

Public Written Comments Submitted to PCAST

from October 21, 2010 to December 22, 2010 (starting on page 2).

Oral Public Comment Submitted to PCAST

Written statements of the oral public comments given to the PCAST during the January 2011 meeting (starting on page 198). To view oral comments please visit the video webcast at

<http://www.whitehouse.gov/administration/eop/ostp/pcast>

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Public Written Comments Submitted to PCAST

from October 21, 2010 to December 22, 2010

From: "Timothy Young" <timothymyoung@hotmail.com>
Subject: Attached: Protecting Items within a Municipality during Flood
Date: Sat, October 30, 2010 1:33 pm

The President's Council of Advisors on Science and Technology,

Please find attached the document entitled "Protecting Items within a Municipality during Flood."

This document was also sent to Ms. Deborah D. Stine, PhD (Executive Director of PCAST) and to the individuals that are cited on pages 18-20, as a source of reference.

If I can be of further assistance, please contact me.

Truly,
Tim Young

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Attachments:

untitled-[1.2]
Size: 3.4 k
Type: text/html
Office of Science and Technology Policy.pdf
Size: 952 k
Type: application/pdf

Protecting Items within a Municipality during Flood

An Unsolicited Proposal

**Submitted by:
The Resolutions Group**

Protecting Items within a Municipality during Flood

An Unsolicited Proposal

**Submitted by:
The Resolutions Group**

Revision 0.01

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The Resolutions Group
PO Box 182
Cumberland, VA 23040

November 1, 2010

The Office of Science and Technology Policy (OSTP)
The Executive Office of the President
725 17th Street, Room 5228
Washington, DC 20502

Subject: Cover Letter of Document

The Office of Science and Technology Policy,

Please find attached the unsolicited proposal entitled "Protecting Items within a Municipality during Flood."

This document is being submitted by the Resolutions Group, which is a small business that specializes in disaster prevention consulting services.

This document was sent to Ms. Deborah D. Stine, PhD (Executive Director of the President's Council of Advisors on Science and Technology (PCAST)) and to the general email of PCAST, such that the Office of Science and Technology Policy (OSTP) will gain knowledge of this document.

The reviewer(s) of this document is to have the understanding that this document does not address all of the issues that surround the proposed structure that is mentioned herein. This was done to limit the size of this paper.

For any topics that are mentioned briefly or not covered within this document the reviewer(s) of this paper is encouraged to contact the following individual:

Contact: **Mr. Stiles L. Bartley, AIA**
Firm: Stiles L. Bartley Architects
Telephone: (804) 743-7002
E-mail: stilesinva@aol.com

All parties receiving this document would include (refer to K. Points of Contact, Individuals Receiving Document; pages 18-20):

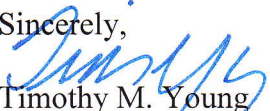
- The Office of Science and Technology Policy
- The City of Galveston, Texas
- The City of Houston, Texas

- The Town of Palm Beach, Florida
- The Office of Florida Governor Charlie Crist
- The Office of Texas Governor Rick Perry
- The North Dakota National Guard
- The U.S. Army Corps of Engineers, Savannah District
- The Georgia Department of Natural Resources

Mr. Young has accepted the duty of representing and contractually obligating the offeror of this document and by signing below he realizes this responsibility.

Any effort on the part of the PCAST and the OSTP that will lead to the implementation of the structure that is described within this unsolicited proposal is greatly required.

Sincerely,



Timothy M. Young
The Resolutions Group

Protecting Items within a Municipality during Flood

An Unsolicited Proposal

Use and Disclosure of Data

This unsolicited proposal does not include data that shall not be disclosed outside the of government and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this proposal.

All government personnel and the members of other parties that receive this unsolicited proposal must exercise extreme care to ensure that the information in this proposal is not disclosed to an individual who has not been authorized access to this document. This document is not to be duplicated, used, or disclosed, in whole or in part, for any purpose other than the evaluation of the proposal without the written permission of the Resolutions Group.

Technical Information

A. Concise Title and Abstract

The Introduction

The title of this unsolicited proposal is “Protecting Items within a Municipality during Flood.”

The purpose of this proposal is to describe a structure that is to be placed in an area that has a history of flooding; such flooding could be the result of a riverine flood, an estuarine flood or a coastal flood. This structure is to be used prior to an event that might cause flooding (e.g. the failure of flood protection devices, snowmelt or a storm surge).

This structure is to provide a place of protection for automobiles that belong to the government^a and those of motorists. Also, this structure is to serve as a place of protection for the temporary storage of government-owned documents, hazardous chemicals and waste (e.g. gasoline, diesel fuel and discarded pharmaceutical products), and mail that is being transported by the U.S. Postal Service in an area prior to flooding.

It is hoped that this proposal will be of interest to the municipalities that have a history of flooding which destroyed automobiles, government-owned documents, mail, and released hazardous chemicals and waste into a flooded area.

^a This term is used hereinafter to mean a municipality, a state and/or the federal government.

The Significance of the Problem

While the flooding of the City of New Orleans by Hurricane Katrina is mentioned throughout this proposal, this action by the author was not to undermine the needs of other municipalities that were damaged due to flooding.

About 80% of the City of New Orleans was flooded due to the failure of several flood protection devices in August of 2005 in the aftermath of Hurricane Katrina.

Carfax, this nation's leading provider of information on the history of individual automobiles, estimates that approximately 570,000 automobiles were destroyed by Hurricane Katrina in 2005. Officials in Louisiana say that about 300,000 of these automobiles may have been from the City of New Orleans^b.

Mayor C. Ray Nagin of the City of New Orleans stated during his testimony to a Senate committee that approximately 700 city-owned automobiles were destroyed due to the failure of flood protection devices (e.g. levees, dikes and floodwalls), which were observed in the aftermath of Hurricane Katrina. This automobile lost was estimated to be \$128 million by the City of New Orleans^c.

In addition, due to the failure of flood protection devices during Hurricane Katrina, the U.S. Postal Service lost approximately 200 automobiles in New Orleans and also "immeasurable pounds of first-class mail, including letters, checks and bills were destroyed"^d.

Notes:

Hurricane Katrina is estimated to have been responsible for about \$88.46 billion (2009 USD) in damages, making it the third costliest natural disaster in U.S. history.

For the cited hurricanes, AutoTrader.com, Inc. has provided the following estimates of destroyed automobiles that were the result of flooding^e:

- Hurricane Floyd (1999): Approximately 75,000 automobiles destroyed
- Tropical Storm Allison (2001): More than 95,000 automobiles destroyed
- Hurricane Ivan (2004): More than 100,000 automobiles destroyed

^b This information can be seen at the New York Times Company website. The webpage of interest is www.nytimes.com/2005/10/17/automobiles/17CARS.html?ex=1287201600&en=14f963c8736d1a13&ei=5090&partner=rssuserland&emc=rss.

^c The webpage containing Mayor Nagin's testimony can be seen at the City of New Orleans website. The webpage of interest is

www.cityofno.com/portal.aspx?portal=1&load=~/PortalModules/ViewPressRelease.ascx&itemid=3876.

^d This information can be seen at the CNET Networks, Inc. website. The webpage of interest is findarticles.com/p/articles/mi_qn4200/is_20060619/ai_n16488873.

^e This information can be seen at the AutoTrader.com, Inc. website. The webpage of interest is www.autotrader.com/research/article/car-research-used/26683/protect-yourself-from-flood-damaged-cars.jsp.

The Serious Need for Immediate Action

In the area of flooding in the City of New Orleans, there were dangerous levels of bacteria, lead, potentially harmful amounts of mercury, and pesticides and other chemicals. This included gasoline and diesel fuel from gas stations and more than 300,000 flooded vehicles. The amount of fuel (gasoline and diesel fuel) has been approximated to be in the range of 1 million to 2 million gallons^f.

Having the understanding that each automobile belonging to motorists in the City of New Orleans which was destroyed due to the flood waters of Hurricane Katrina had an estimated cost of \$27,958, the estimated cost of the previously mentioned 300,000^g automobiles would be approximately \$8.39 billion.

Having the understanding that each automobile that belonged to the U.S. Postal Service which was destroyed due to the flood waters of Hurricane Katrina had an estimated cost of \$18,500, the estimated cost of the previously mentioned 200 automobiles would be approximately \$3.7 million.

As for the estimated cost of the 700 automobiles owned by the City of New Orleans, recall that Mayor Nagin stated during his testimony to a Senate committee that this lost was estimated to be approximately \$128 million.

These facts and others that are not contained within this document should encourage the implementation of the proposed structure. This structure will greatly reduce similar losses and other hazards (e.g. those which are present from the seepage of hazardous chemicals and waste into drinking water) in the described magnitudes from happening again in a flooded area.

The Proposed Structure

Prior to an event that could cause flooding (e.g. the failure of flood protection devices, the arrival of a hurricane or snowmelt), a determination is made by the government as to whether the mentioned structure is to be used for the temporary storage of automobiles, government owned documents, mail and hazardous chemicals and waste.

In an area that has a history of flooding, there is a floodwall (a mass concrete gravity retaining wall) built around a parking lot and three buildings^h. The parking lot is used for the temporary parking of automobiles during an event of flooding.

^f This information can be seen at the WWL-TV, Inc website. The webpage of interest is wwltv.com/sharedcontent/nationworld/katrina/stories/091505ccKatrinawcdmtoxnightmare.95d7d1c0.html.

^g The 300,000 automobiles are understood not to include the automobiles that belong to the City of New Orleans and the U.S. Postal Service.

^h This structure will also be resistant to the high winds that are associated with hurricanes, such as in the case of a Category 5 hurricane.

The first building is used for the temporary storage of government owned documents (e.g. city contracts, court records and property records books) and for mail that is being transported by the U.S. Postal Service in the area of concern. Also, within this building, there are additional secured rooms which are to be used by area hospitals, for the temporary storage of documents, supplies and equipment (e.g. anesthesia machines, patient monitors, defibrillators and MRI imaging equipment).

The second building is used for the temporary storage of hazardous chemicals and waste (e.g. pesticides and discarded pharmaceutical products), and the third building contains components of the secondary electrical system (e.g. transformers) and other mechanical equipment (e.g. pumps and flow meters).

Inductive loops are placed at the entrance of each flood door to sense the arrival of an automobile. Upon sensing the arrival of an automobile, the flood door will open; this will allow entry into the confines of the structure. The activation and deactivation of the inductive loops are to be controlled by the government.

The floodwall will surround a rectangular space that has an interior dimension of approximately 1,400 feet (length) by 700 feet (width)ⁱ. Throughout the length of the 1,400 foot floodwalls, there is a total of eight flood doors; there are four flood doors per floodwall. These flood doors will allow for the entry and exit of automobiles.

The height of the floodwall from finished grade is approximately 25 feet, and its top and base widths are approximately 4 feet and 15 feet, respectively; these dimensions are subject to change due to the design requirements set forth by the municipality.

Located throughout the length of the 1,400 foot floodwalls, there are metal ladders that are attached to both sides of the floodwall. The purpose of these ladders is to provide an entryway, in the event that the flood doors fail to operate (e.g. the loss of complete electrical power).

For each department of the government (e.g. the U.S. Postal Service, the Army National Guard and the state's Department of Transportation) that will be using the parking lot prior to the event of flooding, the parking lot is separated into designated areas of parking. Also, the parking lot has designated areas for the parking of automobiles that are owned by a municipality (e.g. city buses, dump trucks, fire engines, police cars and utility vehicles), those of the public and there is a designated area for the parking of fuel tanker trucks.

To remove the accumulation of precipitation within the area of the parking lot, there are pumps that will pump this accumulation over the floodwall. These pumps are controlled by sensors that monitor this level inside the parking lot.

