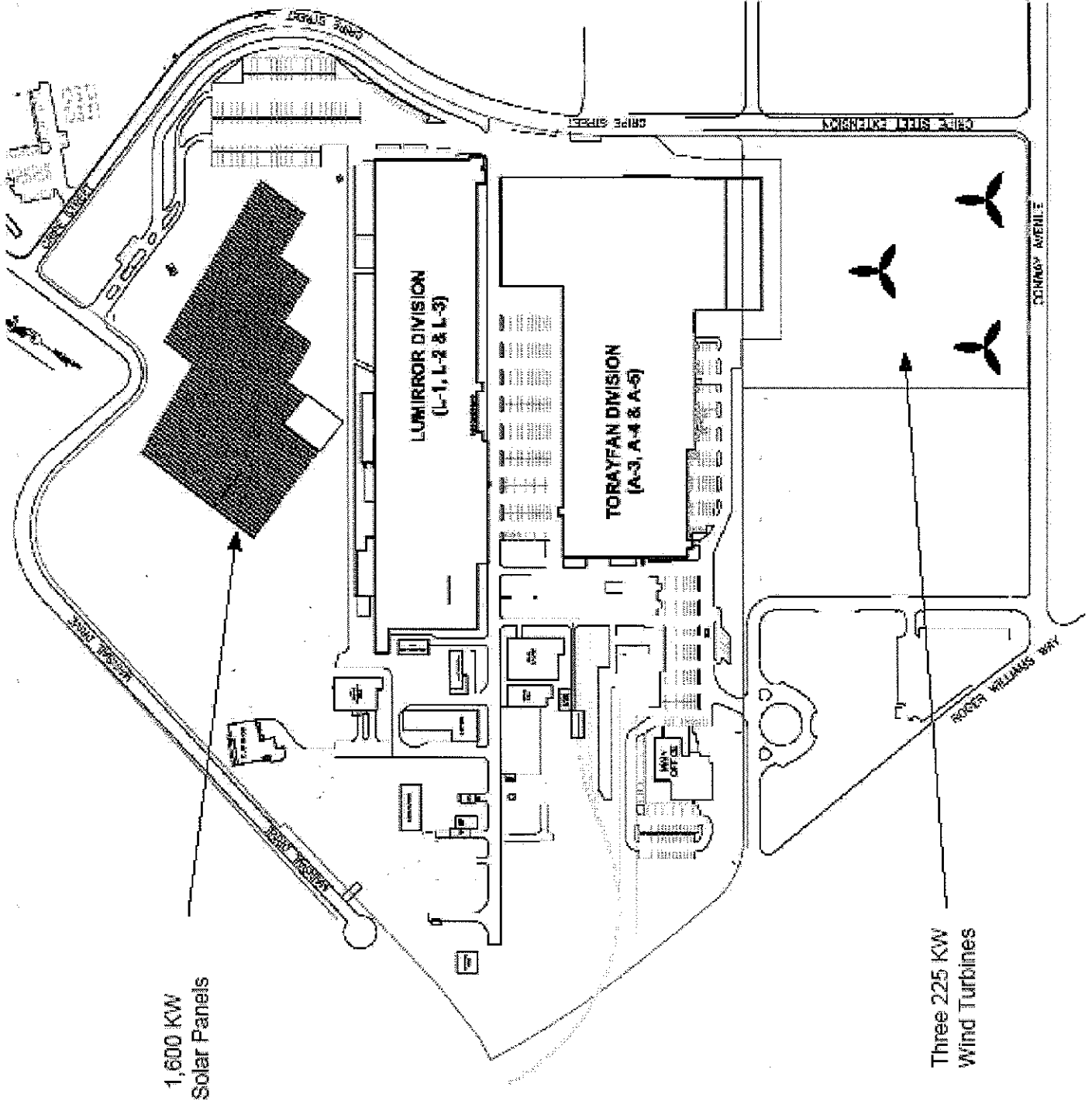
Customer Ch	1/1/08	1/1/09	Docket 4065 Filed 6/1/09
	\$/mo		
	17,119	17,119	980
Back Up			
Distribution Energy Chg (\$/kwh)	0 kwh	0 kwh	0 4,833,333 kwh
Distribution Demand Chg (\$/kw)	2.25 kw	2.22 kw	5.11 5,800 kw
Transmission Demand Chg (\$/kw)	0 kw	0 kw	0 6,000 kw
Transmission Adjust Chg (\$/kwh)	0 kwh	0 kwh	0 4,833,333 kwh
Total Back Up Charge (\$/Mo)	13,500	13,320	29,638
Supplement			
Distribution Energy Chg (\$/kwh)	0 kwh	0 kwh	0.0084 8,416,667 kwh
Distribution Demand Chg (\$/kw)	2.25 kw	2.22 kw	2.50 13,500 kw
Transmission Demand Chg (\$/kw)	1.39 kw	1.39 kw	2.28 13,500 kw
Transmission Adjust Chg (\$/kwh)	0.00541 kwh	0.01064 kwh	0.00621 8,416,667 kwh
Transition Chg (\$/kwh)	0.00322 kwh	0.00235 kwh	0.00235 8,416,667 kwh
Conservation Charge (\$/kwh)	0.0023 kwh	0.0035 kwh	0.0035 8,416,667 kwh
HVM Discount	-1,718	-2,180	-2,674
Total Supplemental (\$/Mo)	139,417	185,346	234,061
Total (\$/Mo)	170,035	215,785	264,679
Total (\$/year)	2,040,424	2,589,419	3,176,154
	548,995	586,735	
	27%	23%	