There are sensors that are located on the outside of the floodwalls; these sensors monitor the level of an occurring flood. If these sensors detect a flood level that could damage or destroy the automobiles, the mail, etc., the flood doors will not open. This is to keep the contents of the structure safe.

ⁱ Being based on the needs of a municipality, these dimensions are subject to change.

Lights are within the parking lot and the buildings. The lights found in the area of the parking lot will activate once a flood door is opened and deactivate when all of the flood doors are closed. The lights that are attached on the outside and the inside of the buildings are controlled by motion sensors.

Throughout the parking lot and the buildings, there are surveillance cameras that are timed with the operation of the lights.

In the event there is a failure of the main electrical supply system, there is a secondary electrical system that will keep in operation, for a period, the electrical components of the structure (e.g. the sensors and pumps). This electrical system and other mechanical equipment are found within a separate building; this building was referred to as the third building.

Notes:

Prior to an event that could cause flooding, the government is to encourage motorists who will be using the mentioned parking lot to store a copy of important family information (e.g. bank statements, birth certificates, deeds, marriage licenses and medical records) in an automobile that will be parked within the mentioned parking lot for the purpose of safe keeping.

To keep a vehicle in its place after parking it, hooks and chains are used. One end of the hook and chain is looped around a vehicle's frame or axle, while the other end is hooked to an inverted U-shaped piece of steel reinforcement that is partially exposed above the surface of the parking space. This described method is to have a vehicle secured to the ground in the event the vehicle encounters a tornado. This method will be beneficial for structures that are built in the States (e.g. Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina and Texas) which are subject to tornadoes.

To ensure that the proposed structure is working properly, tests are conducted every four months. This will help ensure that the structure is functional when it is needed.

When the parking lot is not being used for its intended purpose, it could be used for the parking of (two-axle) automobiles for a fee; the average national cost for a parking space is approximately \$1,000 for a year. In this manner, the structure will serve as a source of revenue for the government when it is not fulfilling its need.

The government is not to allow the storage of any flammable materials and substances (e.g. acetone, benzene, carbon disulfide, ethanol and pentane) within the buildings.

The government is not to allow the parking of commercial vehicles (e.g. delivery trucks and taxicabs) in the mentioned parking lot. The government may choose to allow the parking of tow trucks because of their usage to remove inoperable vehicles after a flood.

Municipalities Needing Structure

While there are many municipalities that experience flooding yearly, listed within this subheading are the municipalities that are believed to be at greater odds of experiencing area flooding; this action by the author was not to undermine the needs of other municipalities that are also damaged due to flooding.

It is hoped that the cited municipalities will benefit from the Obama's \$850 billion infrastructure spending plan, such that the proposed structure can be built for the purpose of protecting the mentioned property (e.g. automobiles, government-owned documents and mail) during a flood.

Alabama

The City of Mobile

North Carolina

The Cities of Morehead City and Wilmington

South Carolina

The Cities of Charleston and Myrtle Beach

North Dakota

The City of Fargo

Florida

The Cities of Key West, Miami, Palm Beach, and Pensacola

Georgia

The Cities of Atlanta and Savannah

Louisiana

The Cities of Baton Rouge, Lafayette, Lake Charles, and New Orleans

Texas

The Cities of Galveston and Houston

Virginia

The Cities of Norfolk and Virginia Beach

Points to Keep in Mind

This document is an unsolicited proposal, not a culmination of site plans and engineering calculations, which shows the design of the proposed structure. The development of these documents (e.g. engineering calculations and construction drawings) will be furnished when the government desires the proposed system. Such designs are not provided within this document to protect the interest of the Optimize Engineering Company, LLC and its partners.

The Nontechnical Objectives

There are a few processes of development that are not technical objectives that must take place within a government in order to have the proposed structure built in an area that has a history of flooding; several of these are:

- The government is to determine the placement of the mentioned structure with the assistance, if necessary, by the chief engineering firm. Since the government may not own the land needed to construct the structure, the government is to acquire the needed land by purchasing it by declaring Eminent Domain.
- The government is to strongly encourage the use of the structure when there is a possibility of flooding in an area prior to its flooding and must instruct motorists as to the use of the structure after it is built.

B. Technical Objectives and the Work Plan

Technical Objectives

The Objectives

There are several technical objectives that must take place when the proposed structure is to be constructed in an area of a municipality that has a history of flooding. Listed below are several of these objectives in the order that they are to occur:

- Preparation of conceptual plans. This task will be completed, under the direction of chief engineering firm.
- The government selects a conceptual plan which best fits the needs of the area that is under consideration. Modifications are made, if desired.
- A detailed design (e.g. engineering calculations and construction drawings) of the selected conceptual plan is completed, which is reviewed by the government. This task will be completed, under the direction of chief engineering firm.
- The government approves the construction documents, with applicable modifications, if any.
- The project is advertised for bid. The government is to complete this task.
- The acceptance of the bid proposals is followed by the selection of a general contractor by the government. The government is to complete this task with assistance, if needed, by the chief engineering firm.
- The general contractor completes the construction phase. This task will be completed, under the direction of chief engineering firm.
- The government and the chief engineering firm accept the completed structure.

Development of the Engineering Calculations, Plans and Specifications

Under the direction of the chief engineering firm, all engineering calculations and construction documents (e.g. plans and specifications) of the mentioned structure are completed. This also includes the preparation of the conceptual plans that show the orientation of the proposed structure.

This process of development will be approximately 15 weeks. This process is to occur after the government selects a conceptual plan with modifications, if desired.

The Construction of the Structure

Under the direction of the chief engineering firm, the general contractor will construct the structure that is indicated within the construction documents. The activities of the general contractor are monitored and inspected on a continual basis by the government, the chief engineering firm and/or an appointed representative (the structural/geotechnical engineering firm).

The limit of the construction phase is to be approximately 20 weeks.

The Work Plan

The Project Implementation

For the construction of the structure to be implemented, a desire must first be shown by a municipality, to provide a place of protection for automobiles, government-owned documents, mail, and the storage of hazardous chemicals and waste that are in an area prior to flooding, where such previous flooding was due to the failure of flood protection devices, a hurricane or snowmelt.

Carrying Out Project Activities and Qualifications

The Chief Engineering Firm - Optimize Engineering Company, LLC

This engineering firm was established in April 2000, by Richard B. Gordon, P.E. to provide a responsive multi-discipline engineering firm to serve both the public and private sectors. The staff of this professional firm is experienced in the engineering of commercial, residential, industrial and institutional structures in the United States.

This firm offers a full spectrum of engineering services and is recognized by its new and continuing clients for its creative solutions, innovative designs and engineering excellence.

This consulting firm offers civil, structural, mechanical, electrical engineering, piping/plumbing and design services. Also, this consulting firm service includes site feasibility studies, site planning, utility design and construction administration.

To learn more about this dynamic engineering firm, please visit www.optimizeces.com.

When a municipality makes a determination to be a client of this firm, Mr. Gordon may choose to select a recognized structural/geotechnical engineering firm from the state of the municipality to perform the necessary task of the development of the construction documents, to perform contract administration duties and to perform field observations.

Consultant: The Architectural Firm - Stiles L. Bartley Architects

Stiles L. Bartley Architects was established in February 1976, by Stiles L. Bartley, AIA to provide an architectural firm to serve both the public and private sectors that would provide unmatched client service, sustainable architecture through innovative thinking and exceptional design in the United States.

This architectural firm is well versed in the design of commercial, community/religious, education, government, healthcare, residential, restaurants and retail buildings.

This firm specializes in architecture, interior design, master planning and sustainable design and consulting.

This architectural firm will serve as a design consultant to the chief engineering firm as to matters that relate to the aesthetics of the mentioned structure.

Consultant: The Structural/Geotechnical Engineering Firm

Under the direction of the chief engineering firm, the selected structural/geotechnical engineering firm must be capable of leading other engineering firms (e.g. electrical and mechanical) and design consultants to the successful completion of all engineering calculations, plans and specifications of the described structure.

This firm will oversee the construction of the mentioned structure by conducting scheduled and unscheduled inspections during the construction phase and submit progress reports every week. This is to ensure that the general contractor is following the construction methods as indicated within the construction documents.

The success of this firm must be documented, such as in letters of reference by the owners of previous projects.

When necessary, the structural/geotechnical engineering firms are interviewed; from this process a firm is selected.

In addition to overseeing the development of the construction documents, other duties of this firm which relate to contract administration and field observations will be performed; some of these additional duties may include, but are not limited to:

- Participation in progress meetings with the client (the municipality).
- Reviewing of general contractor's submittals.
- Reviewing of general contractor's applications for payment.
- Providing technical assistance for resolving unanticipated field conditions.
- Providing construction cost tracking.
- Providing change order processing and negotiation.
- Reviewing contract close-outs (e.g. the warranty information).

The General Contractor

The general contractor is to have a successful track record of managing subcontractors, such that the construction phase of the mentioned structure is completed within the established budget and within the allotted time period; the allotted time period is to be approximately 20 weeks.

The success of the general contractor must be documented, such as in letters of reference by the owners of previous projects.

The Activities of the Proposed Project

This portion of the unsolicited proposal cites the goals that are found within the technical objectives (refer to B. Technical Objectives and the Work Plan, Technical Objectives, The Objectives; page 9). The cited activities are to occur shortly after the government begins the process of acquiring the land that is needed to construct the structure.

Under the direction of the chief engineering firm, the conceptual plans which show the orientation of the mentioned structure in relationship to the area that has a history of flooding are shown to the government.

The government selects a conceptual plan that best fits the needs of the area that is under consideration. Modifications are made, which are based on the desires of the government.

Based on the selected conceptual plan, under the direction of the chief engineering firm, the engineering calculations and the construction documents are completed, which are reviewed by the government. Modifications are made, if required.

After the construction documents reflect the desires of the government and these plans are approved, the project is advertised for bid.

The government receives the bid proposals from the general contractors.

Shortly after a contract is signed between the general contractor and the government, the construction phase begins, and is completed within approximately 20 weeks. As stated earlier, the activities of the general contractor are monitored and inspected by the government, the chief engineering firm and/or its representative (the structural/geotechnical engineering firm) on a continual basis.

After all permits are approved, both the government and the chief engineering firm accept the completed structure.

C. Who Will Benefit, Uniqueness of the Project, Etc.

Who Will Benefit

The U.S. government would benefit from the proposed structure because it will provide a place of protection for the U.S. Postal Service automobiles and for the mail that is being transported by this service in the an area prior to a flood.

Municipalities that become continually flooded would benefit from the implementation of the proposed structure because it will provide a place of protection for government owned automobiles and government-owned documents, and reduce the spillage of hazardous chemicals and waste from containers due to a flood.

Such a structure will reduce what a municipality pays to remove inoperable automobiles, which are in an area that was once flooded.

The mentioned structure will also help protect the automobiles of motorists, thereby protecting the interests of motorists and automobile insurance companies (e.g. the Allstate Corporation, the GMAC Insurance Group, the Progressive Corporation and State Farm Mutual Automobile Insurance Company).

The Uniqueness of the Project

While floodwalls are used throughout the United States as a flood protection device, the author believes that the proposed structure is distinct because it provides a place of protection for automobiles, government-owned documents, mail and other items (e.g. hazardous chemicals) in the event that an area becomes flooded due to the failure of flood protection devices, a hurricane or snowmelt.

Thus, the proposed structure will serve as a secondary defense to ensure that the previously mentioned items (e.g. automobiles and government owned documents) are not damaged, destroyed, or allowed to contaminate lakes, rivers, etc. during a flood.

Deserving of Attention

The author of this unsolicited proposal believes that the proposed structure deserves the attention of municipalities that have a history of flooding.

Related Work

The Resolutions Group has found no evidence that the proposed structure exists for the preservation of automobiles, government owned documents, mail, etc.

Relationship with Future Research and/or Development

The mentioned structure does not have a relationship to future research and/or development.