Suggestion

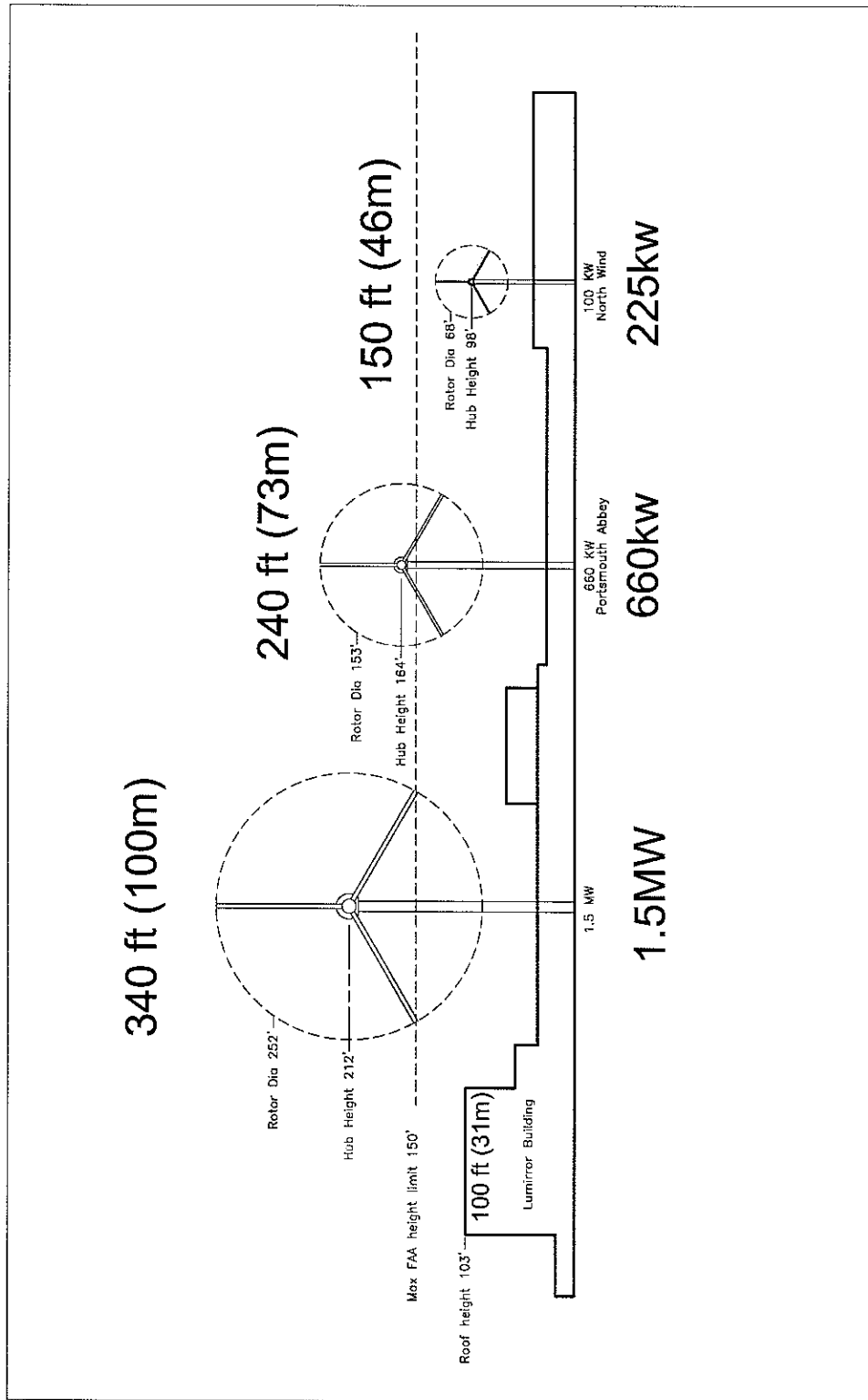
- Develop Clear Utility Policy by State
 - Be Proactive not be reactive after NG filing
 - Reflect to legislature (control NG ROE & Cost)
 - Establish strict and detail audit system for NG to do thorough cost structure investigation with comparison of cost structure in other state