D. Outcome

The Immediate and Long-Range Results

It is hoped that the immediate result will be that the states and the federal government will have an interest in the proposed structure and encourage the municipalities that are plagued by flooding to review this document with the hope of having the proposed structure constructed.

It is hoped that the long-range result will be that 75% of all municipalities that are effected by area flooding (e.g. Fargo, North Dakota; Galveston, Texas; and New Orleans, Louisiana) will have constructed similar structures by 2017 for the purpose of protecting automobiles, government-owned documents, mail and other items during area floods.

E. Support for the Proposed Structure

The Support from Professional Firms

Due to the purpose and function of the Resolutions Group, to accomplish the described tasks that are mentioned herein (e.g. the completion of the engineering calculations, plans and specifications), the following professional firms have shown an eagerness to participate in the advancement of the structure that is described within this unsolicited proposal:

The Chief Engineering Firm

The Optimize Engineering Co., LLC (Farmville, VA)

The Architectural Firm (Consultant)

Stiles L. Bartley Architects (Richmond, VA)

In addition, these professional firms have contributed to creating the concepts of the mentioned structure, and these firms are thoroughly familiar with the aspects of this proposal.

Supporting Information

F. Estimated Costs

The Estimated Cost

The individual costs that are listed below are merely an estimate and must be viewed as such.

Acquisition of Land

Estimated cost for land to construct structure: \$7,386,400

The general contractor is to determine the actual construction cost for the structure at the time of bidding.

Rather than give a line item estimate of the proposed structure, which is controlled by the desires of the government, listed below is an estimate of several key components, which are to lead to the completion of the structure:

Demolishing Houses and Clearing of Land

Estimated cost of demolition and clearing of land: \$298,400

Excavation for Structure

Estimated cost of excavation: \$585,600

Gravity Retaining Walls

Estimated cost of retaining walls: \$29,925,000

Buildings

Estimated cost of buildings: \$11,200,000

Pavement and Marking

Estimated cost of pavement and marking: \$3,648,200

Exterior Lighting

Estimated cost of exterior lighting: \$954,300

Power Equipment

Estimated cost of power equipment: \$1,950,000

The sum of the above estimates yields \$48,561,500. Thus, it can be understood that the proposed structure will cost approximately \$50,000,000.

G. Period of Time Unsolicited Proposal is Valid

The Period of Being Valid

This unsolicited proposal is valid for a period of 90 calendar days.

Unless otherwise previously stated, the starting date of the review is the date that appears within the Cover Letter; refer to page 1 of this unsolicited proposal.

The Time Extension

When a time extension is needed to conclude the review of this unsolicited proposal, please notify the Resolutions Group by mail or email. This request is to be received before the 10th day of which this proposal remains valid. The mailing address of the Resolutions Group is:

The Resolutions Group
PO Box 182
Cumberland, VA 23040

Such a request could also be sent by way of e-mail to Mr. Timothy M. Young at:

timothymyoung@hotmail.com

Note:

The time which this proposal remains valid may be lengthened by its author without notification to the reviewer(s).

H. Contracts Preferred

The Contracts Preferred

When a contract is awarded as a result of or in connection with the submission of this unsolicited proposal, the preferred contract is to be a fixed-price contract.

This contract is to be made between the government (Party A), and the partnership of the Optimize Engineering Co., LLC and the Resolutions Group (Party B) in the amount of 10% of the construction cost, which is not to exceed \$5,000,000.

In addition, the previously stated partnership requests that all expenses that relate to the traveling (e.g. airplane tickets, hotel stays and car rentals) of its employees to the site of the structure during the construction phase be reimbursed.

For the general contractor, the contract is to be a fixed-price contract. This contract amount is to be based on the contractor's bid proposal.

A 20-year contract will be pursued between the government (Party A) and the Resolutions Group (Party B) in the amount of \$166,400 per year to manage the maintenance operation of the mentioned structure.

The Phases of Service and the Allocation of Fees

The phases of service and the allocation of fees are broken down below, which are to be based on the previously stated fee (10% of the construction cost), as the lump sum (refer to H. Contracts Preferred, The Contracts Preferred; page 16).

- Phase 1: Schematic Design: 15%
- Phase 2: Design Development: 15%
- Phase 3: Contract Documentation: 40%
- Phase 4: Bidding and Negotiation: 5%
- Phase 5: Contract Administration: 25%

I. Time Durations

The Individual Time Durations

The individual time durations are as follows:

- The preparation of the construction documents, with feedback from the government: 15 weeks (approximate)
- The government approves the construction documents: 5 weeks (approximate)
- The construction project is advertised for bid and the bids are received: 5 weeks
- The general contractor is selected and the contractor's contract is signed: 5 weeks (approximate)
- The construction of the structure: 20 weeks (approximate)

J. Brief Description of the Resolutions Group

The Mission Statement

The mission statement of the Resolutions Group is to “seek out unexplored avenues that will protect mankind from the threats brought on by naturally-occurring forces and by the willful acts of man.”

The Work of the Resolutions Group

The Resolutions Group has made it an ongoing effort to describe systems that have the capability to safeguard lives and protect the environment. The chosen method of the Resolutions Group is to submit an unsolicited proposal to a source that is capable of implementing such a system.

The Recent Work of the Resolutions Group

As of recent times, the Resolutions Group has submitted the unsolicited proposals that are briefly described below:

Protecting Lives and Municipalities in Washington State during a Lahar

The purpose of this proposal is to describe a proposed system that is to divert lahars^j to an uninhabited space, such that the municipalities near the Carbon River (Carbonado, Wilkeson), those near the Puyallup River (Fife, Orting, Puyallup, Sumner and Tacoma) and those near the Nisqually River (Ashford, Elbe) do not become inundated from lahars in the event that Mount Rainier erupts.

Protecting the Community of La Conchita in Ventura County during Mudslides

The purpose of this proposal is to describe a proposed structure that is to protect the community of La Conchita, California from future mudslides and landslides.

The purpose of the proposed structure is to capture and contain mudslides and landslides that threaten the community of La Conchita; this structure is to prevent deadly slides, such as the massive mudslide that occurred on January 10, 2005^k.

Providing a Way of Escape from a Tsunami's Run-Up

The purpose of this proposal is to describe a proposed structure that is to protect individuals, who find themselves in a low-lying coastal area that is in the path of a tsunami's run-up.

K. Points of Contact

Individuals Receiving Document

The following recipients representing their respective municipality were also e-mailed this document at the same time it was e-mailed to the Office of Science and Technology Policy (OSTP):

City: Galveston, Texas

Recipient/Position: Mr. Charlie Kelley; Emergency Management Coordinator

Recipient/Position: Mr. Steven LeBlanc; City Manager

E-mail: kellycha@cityofgalveston.org; leblancste@cityofgalveston.org

Phone: (409) 765-3710; (409) 797-3520

City: Houston, Texas

Department: Public Works and Engineering

Division: Planning & Development Services Division

Recipient/Position: Mr. Mark L. Loethen, P.E., CFM, PTOE; Acting Deputy Director

E-mail: mark.loethen@houstontx.gov

Phone: (713) 837-0724

^j A wet mass of volcanic fragments flowing rapidly downhill.

^k This mudslide killed 10 persons and injured 14 persons, and it buried four blocks of the community in over 30 feet of earth. This mudslide is also responsible for destroying 15 houses and causing 16 more houses to be tagged by Ventura County as being uninhabitable.

City: Houston, Texas
Department: The Mayor's Office
Division: Office of Sustainability
Recipient/Position: Ms. Laura Spanjian; Director
E-mail: laura.spanjian@houstontx.gov
Phone: (832) 393-0849

Town: Palm Beach, Florida
Department: Planning, Zoning and Building
Recipient/Position: Mr. John S. Page; Director
E-mail: jpage@townofpalmbeach.com
Phone: (561) 227-6405

The following recipients representing their respective state were also e-mailed this document at the same time it was e-mailed to the OSTP:

Office: The Office of Florida Governor Charlie Crist
Recipient/Position: Mr. Warren Davis; Director of Citizen Services
E-mail: warren.davis@myflorida.com; charlie.crist@myflorida.com
Phone: (850) 488-7146

Office: The Office of Texas Governor Rick Perry
Recipient/Position: Mr. Terry Zrubek; Governor's Advisor
E-mail: terry.zrubek@governor.state.tx.us
Phone: (512) 463-1778

Office: The North Dakota National Guard
Recipient/Position: Major General David A. Sprynczynatyk, PE; Adjutant General
E-mail: david.sprynczynatyk@us.army.mil
Phone: (701) 333-2001

The following recipients representing their respective organization, or state or federal agency were also e-mailed this document at the same time it was e-mailed to the OSTP:

Office: The President's Office of Science and Technology Policy
Council: The President's Council of Advisors on Science and Technology
Recipient/Position: Ms. Deborah D. Stine, PhD; Executive Director
E-mails: dstine@ostp.eop.gov
Phone: (202) 456-6006

Federal Agency: The U.S. Army Corps of Engineers, Savannah District
Recipient/Position: Ms. Jeanne Hodge; Public Affairs Specialist
E-mail: jeanne.hodge@usace.army.mil
Phone: (912) 652-5770

State Agency: The Georgia Department of Natural Resources
Division: The Environmental Protection Division
Recipient/Position: Mr. Collis O. Brown, CFM; Program Manager
E-mail: collis.brown@dnr.state.ga.us
Phone: (404) 362-2606

End of Unsolicited Proposal

From: "Elena Garcia Ansani" <Elena.GarciaAnsani@nl.edu>
Subject: PC AST
Date: Thu, November 4, 2010 8:16 am
To: "pcast@ostp.gov" <pcast@ostp.gov>

How will the NETP address students with disabilities to ensure diverse student populations are afforded access and equity in this initiative?

Elena Garcia Ansani
3C Project Coordinator

National-Louis University
North Shore Campus at Skokie
5202 Old Orchard Road
Skokie, IL 60077

Ph/Fax: 224-233-2337

email: elena.garciaansani@nl.edu
<mailto:elena.garciaansani@nl.edu
>

"Thousands of candles can be lighted from a single candle, and the life of the candle will not be shortened."
---Buddha

Attachments:

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Size:	5.3 k
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From: "Brian Dyak" <bdyak@eiconline.org>
 Subject: JObs
 Date: Thu, November 4, 2010 8:44 am
 To: pcast@ostp.gov

What is the government plan to excite various audiences.children, tweens, teens and college students plus their parents and mentors.Is their consideration to inspire them all to understand that it takes all kinds of job (not just advanced degrees) to cause innovation to occur? Thank you

Brian Dyak

President/CEO

Exec. Producer PRISM Awards

Entertainment Industries Council, Inc.

East Coast (703) 481-1414

West Coast (818) 840-2016

Please Visit <<http://www.eiconline.org/>> <http://www.eiconline.org>

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Type:	text/html
image001.png	
Size:	49 k
Type:	image/png

From: Franco Vitaliano [francov@exqor.com]
Sent: Tuesday, November 16, 2010 12:20 PM
Subject: Smartphones, Unintended Consequences
Attachments: 21st for Kids_ADD, Preschool Test.pdf; ATT00001..txt; iPhones for Toddlers - NYTimes.com.pdf; 2-iPhones for Toddlers - NYTimes.com.pdf; ATT00002..txt

Hi,

From a developmental perspective, it appears there could be significant behavioral, social, and likely cultural differences between children born circa 2007-10 and those that arrived at the beginning of the decade, mostly thanks to the advent of the iPhone and Android smartphones. These new devices may be causing profound cognitive changes in this latest generation of kids, and are now being noted by parents and the professional healthcare community. The attached NYT article about smartphones and little kids discusses these issues. These unintended consequences of smartphones and young children could mark a sea change in human cognitive development, and if true, would likely catch many unawares, from parents, to schools, to businesses, to government policy makers.