- Create special division consist of experts with capability of productive rate design to lead NG (off set monopoly status disadvantage by NG)

Can EDC testify to PUC for Docket 4065 on 11/30 ?



Wind Power Study



Wind Power Project Budget

Cost		Docket 4065
Northeast Engineers	\$2,322,267	
Toray Electrical Installation	\$245,250	
Total	\$2,567,517	

1 Norwin 225
\$774,089
\$81,750
\$855,839

Benefits/year	
Total kw	3 x 225kw (675kw)
kwh	480,000
Electrical Savings (\$0.07/kwh)	\$33,600
Distribution Savings/yr	\$19,174
RECs (\$0.03/kwh x 3yrs)	\$14,400
Maintenance	(\$12,000)
Benefit	\$55,174

225kw
160,000
\$11,200
\$2,383
\$4,800
(\$4,000)
\$14,383

15% IRR Contribution requirements	
Project Cost	\$2,567,517
RI Renewable Grant	\$1,025,000
Stimulus Grant (50%)	\$1,283,759
Toray Cost	\$258,758

\$855,839
\$750,000
\$41,000
\$64,839

Tax Credits (2011) \$10,350 \$7,750 \$2,594

Solar Power Project Budget



Cost		Docket 4065
Solar System Installed	\$6,394,137	
Toray Electrical Installation	\$762,700	
Total	\$7,156,837	

	\$2,039,730
	\$243,301
	\$2,283,031

Benefits/year	
Total kw	1600kw
kwh	2,165,400
Electrical Savings (\$0.07/kwh)	\$151,578
Distribution Savings/yr	\$37,968
RECs (\$0.03/kwh x 3yrs)	\$64,962
Maintenance	(\$31,920)
Benefit	\$247,015
	\$222,588

	510kw
	690,763
	\$48,353
	\$12,112
	\$20,723
	(\$10,182)
	\$71,006

15% IRR Contribution requirements	
Project Cost	\$7,156,837
RI Renewable Grant	\$665,000
Stimulus Grant (max)	\$2,500,000
Toray Cost	\$3,991,837