Cognitive development in young children is an area Gordana and I specialize in. In 1997, we developed under an NIH/SBIR phase I grant the first ever computerized test to screen for ADHD in preschool children, see attached description. The test was called Catch A Fish, which also embodies several core principals of our cognitive system. This preschool ADHD software screening test is still one of the best. Presuming we qualify for an SBIR Phase II grant, we will be bringing to clinicians a significantly advanced version of Catch A Fish that runs on the iPhone and Android smartphones. Further, we will be developing a mass market smartphone app of Catch a Fish for at home use.

We next plan to slowly feed in additional elements and features of our cognitive system and make our new smartphone platform increasingly generalized. By publishing an application interface to our cognitive platform we could help usher in the next generation of smartphones with new capabilities that are both individually powerful as well as can collectively access unique new features in ExQor's "cognitive cloud".

Regards

Franco Vitaliano
President & CEO
ExQor Technologies, Inc.
4 Longfellow Place Suite 2105
Boston MA 02114-2818 USA
Tel 617 742 4422
francov@exqor.com
<http://www.exqor.com>



A New Computerized ADHD Test for Preschool Children

[Gordana Vitaliano, M.D.](#)

RESEARCH WORK BACKGROUND

The founders of ExQor Technologies, Inc. were awarded a research grant by the National Institutes of Health to develop a standardized, computer-based, Continuous Performance Task (CPT) for testing Attention Deficit Hyperactivity Disorder (ADHD) in preschool children ages four to six.

Attention Deficit Hyperactivity Disorder (ADHD) is the single most common chronic behavior disorder observed in children. Estimates of the prevalence of the disorder range from 2% to 6%. Although ADHD has its onset in infancy or early childhood, there are only few studies of ADHD in young children. Also, children are usually diagnosed with ADHD when in their school age, and thus have already missed important time for medical and educational interventions. This is despite the fact that it is generally agreed that ADHD can be identified during the preschool years, and must be present before age 7 years.

A typical school system, such as one in the greater Boston area, incurs annual costs of approximately \$40,000 per year for treating and educating a school age child with ADHD because the diagnosis is established too late. In addition, the federal government often has to pay SSI to the child's family. If we multiply those costs times several years, plus the overall social costs, and then multiply that by the many thousands of such ADHD children across the country, the annual cost to U.S. taxpayers for treating this disorder is in the many hundreds of millions of dollars.

However, it is especially difficult to establish ADHD diagnosis in children younger than age 5 or 6 years. The Continuous Performance Task (CPT) is proven to be the most

sensitive measure of sustained attention in both preschool and school age children. Reaction time and number of errors differentiate normal groups of children from those with Attention Deficit Hyperactivity Disorder (ADHD). Recent studies, also done by Dr. Vitaliano (the ExQor NIH Program coordinator), and funded by NIH, have shown that the CPT can be used effectively in 4 to 7 year old children.

Currently there is no standardized CPT test for preschool children. The new Preschool CPT (PCPT) will be the first CPT specifically design for preschool children. All commercially available CPT tests are not appropriate for preschool children because of its reliance on the knowledge of numbers or letters. Our new PCPT will be much more appropriate for preschool children. Thus, the new valid CPT from ExQor Technologies can be used for a wide variety of screening, diagnostic, prognostic, scientific and educational purposes.

THE RESEARCH PROGRAM

The initial testing of this new software instrument was done at several Boston area hospitals (Boston University Medical Center, Franciscan Children's, and New England Medical Center), at a number of private Boston preschools, and also with the cooperation of the Boston Public School system. The statistical analysis of the test data was done by the Harvard School of Public Health. The initial sample of 100+ preschool children yielded highly significant results and showed that this new PCPT was a very sensitive instrument for reliably screening for ADHD in preschool children. The 4 to 6 year old children were randomly chosen for the pilot study from day care centers, schools and hospitals in the Boston area. The sample included preschool children from all sex, race and ethnic groups. We are now planning a test-retest sample of sufficient size to standardize this new ADHD screening test as a medically valid instrument. This standardized instrument will be a valuable new tool for doctors, clinicians and researchers. It will allow them to accurately diagnose and treat children in these preschool age groups much more effectively.

The machines used in the initial ADHD software field testing were Sony Vaio lap tops, and were provided to ExQor Technologies by Sony Corporation, which is also a program sponsor. Sony also provided Vaio deskside systems for software development. Another program sponsor is Silicon Graphics, which also provided systems to ExQor Technologies for this all important effort. The SGI systems are used for data storage and analysis. For the critical ADHD data analysis, SAS Institute Inc., also contributed statistical analysis software, its JMP Statistical Discovery Tool, which runs on PCs and Macintoshes.

ExQor Technologies, Inc.
4 Longfellow Place, Ste. 2105,
Boston, MA 02114-2818 USA

Tel: 617 742 4422

Toddlers' Favorite Toy: The iPhone

By HILARY STOUT
Published: October 15, 2010

THE bedroom door opened and a light went on, signaling an end to nap time. The toddler, tousle-haired and sleepy-eyed, clambered to a wobbly stand in his crib. He smiled, reached out to his father, and uttered what is fast becoming the cry of his generation: “[iPhone!](#)”

[Enlarge This Image](#)



Ben Sklar for The New York Times

MOTOR SKILLS Bella Giroux-Nix, 3, has mastered her mother's iPhone.

[Enlarge This Image](#)



Sally Ryan for The New York Times

TAP, TAP Brady Hotz, now 2, has been playing with his parents' iPhones since he was 6 months; his mother, Kellie Hotz, lends hers for the 15-minute commute to school.

The iPhone has revolutionized telecommunications. It has also become the most effective tool in human history to mollify a fussy toddler, much to the delight of parents reveling in their newfound freedom to have a conversation in a restaurant or roam the supermarket aisles in peace. But just as adults have a hard time putting down their iPhones, so the device is now the Toy of Choice — akin to a treasured stuffed animal — for many 1-, 2- and 3-year-olds. It's a phenomenon that is attracting the attention and concern of some childhood development specialists.

Natasha Sykes, a mother of two in Atlanta, remembers the first time her daughter, Kelsey, now 3 1/2 but then barely 2 years old, held her husband's iPhone. “She pressed the button and it lit up. I just remember her eyes. It was like ‘Whoa!’ ”

The parents were charmed by their daughter's fascination. But then, said Ms. Sykes (herself a BlackBerry user), “She got serious about the phone.”

Kelsey would ask for it. Then she'd cry for it. “It was like she'd always want the phone,” Ms. Sykes said. After a six-hour search one day, she and her husband found the iPhone tucked away under Kelsey's bed. They laughed. But they also felt vague concern. Kelsey, and her 2-year-old brother, Chase, have blocks, Legos, bouncing balls, toy cars

and books galore. (“They *love* books,” Ms. Sykes said.) But nothing compares to the iPhone.

“If they know they have the option of the phone or toys, it will be the phone,” Ms. Sykes said

Brady Hotz, who will be 2 at the end of this month, was having a hard time getting out the door of his family's home near Chicago the other day. He'd woken up late — 6:45 instead of 6:15. His mother, Kellie Hotz, was in a rush. She got him dressed, gave him milk and cereal, and announced, “We're ready to go.”

Brady, not budging from his position near the couch, dug in. “Mickey!” he said plaintively. “Mickey!” (Translation: I'm not going anywhere till I get to watch “Mickey Mouse Clubhouse” on TV.)

Ms. Hotz, a veteran of such standoffs, switched instantly to what she called her “guaranteed success tool.”

“What about Mickey on the phone?” she suggested.

That's all it took. Mother swept up the now entirely cooperative toddler, cued up the show (via YouTube) on her little iPhone screen, and strapped him into her car, where he sang

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happily along with the video for the 15-minute ride to day care.

Then trouble began again. Brady wanted to stay in his seat with the iPhone. Finally he put it in his coat pocket and went inside — where Ms. Hotz was able to surreptitiously reclaim her gizmo and leave for work. But it's not always that easy. "Sometimes I'll need it because someone is calling, and he is not at all willing to give it up," she said.

Apple, the iPhone's designer and manufacturer, has built its success on machines so simple and intuitive that even technologically befuddled adults can figure out how to work them, so it makes sense that sophisticated children would follow. The most recent model is 4.5 inches tall, 2.31 inches wide and weighs 4.8 ounces: sleek, but not too small for those with developing motor skills. Tap a picture on the screen and something happens. What could be more fun?

The sleepy-eyed toddler who called for the iPhone from his crib is one of hundreds of iPhone-loving tykes starring in videos posted throughout the Internet, usually narrated by parents expressing proud wonderment at their offspring's ability to slide chubby fingers across the gadget's screen and pull up photographs and apps of their choice.

Many iPhone apps on the market are aimed directly at preschoolers, many of them labeled "educational," such as Toddler Teasers: Shapes, which asks the child to tap a circle or square or triangle; and Pocket Zoo, which streams live video of animals at zoos around the world. There are "flash cards" aimed at teaching children to read and spell, and a "Wheels on the Bus" app that sings the popular song in multiple languages. Then there's the new iGo Potty app (sponsored by Kimberly-Clark, maker of Huggies training pants), with automated phone calls reminding toddlers that it's time to "go."

Along with fears about dropping and damage, however, many parents sharing iPhones with their young ones feel nagging guilt. They wonder whether it is indeed an educational tool, or a passive amusement like television. The [American Academy of Pediatrics](#) has long advised parents not to let their children watch any TV until they are past their second birthday.

A version of this article appeared in print on October 17, 2010, on page ST1 of the New York edition.

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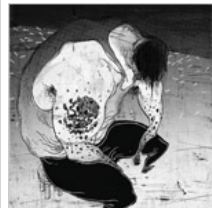


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A toxic spill leaves Hungary demanding answers, Gyorgy Dragoman writes.

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Milan Issue 2010

Toddlers' Favorite Toy: The iPhone

Published: October 15, 2010

(Page 2 of 2)

Dr. Gwenn Schurgin O'Keeffe, a pediatrician who is a member of the academy's council of communications and media, said the group is continually reassessing its guidelines to address new forms of "screen time."

[Enlarge This Image](#)



Ben Sklar for The New York Times

MOTOR SKILLS Renee Giroux-Nix's 3-year-old daughter, Bella, teaches her mother things about her iPhone.

"We always try to throw in the latest technology, but the cellphone industry is becoming so complex that we always come back to the table and wonder should we have a specific guideline for cellphones," she said. But, she added, "At the moment, we seem to feel it's the same as TV."

Jill Mikols Etesse, a mother of two daughters, aged 3 and 8, outside of Washington, believes her younger daughter is further along in vocabulary, reading and spelling than her older daughter was at the same age, and she attributes this progress to the iPhone and iPad. The 3-year-old has learned to spell compound words like "starlight and fireworks" through an app called Montessori Crossword, her mother said. "She uses words that I don't use, so I know it isn't coming from me," Ms. Etesse said. "She says 'That's peculiar.' I don't use the term peculiar."

But Jane M. Healy, an educational psychologist in Vail, Colo. said: "Any parent who thinks a spelling program is educational for that age is missing the whole idea of how the preschool brain grows. What children need at that age is whole body movement, the manipulation of lots of objects and not some opaque technology. You're not learning to read by lining up the letters in the word 'cat.' You're learning to read by understanding language, by listening. Here's the parent busily doing something and the kid is playing with the electronic device. Where is the language? There is none."

Despite Ms. Etesse's generally positive experience, she and her husband decided to set limits when their two daughters spent six hours straight staring at the iPhone during a car trip. Now they allow each child no more than one hour a day of screen time. (That means the iPhone and the iPad; neither girl is interested in TV, she said.)