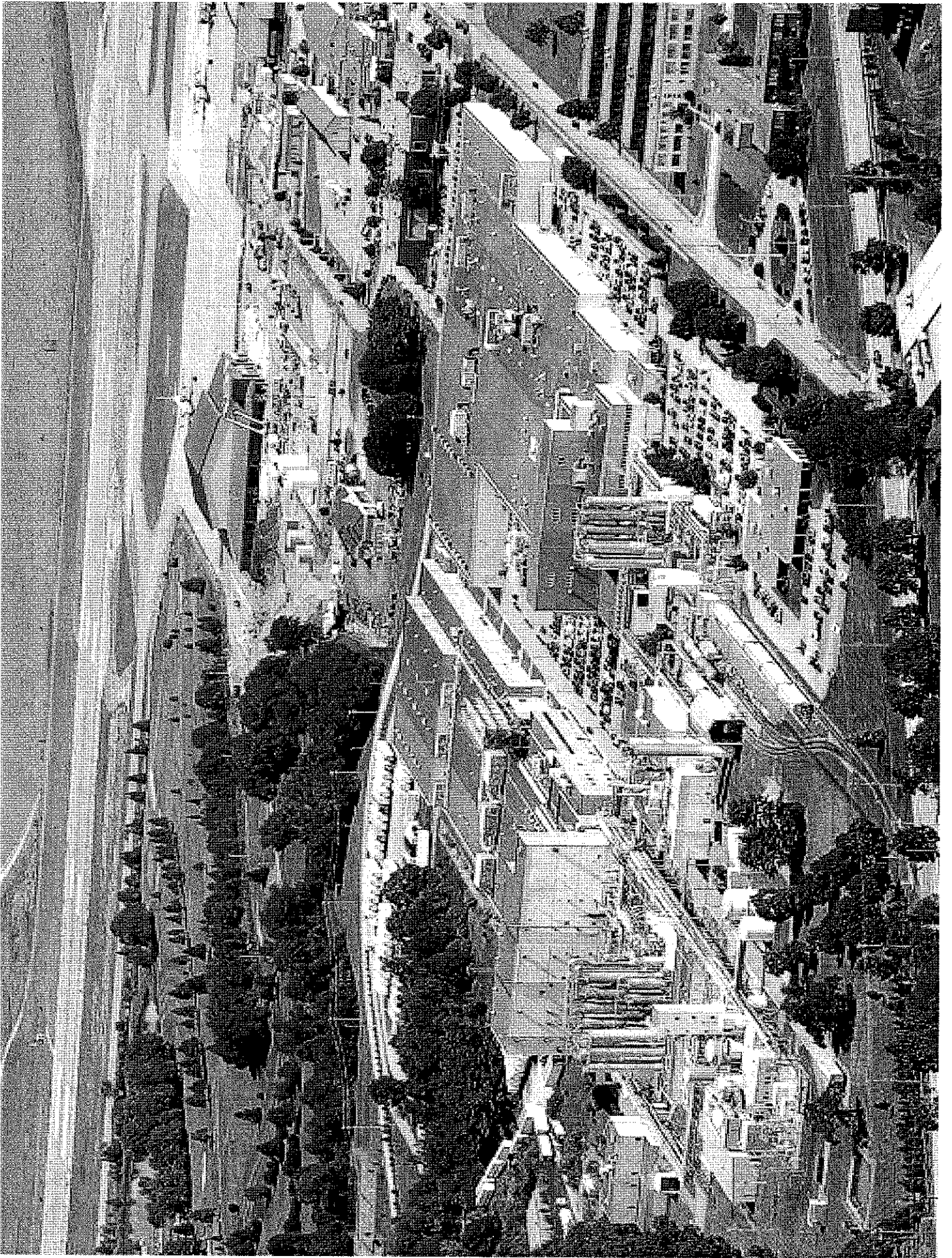
	\$2,283,031
	\$750,000
	\$500,000
	\$1,033,031

Tax Credits (2011) \$2,306,724 \$2,301,724

Forward Capacity Market by ISO-NE

- \$4.25/kw Jun/2010 -> \$867k/2010 by TPA
- ISO-NE will make emergency call
5-7 times/year after 2010
- Penalty in case of failure to respond
- Potential to lose rebate (lost original goal ?)