Tovah P. Klein, the director of [Columbia University's Barnard College](#) Center for Toddler Development (where signs forbid the use of cellphones and other wireless devices) worries that fixation on the iPhone screen every time a child is out and about with parents will limit the child's ability to experience the wider world. "Children at this age are so curious and they're observing everything," she said. "If you're engrossed in this screen you're not seeing or observing or taking it in." (Though some, like Renee Giroux-Nix of Cedar Park, Tex., a suburb of Austin, applaud the iPhone's photo function. She said her 3-year-old, Bella, took a series of photos during a shoe-shopping trip, focusing on her mother's feet and legs.)

As with TV in earlier generations, the world is increasingly divided into those parents who do allow iPhone use and those who don't. A recent post on [UrbanBaby.com](#), a popular and often contentious parents' Web site, asked if anyone had found that their child was more interested in playing with their iPhone than with "real toys." The Don't mothers pounced:

"We don't let our toddler touch our iPhones ... it takes away from creative play."

"Please ... just say no. It is not too hard to distract a toddler with, say ... a book."

Kathy Hirsh-Pasek, a psychology professor at [Temple University](#) who specializes in early

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language development, sides with the Don'ts. Research shows that children learn best through active engagement that helps them adapt, she said, and interacting with a screen doesn't qualify.

Still, Dr. Hirsh-Pasek, struck on a recent visit to New York City by how many parents were handing over their iPhones to their little children in the subway, said she understands the impulse. "This is a magical phone," she said. "I must admit I'm addicted to this phone."

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A version of this article appeared in print on October 17, 2010, on page ST1 of the New York edition.

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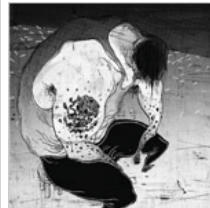


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A toxic spill leaves Hungary demanding answers, Gyorgy Dragoman writes.

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Milan Issue 2010

From: "Evan Lehmann" <elehmann@eenews.net>
Subject: Question
Date: Mon, November 29, 2010 10:58 am
To: pcast@ostp.gov

Did you consider reductions in greenhouse gas emissions in the report?

Evan Lehmann

Reporter

elehmann@eenews.net

202-446-0462 (p)

202-427-6155 (c)

202-737-5299 (f)

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From: "Timothy Young" <timothymyoung@hotmail.com>
Subject: Attached: Protecting Items within a Municipality during Flood (revised)
Date: Mon, November 29, 2010 12:49 pm

The President's Council of Advisors on Science and Technology,

Please find attached the document entitled "Protecting Items within a Municipality during Flood", which has been revised to reflect all of the recipients of this document.

This document was also sent to Ms. Deborah D. Stine, PhD (Executive Director of PCAST) and to the individuals that are cited on pages 18-20, as a source of reference.

If I can be of further assistance, please contact me.

Truly,
Tim Young

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Protecting Items within a Municipality during Flood

An Unsolicited Proposal

**Submitted by:
The Resolutions Group**

Protecting Items within a Municipality during Flood

An Unsolicited Proposal

**Submitted by:
The Resolutions Group**

Revision 0.04

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The Resolutions Group
PO Box 182
Cumberland, VA 23040

November 29, 2010

The Office of Science and Technology Policy (OSTP)
The Executive Office of the President
725 17th Street, Room 5228
Washington, DC 20502

Subject: Cover Letter of Document

The Office of Science and Technology Policy,

Please find attached the unsolicited proposal entitled "Protecting Items within a Municipality during Flood", which has been revised to reflect all of the recipients of this document.

This document is being submitted by the Resolutions Group, which is a small business that specializes in disaster prevention consulting services.

This document was sent to Ms. Deborah D. Stine, PhD (Executive Director of the President's Council of Advisors on Science and Technology (PCAST)) and to the general email of PCAST, such that the Office of Science and Technology Policy (OSTP) will gain knowledge of this document.

The reviewer(s) of this document is to have the understanding that this document does not address all of the issues that surround the proposed structure that is mentioned herein. This was done to limit the size of this paper.

For any topics that are mentioned briefly or not covered within this document the reviewer(s) of this paper is encouraged to contact the following individual:

Contact: **Mr. Stiles L. Bartley, AIA**
Firm: Stiles L. Bartley Architects
Telephone: (804) 743-7002
E-mail: stilesinva@aol.com

All parties receiving this document would include (refer to K. Points of Contact, Individuals Receiving Document; pages 18-20):

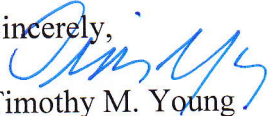
- The Office of Science and Technology Policy
- The City of Alvin, Texas

- The City of Galveston, Texas
- The City of Houston, Texas
- The City of Fort Myers, Florida
- The Town of Palm Beach, Florida
- The Office of Florida Governor Charlie Crist
- The Office of South Dakota Governor-elect Dennis Daugaard
- The Office of Texas Governor Rick Perry
- The North Dakota National Guard
- The U.S. Army Corps of Engineers, Savannah District
- The Georgia Department of Natural Resources
- The Office of U.S. Senator Richard Burr (North Carolina)
- The Office of U.S. Senator Bob Corker (Tennessee)

Mr. Young has accepted the duty of representing and contractually obligating the offeror of this document and by signing below he realizes this responsibility.

Any effort on the part of the PCAST and the OSTP that will lead to the implementation of the structure that is described within this unsolicited proposal is greatly required.

Sincerely,


Timothy M. Young
The Resolutions Group

Protecting Items within a Municipality during Flood

An Unsolicited Proposal

Use and Disclosure of Data

This unsolicited proposal does not include data that shall not be disclosed outside the of government and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this proposal.

All government personnel and the members of other parties that receive this unsolicited proposal must exercise extreme care to ensure that the information in this proposal is not disclosed to an individual who has not been authorized access to this document. This document is not to be duplicated, used, or disclosed, in whole or in part, for any purpose other than the evaluation of the proposal without the written permission of the Resolutions Group.

Technical Information

A. Concise Title and Abstract

The Introduction

The title of this unsolicited proposal is “Protecting Items within a Municipality during Flood.”

The purpose of this proposal is to describe a structure that is to be placed in an area that has a history of flooding; such flooding could be the result of a riverine flood, an estuarine flood or a coastal flood. This structure is to be used prior to an event that might cause flooding (e.g. the failure of flood protection devices, snowmelt or a storm surge).

This structure is to provide a place of protection for automobiles that belong to the government^a and those of motorists. Also, this structure is to serve as a place of protection for the temporary storage of government-owned documents, hazardous chemicals and waste (e.g. gasoline, diesel fuel and discarded pharmaceutical products), and mail that is being transported by the U.S. Postal Service in an area prior to flooding.

It is hoped that this proposal will be of interest to the municipalities that have a history of flooding which destroyed automobiles, government-owned documents, mail, and released hazardous chemicals and waste into a flooded area.

^a This term is used hereinafter to mean a municipality, a state and/or the federal government.

The Significance of the Problem

While the flooding of the City of New Orleans by Hurricane Katrina is mentioned throughout this proposal, this action by the author was not to undermine the needs of other municipalities that were damaged due to flooding.

About 80% of the City of New Orleans was flooded due to the failure of several flood protection devices in August of 2005 in the aftermath of Hurricane Katrina.

Carfax, this nation's leading provider of information on the history of individual automobiles, estimates that approximately 570,000 automobiles were destroyed by Hurricane Katrina in 2005. Officials in Louisiana say that about 300,000 of these automobiles may have been from the City of New Orleans^b.

Mayor C. Ray Nagin of the City of New Orleans stated during his testimony to a Senate committee that approximately 700 city-owned automobiles were destroyed due to the failure of flood protection devices (e.g. levees, dikes and floodwalls), which were observed in the aftermath of Hurricane Katrina. This automobile lost was estimated to be \$128 million by the City of New Orleans^c.

In addition, due to the failure of flood protection devices during Hurricane Katrina, the U.S. Postal Service lost approximately 200 automobiles in New Orleans and also "immeasurable pounds of first-class mail, including letters, checks and bills were destroyed"^d.

Notes:

Hurricane Katrina is estimated to have been responsible for about \$88.46 billion (2009 USD) in damages, making it the third costliest natural disaster in U.S. history.

For the cited hurricanes, AutoTrader.com, Inc. has provided the following estimates of destroyed automobiles that were the result of flooding^e:

- Hurricane Floyd (1999): Approximately 75,000 automobiles destroyed
- Tropical Storm Allison (2001): More than 95,000 automobiles destroyed
- Hurricane Ivan (2004): More than 100,000 automobiles destroyed

^b This information can be seen at the New York Times Company website. The webpage of interest is www.nytimes.com/2005/10/17/automobiles/17CARS.html?ex=1287201600&en=14f963c8736d1a13&ei=5090&partner=rssuserland&emc=rss.

^c The webpage containing Mayor Nagin's testimony can be seen at the City of New Orleans website. The webpage of interest is

www.cityofno.com/portal.aspx?portal=1&load=~PortalModules/ViewPressRelease.ascx&itemid=3876.

^d This information can be seen at the CNET Networks, Inc. website. The webpage of interest is findarticles.com/p/articles/mi_qn4200/is_20060619/ai_n16488873.

^e This information can be seen at the AutoTrader.com, Inc. website. The webpage of interest is www.autotrader.com/research/article/car-research-used/26683/protect-yourself-from-flood-damaged-cars.jsp.

The Serious Need for Immediate Action

In the area of flooding in the City of New Orleans, there were dangerous levels of bacteria, lead, potentially harmful amounts of mercury, and pesticides and other chemicals. This included gasoline and diesel fuel from gas stations and more than 300,000 flooded vehicles. The amount of fuel (gasoline and diesel fuel) has been approximated to be in the range of 1 million to 2 million gallons^f.

Having the understanding that each automobile belonging to motorists in the City of New Orleans which was destroyed due to the flood waters of Hurricane Katrina had an estimated cost of \$27,958, the estimated cost of the previously mentioned 300,000^g automobiles would be approximately \$8.39 billion.

Having the understanding that each automobile that belonged to the U.S. Postal Service which was destroyed due to the flood waters of Hurricane Katrina had an estimated cost of \$18,500, the estimated cost of the previously mentioned 200 automobiles would be approximately \$3.7 million.

As for the estimated cost of the 700 automobiles owned by the City of New Orleans, recall that Mayor Nagin stated during his testimony to a Senate committee that this lost was estimated to be approximately \$128 million.

These facts and others that are not contained within this document should encourage the implementation of the proposed structure. This structure will greatly reduce similar losses and other hazards (e.g. those which are present from the seepage of hazardous chemicals and waste into drinking water) in the described magnitudes from happening again in a flooded area.

The Proposed Structure

Prior to an event that could cause flooding (e.g. the failure of flood protection devices, the arrival of a hurricane or snowmelt), a determination is made by the government as to whether the mentioned structure is to be used for the temporary storage of automobiles, government owned documents, mail and hazardous chemicals and waste.

In an area that has a history of flooding, there is a floodwall (a mass concrete gravity retaining wall) built around a parking lot and three buildings^h. The parking lot is used for the temporary parking of automobiles during an event of flooding.

^f This information can be seen at the WWL-TV, Inc website. The webpage of interest is wwltv.com/sharedcontent/nationworld/katrina/stories/091505ccKatrinawcdmtoxicnightmare.95d7d1c0.html.

^g The 300,000 automobiles are understood not to include the automobiles that belong to the City of New Orleans and the U.S. Postal Service.

^h This structure will also be resistant to the high winds that are associated with hurricanes, such as in the case of a Category 5 hurricane.

The first building is used for the temporary storage of government owned documents (e.g. city contracts, court records and property records books) and for mail that is being transported by the U.S. Postal Service in the area of concern. Also, within this building, there are additional secured rooms which are to be used by area hospitals, for the temporary storage of documents, supplies and equipment (e.g. anesthesia machines, patient monitors, defibrillators and MRI imaging equipment).