Question or Comment ?



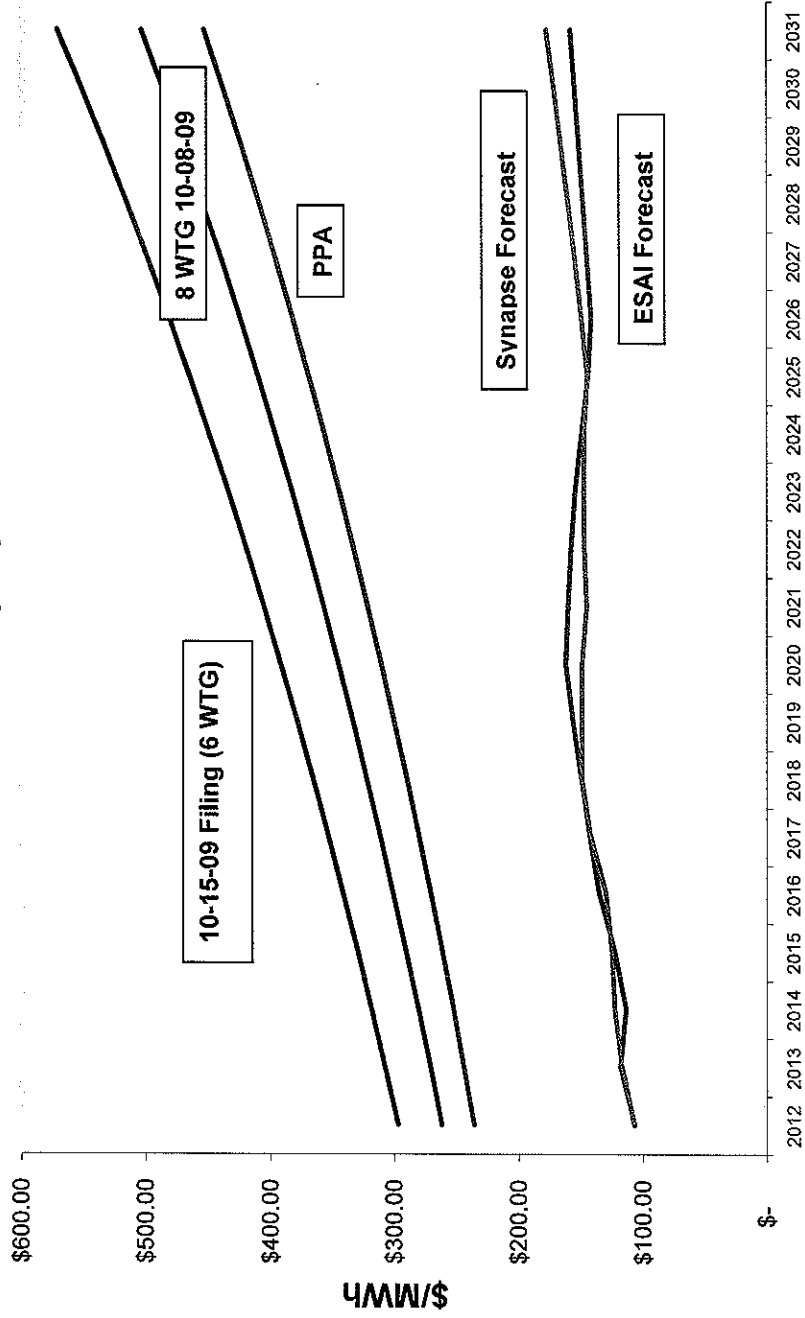
Attachment 8

8-1

Estimated Above Market Cost for 20-year PPA Hypothetical Comparison with Competitive Solicitation