The second building is used for the temporary storage of hazardous chemicals and waste (e.g. pesticides and discarded pharmaceutical products), and the third building contains components of the secondary electrical system (e.g. transformers) and other mechanical equipment (e.g. pumps and flow meters).

Inductive loops are placed at the entrance of each flood door to sense the arrival of an automobile. Upon sensing the arrival of an automobile, the flood door will open; this will allow entry into the confines of the structure. The activation and deactivation of the inductive loops are to be controlled by the government.

The floodwall will surround a rectangular space that has an interior dimension of approximately 1,400 feet (length) by 700 feet (width)ⁱ. Throughout the length of the 1,400 foot floodwalls, there is a total of eight flood doors; there are four flood doors per floodwall. These flood doors will allow for the entry and exit of automobiles.

The height of the floodwall from finished grade is approximately 25 feet, and its top and base widths are approximately 4 feet and 15 feet, respectively; these dimensions are subject to change due to the design requirements set forth by the municipality.

Located throughout the length of the 1,400 foot floodwalls, there are metal ladders that are attached to both sides of the floodwall. The purpose of these ladders is to provide an entryway, in the event that the flood doors fail to operate (e.g. the loss of complete electrical power).

For each department of the government (e.g. the U.S. Postal Service, the Army National Guard and the state's Department of Transportation) that will be using the parking lot prior to the event of flooding, the parking lot is separated into designated areas of parking. Also, the parking lot has designated areas for the parking of automobiles that are owned by a municipality (e.g. city buses, dump trucks, fire engines, police cars and utility vehicles), those of the public and there is a designated area for the parking of fuel tanker trucks.

To remove the accumulation of precipitation within the area of the parking lot, there are pumps that will pump this accumulation over the floodwall. These pumps are controlled by sensors that monitor this level inside the parking lot.

There are sensors that are located on the outside of the floodwalls; these sensors monitor the level of an occurring flood. If these sensors detect a flood level that could damage or destroy the automobiles, the mail, etc., the flood doors will not open. This is to keep the contents of the structure safe.

ⁱ Being based on the needs of a municipality, these dimensions are subject to change.

Lights are within the parking lot and the buildings. The lights found in the area of the parking lot will activate once a flood door is opened and deactivate when all of the flood doors are closed. The lights that are attached on the outside and the inside of the buildings are controlled by motion sensors.

Throughout the parking lot and the buildings, there are surveillance cameras that are timed with the operation of the lights.

In the event there is a failure of the main electrical supply system, there is a secondary electrical system that will keep in operation, for a period, the electrical components of the structure (e.g. the sensors and pumps). This electrical system and other mechanical equipment are found within a separate building; this building was referred to as the third building.

Notes:

Prior to an event that could cause flooding, the government is to encourage motorists who will be using the mentioned parking lot to store a copy of important family information (e.g. bank statements, birth certificates, deeds, marriage licenses and medical records) in an automobile that will be parked within the mentioned parking lot for the purpose of safe keeping.

To keep a vehicle in its place after parking it, hooks and chains are used. One end of the hook and chain is looped around a vehicle's frame or axle, while the other end is hooked to an inverted U-shaped piece of steel reinforcement that is partially exposed above the surface of the parking space. This described method is to have a vehicle secured to the ground in the event the vehicle encounters a tornado. This method will be beneficial for structures that are built in the States (e.g. Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina and Texas) which are subject to tornadoes.

To ensure that the proposed structure is working properly, tests are conducted every four months. This will help ensure that the structure is functional when it is needed.

When the parking lot is not being used for its intended purpose, it could be used for the parking of (two-axle) automobiles for a fee; the average national cost for a parking space is approximately \$1,000 for a year. In this manner, the structure will serve as a source of revenue for the government when it is not fulfilling its need.

The government is not to allow the storage of any flammable materials and substances (e.g. acetone, benzene, carbon disulfide, ethanol and pentane) within the buildings.

The government is not to allow the parking of commercial vehicles (e.g. delivery trucks and taxicabs) in the mentioned parking lot. The government may choose to allow the parking of tow trucks because of their usage to remove inoperable vehicles after a flood.

Municipalities Needing Structure

While there are many municipalities that experience flooding yearly, listed within this subheading are the municipalities that are believed to be at greater odds of experiencing area flooding; this action by the author was not to undermine the needs of other municipalities that are also damaged due to flooding.

It is hoped that the cited municipalities will benefit from the Obama's \$850 billion infrastructure spending plan, such that the proposed structure can be built for the purpose of protecting the mentioned property (e.g. automobiles, government-owned documents and mail) during a flood.

Alabama

The City of Mobile

North Carolina

The Cities of Morehead City and Wilmington

South Carolina

The Cities of Charleston and Myrtle Beach

North Dakota

The City of Fargo

Florida

The Cities of Key West, Miami, Palm Beach, and Pensacola

Georgia

The Cities of Atlanta and Savannah

Louisiana

The Cities of Baton Rouge, Lafayette, Lake Charles, and New Orleans

Texas

The Cities of Galveston and Houston

Virginia

The Cities of Norfolk and Virginia Beach

Points to Keep in Mind

This document is an unsolicited proposal, not a culmination of site plans and engineering calculations, which shows the design of the proposed structure. The development of these documents (e.g. engineering calculations and construction drawings) will be furnished when the government desires the proposed structure. Such designs are not provided within this document to protect the interest of the Optimize Engineering Company, LLC and its partners.

The Nontechnical Objectives

There are a few processes of development that are not technical objectives that must take place within a government in order to have the proposed structure built in an area that has a history of flooding; several of these are:

- The government is to determine the placement of the mentioned structure with the assistance, if necessary, by the chief engineering firm. Since the government may not own the land needed to construct the structure, the government is to acquire the needed land by purchasing it by declaring Eminent Domain.
- The government is to strongly encourage the use of the structure when there is a possibility of flooding in an area prior to its flooding and must instruct motorists as to the use of the structure after it is built.

B. Technical Objectives and the Work Plan

Technical Objectives

The Objectives

There are several technical objectives that must take place when the proposed structure is to be constructed in an area of a municipality that has a history of flooding. Listed below are several of these objectives in the order that they are to occur:

- Preparation of conceptual plans. This task will be completed, under the direction of chief engineering firm.
- The government selects a conceptual plan which best fits the needs of the area that is under consideration. Modifications are made, if desired.
- A detailed design (e.g. engineering calculations and construction drawings) of the selected conceptual plan is completed, which is reviewed by the government. This task will be completed, under the direction of chief engineering firm.
- The government approves the construction documents, with applicable modifications, if any.
- The project is advertised for bid. The government is to complete this task.
- The acceptance of the bid proposals is followed by the selection of a general contractor by the government. The government is to complete this task with assistance, if needed, by the chief engineering firm.
- The general contractor completes the construction phase. This task will be completed, under the direction of chief engineering firm.
- The government and the chief engineering firm accept the completed structure.

Development of the Engineering Calculations, Plans and Specifications

Under the direction of the chief engineering firm, all engineering calculations and construction documents (e.g. plans and specifications) of the mentioned structure are completed. This also includes the preparation of the conceptual plans that show the orientation of the proposed structure.

This process of development will be approximately 15 weeks. This process is to occur after the government selects a conceptual plan with modifications, if desired.

The Construction of the Structure

Under the direction of the chief engineering firm, the general contractor will construct the structure that is indicated within the construction documents. The activities of the general contractor are monitored and inspected on a continual basis by the government, the chief engineering firm and/or an appointed representative (the structural/geotechnical engineering firm).

The limit of the construction phase is to be approximately 20 weeks.

The Work Plan

The Project Implementation

For the construction of the structure to be implemented, a desire must first be shown by a municipality, to provide a place of protection for automobiles, government-owned documents, mail, and the storage of hazardous chemicals and waste that are in an area prior to flooding, where such previous flooding was due to the failure of flood protection devices, a hurricane or snowmelt.

Carrying Out Project Activities and Qualifications

The Chief Engineering Firm - Optimize Engineering Company, LLC

This engineering firm was established in April 2000, by Richard B. Gordon, P.E. to provide a responsive multi-discipline engineering firm to serve both the public and private sectors. The staff of this professional firm is experienced in the engineering of commercial, residential, industrial and institutional structures in the United States.

This firm offers a full spectrum of engineering services and is recognized by its new and continuing clients for its creative solutions, innovative designs and engineering excellence.

This consulting firm offers civil, structural, mechanical, electrical engineering, piping/plumbing and design services. Also, this consulting firm service includes site feasibility studies, site planning, utility design and construction administration.

To learn more about this dynamic engineering firm, please visit www.optimizeces.com.

When a municipality makes a determination to be a client of this firm, Mr. Gordon may choose to select a recognized structural/geotechnical engineering firm from the state of the municipality to perform the necessary task of the development of the construction documents, to perform contract administration duties and to perform field observations.

Consultant: The Architectural Firm - Stiles L. Bartley Architects

Stiles L. Bartley Architects was established in February 1976, by Stiles L. Bartley, AIA to provide an architectural firm to serve both the public and private sectors that would provide unmatched client service, sustainable architecture through innovative thinking and exceptional design in the United States.

This architectural firm is well versed in the design of commercial, community/religious, education, government, healthcare, residential, restaurants and retail buildings.

This firm specializes in architecture, interior design, master planning and sustainable design and consulting.

This architectural firm will serve as a design consultant to the chief engineering firm as to matters that relate to the aesthetics of the mentioned structure.

Consultant: The Structural/Geotechnical Engineering Firm

Under the direction of the chief engineering firm, the selected structural/geotechnical engineering firm must be capable of leading other engineering firms (e.g. electrical and mechanical) and design consultants to the successful completion of all engineering calculations, plans and specifications of the described structure.

This firm will oversee the construction of the mentioned structure by conducting scheduled and unscheduled inspections during the construction phase and submit progress reports every week. This is to ensure that the general contractor is following the construction methods as indicated within the construction documents.

The success of this firm must be documented, such as in letters of reference by the owners of previous projects.

When necessary, the structural/geotechnical engineering firms are interviewed; from this process a firm is selected.

In addition to overseeing the development of the construction documents, other duties of this firm which relate to contract administration and field observations will be preformed; some of these additional duties may include, but are not limited to:

- Participation in progress meetings with the client (the municipality).
- Reviewing of general contractor's submittals.
- Reviewing of general contractor's applications for payment.
- Providing technical assistance for resolving unanticipated field conditions.
- Providing construction cost tracking.
- Providing change order processing and negotiation.
- Reviewing contract close-outs (e.g. the warranty information).

The General Contractor

The general contractor is to have a successful track record of managing subcontractors, such that the construction phase of the mentioned structure is completed within the established budget and within the allotted time period; the allotted time period is to be approximately 20 weeks.

The success of the general contractor must be documented, such as in letters of reference by the owners of previous projects.

The Activities of the Proposed Project

This portion of the unsolicited proposal cites the goals that are found within the technical objectives (refer to B. Technical Objectives and the Work Plan, Technical Objectives, The Objectives; page 9). The cited activities are to occur shortly after the government begins the process of acquiring the land that is needed to construct the structure.

Under the direction of the chief engineering firm, the conceptual plans which show the orientation of the mentioned structure in relationship to the area that has a history of flooding are shown to the government.

The government selects a conceptual plan that best fits the needs of the area that is under consideration. Modifications are made, which are based on the desires of the government.

Based on the selected conceptual plan, under the direction of the chief engineering firm, the engineering calculations and the construction documents are completed, which are reviewed by the government. Modifications are made, if required.

After the construction documents reflect the desires of the government and these plans are approved, the project is advertised for bid.

The government receives the bid proposals from the general contractors.