8 WTG 28.8 MW 12/09/2009 PPA				Competitive Solicitation		
Statutory Capacity 11.5 MW				90 MW		
Annual Output 100915 MWh				788400 MWh		
		Above Market Cost		Above Market Cost		
Unit Pricing	Contract Cost	ESAI 7x24 Pricing	Synapse Seasonal Pricing	Contract Cost	ESAI 7x24 Pricing	
2009	\$ 212.63					
2010						
2011						
2012	\$ 235.75	\$ 4,163,286	\$ 1,934,724	\$ 2,382,577		
2013	\$ 244.00	\$ 24,623,040	\$ 12,377,137	\$ 12,602,541	\$ 192,367,878	
2014	\$ 252.54	\$ 25,484,846	\$ 13,731,626	\$ 12,870,799	\$ 199,100,754	
2015	\$ 261.38	\$ 26,376,816	\$ 13,725,001	\$ 13,521,199	\$ 206,069,280	
2016	\$ 270.52	\$ 27,300,004	\$ 13,418,825	\$ 13,950,993	\$ 213,281,705	
2017	\$ 279.99	\$ 28,255,504	\$ 13,620,891	\$ 13,686,589	\$ 220,746,564	
2018	\$ 289.79	\$ 29,244,447	\$ 13,948,124	\$ 13,938,274	\$ 228,472,694	
2019	\$ 299.94	\$ 30,268,003	\$ 14,302,924	\$ 14,982,145	\$ 236,469,238	
2020	\$ 310.43	\$ 31,327,383	\$ 14,804,580	\$ 16,050,996	\$ 244,745,662	
2021	\$ 321.30	\$ 32,423,841	\$ 15,978,725	\$ 17,545,645	\$ 253,311,760	
2022	\$ 332.54	\$ 33,558,675	\$ 17,059,630	\$ 18,486,632	\$ 262,177,672	
2023	\$ 344.18	\$ 34,733,229	\$ 18,356,944	\$ 19,609,889	\$ 271,353,890	
2024	\$ 356.23	\$ 35,948,892	\$ 19,998,948	\$ 20,802,606	\$ 280,851,276	
2025	\$ 368.70	\$ 37,207,103	\$ 21,765,986	\$ 22,328,570	\$ 290,681,071	
2026	\$ 381.60	\$ 38,509,352	\$ 23,318,612	\$ 23,134,511	\$ 300,854,908	
2027	\$ 394.96	\$ 39,857,179	\$ 24,290,747	\$ 23,961,129	\$ 311,384,830	
2028	\$ 408.78	\$ 41,252,181	\$ 25,309,776	\$ 24,808,985	\$ 322,283,299	
2029	\$ 423.09	\$ 42,696,007	\$ 26,378,181	\$ 25,677,636	\$ 333,563,215	
2030	\$ 437.90	\$ 44,190,367	\$ 27,498,586	\$ 26,567,664	\$ 345,237,927	
2031	\$ 453.22	\$ 45,737,030	\$ 28,693,036	\$ 27,480,672	\$ 357,321,255	
2032	\$ 469.09	\$ 47,337,826	\$ 29,946,727	\$ 28,417,262	\$ 369,827,499	
Sum		\$ 700,495,011	\$ 390,459,730	\$ 392,807,313	\$ 5,440,102,376	\$ 3,126,195,960
NPV@ 7%		\$ 323,300,561	\$ 173,871,638	\$ 176,217,468	\$ 2,670,070,245	\$ 1,477,494,429

Deepwater Pricing for Bundled Energy vs ESAI and Synapse Forecasts



1. Above Market Cost of Energy	\$12,377,137
2. Incentive Earned on Contract Purchases	\$677,134
3. Estimated Annual Revenue Requirement of Cable	<u>\$8,060,368</u>
4. Total Annual Cost	\$21,114,639
5. 2012 Forecasted kWh Deliveries	8,106,768,760
6. Illustrative Recovery	\$0.00260

500 kWh Customer Bill Impact

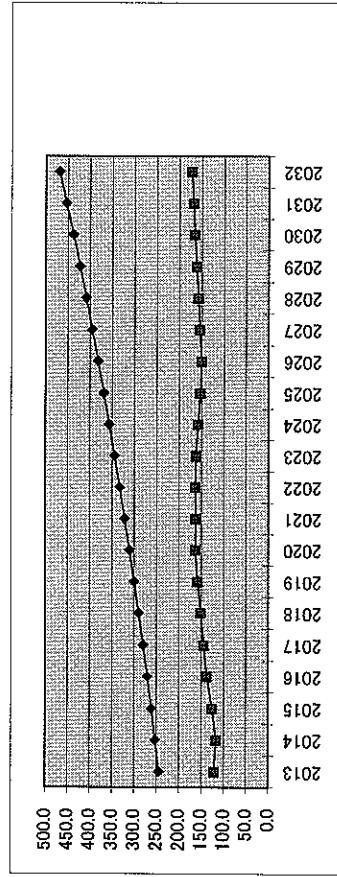
7. Illustrative Recovery	\$0.00260
8. kWh deliveries	500
9. Monthly Bill Impact (\$), including Gross Earnings Tax	\$1.35
10. November 2009 Total Bill	\$79.72
11. Percentage Impact	1.69%

1. from Exhibit MNM-9
2. Total contract cost multiplied by 2.75%
3. from Schedule DET-1
4. Line 1. + Line 2. + Line 3.
5. from Company forecast
6. Line 4. ÷ Line 5.
7. Line 6.
8. Monthly usage
9. Line 7. x Line 8.
10. Based on delivery and commodity rates in effect as of November 2009
11. Line 9. ÷ Line 10.

Statutory Capacity
11.5MW Annual Output

Year	100915 MWH		788400 MWH		225 MW	
	Unit Pricing	Contract Cost	Synapse Seasonal Pricing	Contract Cost	ESAI 7x24 Pricing	Unit price (\$/MWH)
2009	\$212.63					
2010						
2012	\$235.75	\$4,163,286	\$2,382,577			
2013	\$244.00	\$24,623,040	\$12,602,541	\$192,367,878	\$98,638,128	\$121.35
2014	\$252.54	\$25,484,846	\$12,870,799	\$199,100,754	\$109,480,600	\$116.47
2015	\$261.38	\$26,376,816	\$13,521,199	\$206,069,280	\$109,296,907	\$125.37
2016	\$270.52	\$27,300,004	\$13,950,993	\$213,281,705	\$108,780,695	\$137.55
2017	\$279.99	\$28,255,504	\$13,620,891	\$220,746,564	\$108,242,586	\$145.02
2018	\$289.79	\$29,244,447	\$13,938,274	\$228,472,694	\$110,689,348	\$151.58
2019	\$299.94	\$30,269,003	\$14,982,145	\$236,469,238	\$113,358,061	\$158.20
2020	\$310.43	\$31,327,363	\$16,050,996	\$244,745,662	\$117,180,282	\$163.73
2021	\$321.30	\$32,423,841	\$17,545,645	\$253,311,760	\$127,181,155	\$162.96
2022	\$332.34	\$33,558,675	\$18,486,632	\$262,177,672	\$137,398,832	\$163.49
2023	\$344.18	\$34,733,229	\$19,609,889	\$271,353,890	\$149,093,728	\$162.28
2024	\$356.23	\$35,948,892	\$19,998,948	\$280,851,276	\$162,555,912	\$168.05
2025	\$368.70	\$37,207,103	\$21,765,986	\$290,681,071	\$176,550,332	\$153.01
2026	\$381.60	\$38,509,352	\$23,134,511	\$300,854,808	\$189,875,348	\$150.53
2027	\$394.96	\$39,857,179	\$24,290,747	\$311,384,830	\$196,671,114	\$154.25
2028	\$408.78	\$41,252,181	\$25,309,776	\$322,283,299	\$204,839,273	\$157.98
2029	\$423.09	\$42,696,007	\$26,378,181	\$333,663,215	\$213,399,394	\$161.70
2030	\$437.90	\$44,190,367	\$27,498,586	\$345,237,927	\$222,372,161	\$165.40
2031	\$453.22	\$45,737,030	\$28,683,036	\$357,321,255	\$231,798,709	\$169.89
2032	\$469.09	\$47,337,826	\$29,946,727	\$369,627,499	\$241,593,193	\$172.33
Sum		\$700,495,011	\$392,807,314	\$5,440,102,377	\$3,126,195,958	
NPC @ 7%		\$323,300,561	\$176,217,468	\$2,670,070,245	\$1,477,494,429	