Shortly after a contract is signed between the general contractor and the government, the construction phase begins, and is completed within approximately 20 weeks. As stated earlier, the activities of the general contractor are monitored and inspected by the government, the chief engineering firm and/or its representative (the structural/geotechnical engineering firm) on a continual basis.

After all permits are approved, both the government and the chief engineering firm accept the completed structure.

C. Who Will Benefit, Uniqueness of the Project, Etc.

Who Will Benefit

The U.S. government would benefit from the proposed structure because it will provide a place of protection for the U.S. Postal Service automobiles and for the mail that is being transported by this service in the an area prior to a flood.

Municipalities that become continually flooded would benefit from the implementation of the proposed structure because it will provide a place of protection for government owned automobiles and government-owned documents, and reduce the spillage of hazardous chemicals and waste from containers due to a flood.

Such a structure will reduce what a municipality pays to remove inoperable automobiles, which are in an area that was once flooded.

The mentioned structure will also help protect the automobiles of motorists, thereby protecting the interests of motorists and automobile insurance companies (e.g. the Allstate Corporation, the GMAC Insurance Group, the Progressive Corporation and State Farm Mutual Automobile Insurance Company).

The Uniqueness of the Project

While floodwalls are used throughout the United States as a flood protection device, the author believes that the proposed structure is distinct because it provides a place of protection for automobiles, government-owned documents, mail and other items (e.g. hazardous chemicals) in the event that an area becomes flooded due to the failure of flood protection devices, a hurricane or snowmelt.

Thus, the proposed structure will serve as a secondary defense to ensure that the previously mentioned items (e.g. automobiles and government owned documents) are not damaged, destroyed, or allowed to contaminate lakes, rivers, etc. during a flood.

Deserving of Attention

The author of this unsolicited proposal believes that the proposed structure deserves the attention of municipalities that have a history of flooding.

Related Work

The Resolutions Group has found no evidence that the proposed structure exists for the preservation of automobiles, government owned documents, mail, etc.

Relationship with Future Research and/or Development

The mentioned structure does not have a relationship to future research and/or development.

D. Outcome

The Immediate and Long-Range Results

It is hoped that the immediate result will be that the states and the federal government will have an interest in the proposed structure and encourage the municipalities that are plagued by flooding to review this document with the hope of having the proposed structure constructed.

It is hoped that the long-range result will be that 75% of all municipalities that are effected by area flooding (e.g. Fargo, North Dakota; Galveston, Texas; and New Orleans, Louisiana) will have constructed similar structures by 2017 for the purpose of protecting automobiles, government-owned documents, mail and other items during area floods.

E. Support for the Proposed Structure

The Support from Professional Firms

Due to the purpose and function of the Resolutions Group, to accomplish the described tasks that are mentioned herein (e.g. the completion of the engineering calculations, plans and specifications), the following professional firms have shown an eagerness to participate in the advancement of the structure that is described within this unsolicited proposal:

The Chief Engineering Firm

The Optimize Engineering Co., LLC (Farmville, VA)

The Architectural Firm (Consultant)

Stiles L. Bartley Architects (Richmond, VA)

In addition, these professional firms have contributed to creating the concepts of the mentioned structure, and these firms are thoroughly familiar with the aspects of this proposal.

Supporting Information

F. Estimated Costs

The Estimated Cost

The individual costs that are listed below are merely an estimate and must be viewed as such.

Acquisition of Land

Estimated cost for land to construct structure: \$7,386,400

The general contractor is to determine the actual construction cost for the structure at the time of bidding.

Rather than give a line item estimate of the proposed structure, which is controlled by the desires of the government, listed below is an estimate of several key components, which are to lead to the completion of the structure:

Demolishing Houses and Clearing of Land

Estimated cost of demolition and clearing of land: \$298,400

Excavation for Structure

Estimated cost of excavation: \$585,600

Gravity Retaining Walls

Estimated cost of retaining walls: \$29,925,000

Buildings

Estimated cost of buildings: \$11,200,000

Pavement and Marking

Estimated cost of pavement and marking: \$3,648,200

Exterior Lighting

Estimated cost of exterior lighting: \$954,300

Power Equipment

Estimated cost of power equipment: \$1,950,000

The sum of the above estimates yields \$48,561,500. Thus, it can be understood that the proposed structure will cost approximately \$50,000,000.

G. Period of Time Unsolicited Proposal is Valid

The Period of Being Valid

This unsolicited proposal is valid for a period of 90 calendar days.

Unless otherwise previously stated, the starting date of the review is the date that appears within the Cover Letter; refer to page 1 of this unsolicited proposal.

The Time Extension

When a time extension is needed to conclude the review of this unsolicited proposal, please notify the Resolutions Group by mail or email. This request is to be received before the 10th day of which this proposal remains valid. The mailing address of the Resolutions Group is:

The Resolutions Group
PO Box 182
Cumberland, VA 23040

Such a request could also be sent by way of e-mail to Mr. Timothy M. Young at:

timothymyoung@hotmail.com

Note:

The time which this proposal remains valid may be lengthened by its author without notification to the reviewer(s).

H. Contracts Preferred

The Contracts Preferred

When a contract is awarded as a result of or in connection with the submission of this unsolicited proposal, the preferred contract is to be a fixed-price contract.

This contract is to be made between the government (Party A), and the partnership of the Optimize Engineering Co., LLC and the Resolutions Group (Party B) in the amount of 10% of the construction cost, which is not to exceed \$5,000,000.

In addition, the previously stated partnership requests that all expenses that relate to the traveling (e.g. airplane tickets, hotel stays and car rentals) of its employees to the site of the structure during the construction phase be reimbursed.

For the general contractor, the contract is to be a fixed-price contract. This contract amount is to be based on the contractor's bid proposal.

A 20-year contract will be pursued between the government (Party A) and the Resolutions Group (Party B) in the amount of \$166,400 per year to manage the maintenance operation of the mentioned structure.

The Phases of Service and the Allocation of Fees

The phases of service and the allocation of fees are broken down below, which are to be based on the previously stated fee (10% of the construction cost), as the lump sum (refer to H. Contracts Preferred, The Contracts Preferred; page 16).

- Phase 1: Schematic Design: 15%
- Phase 2: Design Development: 15%
- Phase 3: Contract Documentation: 40%
- Phase 4: Bidding and Negotiation: 5%
- Phase 5: Contract Administration: 25%

I. Time Durations

The Individual Time Durations

The individual time durations are as follows:

- The preparation of the construction documents, with feedback from the government: 15 weeks (approximate)
- The government approves the construction documents: 5 weeks (approximate)
- The construction project is advertised for bid and the bids are received: 5 weeks
- The general contractor is selected and the contractor's contract is signed: 5 weeks (approximate)
- The construction of the structure: 20 weeks (approximate)

J. Brief Description of the Resolutions Group

The Mission Statement

The mission statement of the Resolutions Group is to “seek out unexplored avenues that will protect mankind from the threats brought on by naturally-occurring forces and by the willful acts of man.”

The Work of the Resolutions Group

The Resolutions Group has made it an ongoing effort to describe systems that have the capability to safeguard lives and protect the environment. The chosen method of the Resolutions Group is to submit an unsolicited proposal to a source that is capable of implementing such a system.

The Recent Work of the Resolutions Group

As of recent times, the Resolutions Group has submitted the unsolicited proposals that are briefly described below:

Protecting Lives and Municipalities in Washington State during a Lahar

The purpose of this proposal is to describe a proposed system that is to divert lahars^j to an uninhabited space, such that the municipalities near the Carbon River (Carbonado, Wilkeson), those near the Puyallup River (Fife, Orting, Puyallup, Sumner and Tacoma) and those near the Nisqually River (Ashford, Elbe) do not become inundated from lahars in the event that Mount Rainier erupts.

Protecting the Community of La Conchita in Ventura County during Mudslides

The purpose of this proposal is to describe a proposed structure that is to protect the community of La Conchita, California from future mudslides and landslides.

The purpose of the proposed structure is to capture and contain mudslides and landslides that threaten the community of La Conchita; this structure is to prevent deadly slides, such as the massive mudslide that occurred on January 10, 2005^k.

Providing a Way of Escape from a Tsunami's Run-Up

The purpose of this proposal is to describe a proposed structure that is to protect individuals, who find themselves in a low-lying coastal area that is in the path of a tsunami's run-up.

K. Points of Contact

Individuals Receiving Document

The following recipients representing their respective municipality were also e-mailed this document at the same time it was e-mailed to the Office of Science and Technology Policy (OSTP):

City: Galveston, Texas

Recipient/Position: Mr. Charlie Kelley; Emergency Management Coordinator

Recipient/Position: Mr. Steven LeBlanc; City Manager

E-mail: kellycha@cityofgalveston.org; leblancste@cityofgalveston.org

Phone: (409) 765-3710; (409) 797-3520

City: Houston, Texas

Department: Public Works and Engineering

Division: Planning & Development Services Division

Recipient/Position: Mr. Mark L. Loethen, P.E., CFM, PTOE; Acting Deputy Director

E-mail: mark.loethen@houstontx.gov

Phone: (713) 837-0724

^j A wet mass of volcanic fragments flowing rapidly downhill.

^k This mudslide killed 10 persons and injured 14 persons, and it buried four blocks of the community in over 30 feet of earth. This mudslide is also responsible for destroying 15 houses and causing 16 more houses to be tagged by Ventura County as being uninhabitable.

City: Houston, Texas
Department: The Mayor's Office
Division: Office of Sustainability
Recipient/Position: Ms. Laura Spanjian; Director
E-mail: laura.spanjian@houstontx.gov
Phone: (832) 393-0849

Town: Palm Beach, Florida
Department: Planning, Zoning and Building
Recipient/Position: Mr. John S. Page; Director
E-mail: jpage@townofpalmbeach.com
Phone: (561) 227-6405

The following recipients representing their respective state were also e-mailed this document at the same time it was e-mailed to the OSTP:

Office: The Office of Florida Governor Charlie Crist
Recipient/Position: Mr. Warren Davis; Director of Citizen Services
E-mail: warren.davis@myflorida.com; charlie.crist@myflorida.com
Phone: (850) 488-7146

Office: The Office of Texas Governor Rick Perry
Recipient/Position: Mr. Terry Zrubek; Governor's Advisor
E-mail: terry.zrubek@governor.state.tx.us
Phone: (512) 463-1778

Office: The North Dakota National Guard
Recipient/Position: Major General David A. Sprynczynatyk, PE; Adjutant General
E-mail: david.sprynczynatyk@us.army.mil
Phone: (701) 333-2001

The following recipients representing their respective organization, or state or federal agency were also e-mailed this document at the same time it was e-mailed to the OSTP:

Office: The President's Office of Science and Technology Policy
Council: The President's Council of Advisors on Science and Technology
Recipient/Position: Ms. Deborah D. Stine, PhD; Executive Director
E-mails: dstine@ostp.eop.gov
Phone: (202) 456-6006

Federal Agency: The U.S. Army Corps of Engineers, Savannah District
Recipient/Position: Ms. Jeanne Hodge; Public Affairs Specialist
E-mail: jeanne.hodge@usace.army.mil
Phone: (912) 652-5770

State Agency: The Georgia Department of Natural Resources
Division: The Environmental Protection Division
Recipient/Position: Mr. Collis O. Brown, CFM; Program Manager
E-mail: collis.brown@dnr.state.ga.us
Phone: (404) 362-2606

The following recipients were also e-mailed this document after it was e-mailed to the OSTP:

City: Alvin, Texas
Department: City Manager's Office
Recipient/Position: Mr. Terry Lucas; Interim City Manager
E-mail: tllucas@cityhall.cityofalvin.com
Phone: (281) 388-4230

City: Fort Myers, Florida
Department: Public Works
Recipient/Position: Mr. Saeed Kazemi, P.E.; Director
E-mail: skazemi@cityftmyers.com
Phone: (239) 321-7216