Year	NG	Market cost
2013	244.0	121.3
2014	252.5	116.5
2015	261.4	125.4
2016	270.5	137.6
2017	280.0	145.0
2018	289.8	151.6
2019	299.5	158.2
2020	310.4	163.7
2021	321.3	163.0
2022	332.5	163.5
2023	344.2	162.3
2024	356.2	158.1
2025	368.7	153.0
2026	381.6	150.5
2027	395.0	154.3
2028	408.8	158.0
2029	423.1	161.7
2030	437.9	165.4
2031	453.2	168.9
2032	469.1	172.3



Cost impact for TPA for 20 years**Energy and LDC 3.5% escalation**

(\$)

Year	Energy	LDC	Total
1	173,810	113,190	287,000
2	179,893	117,152	297,045
3	186,189	121,252	307,442
4	192,706	125,496	318,202
5	199,451	129,888	329,339
6	206,431	134,434	340,866
7	213,657	139,140	352,796
8	221,135	144,010	365,144
9	228,874	149,050	377,924
10	236,885	154,267	391,152
11	245,176	159,666	404,842
12	253,757	165,254	419,011
13	262,639	171,038	433,677
14	271,831	177,025	448,855
15	281,345	183,220	464,565
16	291,192	189,633	480,825
17	301,384	196,270	497,654
18	311,932	203,140	515,072
19	322,850	210,250	533,099
20	334,150	217,608	551,758
	4,915,285	3,200,983	8,116,269

Only energy 3.5% escalation

(\$)

Year	Energy	LDC	Total
1	173,810	113,190	287,000
2	179,893	113,190	293,083
3	186,189	113,190	299,380
4	192,706	113,190	305,896
5	199,451	113,190	312,641
6	206,431	113,190	319,622
7	213,657	113,190	326,847
8	221,135	113,190	334,325
9	228,874	113,190	342,065
10	236,885	113,190	350,075
11	245,176	113,190	358,366
12	253,757	113,190	366,947
13	262,639	113,190	375,829
14	271,831	113,190	385,021
15	281,345	113,190	394,535
16	291,192	113,190	404,382
17	301,384	113,190	414,574
18	311,932	113,190	425,122
19	322,850	113,190	436,040
20	334,150	113,190	447,340
	4,915,285	2,263,804	7,179,090

Above Market Cost affect by Phase 2 (385MW)

a	DW demonstration project	100,915	MWh/y	Docket 4111 data	
b	Phase 2 MW	385	MW		
c	Phase 2 MWh/y	1,349,040	MWh/y		$b*365*24*0.4$
d	Above market cost at 24.4c/kwh	12,377,137	\$/2013	Docket 4111 data	
e	Above market cost at 22.5c/kwh	139,826,823	\$/first year		$d*c/a-(0.244-0.225)*c*1000$
f	Whole kwh NG is selling	8,106,768,760	kwh	Docket 4111 data	
	Potential above market cost for big project	0.0172	\$/kwh		e/f

Above Market Cost Affect by Phase 2 (385MW)

Price (¢/kwh)	22,5	20	18	16
Potential above market cost for Phase 2 at first year (\$/kwh)	0.0172	0.0164	0.0131	0.0098
Impact for IPA for first year (\$)	1,897,297	1,805,772	1,439,672	995,494
Impact for IPA for 20 years at 3.5% escalation (\$)	53,654,964	51,066,666	40,713,475	28,152,263