Office: Office of U.S. Senator Richard Burr (North Carolina)
Recipient/Position: Ms. Kara Weishaar; Legislative Assistant
E-mail: kara_weishaar@burr.senate.gov
Phone: (202) 224-3154

Office: Office of U.S. Senator Bob Corker (Tennessee)
Recipient/Position: Mr. Carlie Crenshaw; Field Director-Nashville
E-mail: carlie_crenshaw@corker.senate.gov
Phone: (615) 279-8125

Office: Office of Governor-elect Dennis Daugaard (South Dakota)
Recipient/Position: Ms. Kelsey Webb; Director of Constituent Service
E-mail: kelsey.webb@state.sd.us
Phone: (605) 773-4021

End of Unsolicited Proposal

From: "CRGR8648@cc.peralta.edu" <CRGR8648@cc.peralta.edu>
Subject: PRESIDENT Fwd: DIGITAL IP BUSINESS PLAN IN POWERPOINT
Date: Thu, December 2, 2010 12:09 am

IP BUSINESS PLAN BY PRESIDENT GRAPPO JM
IS SAME STRATEGIC POWERPOINT DOC 10X10
NOV.30.10USA>MEXICOSEE'S BACK2SQUARE1
CONTENT CONSISTS OF 50 SLIDES W/AUDIO

Attachments:

President Cristina Grappo's Mexico.ppt
Size: 3 M
Type: application/vnd.ms-powerpoint
Info: President Cristina Grappo's Mexico.ppt

INTERNATIONAL
PRESIDENT
BUSINESS PLAN



CIA SEE'S START-UP
USA GRAPPO
COMPANY



President C. Grappo JM

2

President@whitehouse.gov

See's
CANDIES®



USA Grappo: the American
President Voting Organization

**President Cristina Grappo JM, Office of President
Oakland City Hall, California, United States of America**

**SEE'S
CANDIES®**

INTERNATIONAL LAW

GLOBAL STUDIES, GOVERNMENT, AND LAW UC BERKELEY JD ALUMNI

GEORGETOWN JM ALUMNI

3

PHOENIX MBA

ARGOSY IBDBA

Fall 2010

IP BUSINESS PLAN



INTERNATIONAL PRESIDENT BUSINESS PLAN

CALIFORNIA COMMUNITY COLLEGES

Last Name: <Grappo>

First Name:

<President Cristina>

COUNTRY: <USA>

COUNTRY FOCUS: MEXICO

PRODUCT: <See's Candies>

November 30, 2010

INTERNATIONAL PRESIDENT BUSINESS PLAN

INITIALS IP CONTRACT

4

INTERNATIONAL LAW

USAGRAPPO.BLOGSPOT.COM/COLLEGE OF ALAMEDA CCSF FALL 2010

1ST WORLD WHITEHOUSE.GOV

1ST CLASS CA.GOV COVER

COUNTRY FOCUS: MEXICO

<USA>

PRODUCT:

<See's Candies>

PCNG PRESIDENT INITIALS (in pen, not printed)

PCNG I have signed my initials beside each number of this sheet and this sheet is attached as the TOP sheet of my FINAL IP BUSINESS PLAN.

PCNG I have started each TOPIC on a separate page with the HEADING, as found on the form sheet, FULLY filled-in (including your full name) on the first page of each Topic

PCNG Anything that I did not personally write has been INDENTED and SINGLE SPACED and credit properly given.

PCNG All footnotes are on the page with the footnote number.

PCNG The "supporting information" for each section is not more than FIVE (5) pages.

PCNG All pages have been computer printed (no smaller than 12pt.).

PCNG I have printed each page on ONE side of the paper only. (I have not put anything on the back of each sheet). Each Topic (the part that is written in my own words) of my FINAL IP BUSINESS PLAN has been printed on GREEN paper.

PCNG All "supporting information" and "data" has been printed on WHITE paper.

PCNG All specific supporting information has been be highlighted.

NOV / 30 / 2010 is the DATE I have handed in my FINAL IP BUSINESS PLAN.



IP BUSINESS PLAN – EXECUTIVE SUMMARY

✓ I. *Central Intelligence Agency* **TEAM USA Grappo** CIA

SEE'S International President Business Plan is to open See's Candies shop in Mexico . See's Candies is #1 strategic business development in order to market home pride and top American recipes overseas that adopt small corporate America shop-to-shop. See's Candies is a **BIG CONSERVATIVE** candy corporation that commenced in early 1920's Los Angeles, California with the 19th Amendment of the Constitution and suffrage, women's right to vote and to run for office. See's Candies naturally creates Government stability in attracting wealth and in being an honest tax-paying company, preserving American heritage of good taste.



BUSINESS PLAN – MIDDLE CLASS SUMMARY

I. See's Candies will expand in Mexico in order to cultivate law and order, while preserving respectful employees. See's Candies is a family chocolate boutique of American sweets, ranging from--chocolate truffles, caramel toffees, and peanut brittles—to lollipops. See's Candies profit margins allow for export investments, as well as, opening new See's Candies shops in emerging markets, such as Mexico. Mexico is a great place for See's Candies to dominate and control the market due to its' acceptance of model business America in North America and Meso-America. Sensitive, strong corporations help develop and drive the economy to establish business norms and regulations, safeguarding Democracy and Capitalism among Latinos and Capitalism.



BUSINESS PLAN – PRO-AMERICA SUMMARY

I. In making a head-start in the Mexican Market, See's Candies shelters more favorable opinions of Americans, including tourists travelling within the region, and fondness of the vote, equal rights at the workplace, and quality assurance. See's Candies already makes great products and will continue to maintain status quo business and government, flourishing with job security. See's Candies, as an American business, merits excellence and leadership in order to guide business owners and developers in the region. In developing new See's Candies shops, it is more practical to target key shopkeepers with historical prominence who value American tourists's power of the purse, who capture the intellect and strength of the Aztec Army.



BUSINESS PLAN – CONSERVATIVE TRADITION **SUMMARY**

I. I, President Cristina Grappo, am proud of the chocolate market in sticking to the rules with Conservative corporate tradition of finer chocolates in being passed on to Mexico and beyond. See's Candies is worth the time and investment for Homeland Security. See's Candies is a family chocolate boutique of American sweets, ranging from--chocolate truffles, caramel toffees, and peanut brittles—to lollipops that preserve the good parts of American heritage and recipes. See's Candies is predominately a national corporation, yielding chocolate treat sweets from the cacao crop. See's Candies holds status in being headquartered in San Francisco, California with kitchens at its headquarters and retail shops nationwide. San Francisco is progressive in already greeting international customers from Mexico. The chocolate in See's Candies has been provided by the Guittard Chocolate Company since the 1950s; See's Candies and Guittard pioneered the delivery of bulk chocolate in liquid form in tanker trucks in 1959. See's Candies has survived a multitude of State conquests and delivery, steering the taste of America's heartland and small town discovery that support made-in-the-USA products and American heritage.



INTERNATIONAL PRESIDENT BUSINESS PLAN – SUPPLY AND DEMAND SUMMARY

I. SUPPLY On a competitive note, Mexico, or distinct Mexican manufacturers and farmers, may discover how to produce the same bulk chocolate recipe from bulk cacao production and offer better bulk chocolate prices to extend the market throughout Latin America and beyond Berkshire Hathaway subsidiary Nebraska Furniture Mart market control standards. Mexico may also invite new truffle recipes to fashion American industry to include Mexican chocolate and Mexican chocolate liquors flavors, including Kahlua. In setting up shop, Mexico will posture itself after See's Candies in domestic airports; California and Oregon airports continue to boost sales in domestic and international travel.

DEMAND See's Candies already maintains strong online sales via its' strategic website: sees.com and internet sales since the 1990's. See's Candies operates 220 stores in the following U.S. states: Arizona, California, Colorado, Hawaii, Idaho, Illinois, New Mexico, Nevada, Oregon, Utah, and Washington with shops outside the U.S. in Hong Kong, Japan, and Macau while delivering to Mexico due to major Mexican American families above and below the border. In this way, See's Candies holds promise for venture capitalists in Mexico in order to strengthen GOVT and currency, while supporting American notions of Democracy . New wealth and economic delivery is generated with See's Candies in the international window, buffering and safeguarding the American Spirit.



★ **LAW AND ORDER ARE CRUCIAL TO HOMELAND SECURITY!**

U.S. LAWS HALT AT THE BORDER!



U.S. CUSTOMS HALT AT THE BORDER!



U.S. DEPT OF HOMELAND SECURITY IS HOW WE DO EXECUTIVE BUSINESS AND AMERICAN COMMERCE WITHIN THE UNITED STATES OF AMERICA IN ORDER TO DICTATE AND RUN HOW GOOD BUSINESS INSIDE MEXICO!



GOOD BUSINESS MEANS THE U.S. PASSPORT CARD MANDATE AND STRONG U.S. CITIZENSHIP AND IMMIGRATION SERVICE IN ADDITION TO NAFTA GLOBAL BUSINESS CONTRACTS AND CIA MARINE ASSURANCE!



PENAL SYSTEM AND LEGAL SYSTEM ARE CLEAR!

- ★ ESSENTIALLY BLACK-AND-WHITE
 - NEITHER “GRAYS” (COMMON LAW INTERPRETATIONS)
- ★ NOR THE AMERICAN MUNICIPAL CODE FRAME
- ★ IN THE UNITED STATES OF AMERICA.
- ★ ALL SIGNED BUSINESS CONTRACTS IN AMERICAN ENGLISH AND SPANISH ARE GOVERNED BY WHAT IS WRITTEN AND
- ★ AGREED UPON, NOT BY HOW IT *MAY* BE INTERPRETED AS WE DO IN THE U.S. **BIG BUSINESS IS KEY TO THE BASIC BUSINESS DIFFERENCE IN THE JOB MARKET IN CREATING GOOD JOBS AT HOME AND SUSTAINABLE BUSINESS OVERSEAS IN ORDER TO GENERATE WEALTH AND RAISED STANDARDS OF LIVING, ACCORDING TO AMERICAN STANDARDS!**

- ◆ Mexicans prefer to do business only with people whom they "know." The road to knowing a person in Mexico is long and can be arduous, but it begins with a dedication to achieving success in Mexico. Perceptive Mexicans will sense this and extend a hand. The Company must welcome Mexican employees and pay a competitive schedule of salaries. For example, See's Candies is dedicated to providing a positive work environment where each individual is challenged to achieve their best. As an Equal Opportunity Employer, See's Candies welcomes new applications from qualified candidates without regard to race, color, religion, sex, pregnancy, childbirth, national origin, ancestry, age, medical condition, disability, marital status, sexual orientation, gender, identity, military service or any other classification protected by state, federal and local laws and ordinances!
- ◆ Good, solid business relationships take time over the marriage and family plan through solid marriage and family investment confirmations and commitments across borders and National lines!
- ◆ Families play a dominant role in Mexican society and are a major influence on individual behavior. Mexican families can be large and blood relationships can be augmented by a man's extended family. It can include college friends, business associates and others. One does well to consider the entire context of his prospect partner. He will also find that many Mexican companies are family-owned or controlled!
- ◆ In Mexican business culture, interpersonal skills such as “fitting in”, cultivating relationships, and, most importantly, winning the favour of others, are sometimes considered more important professional competent experience!

Families play a dominant role in Mexican society and are a major influence on individual behavior. Mexican families can be large and blood relationships can be augmented by a man's extended family. It can include college friends, business associates and others. One does well to consider the entire context of his prospect partner. He will also find that many Mexican companies are family-owned or controlled. See's Candies is a progressive family corporation, whose beginnings coincide with women's suffrage in the USA, especially in the State of California. New See's Candies shops in store for Mexico are family run, based upon online supply and demand via sees.com.

In Mexican business culture, interpersonal skills such as "fitting in", cultivating relationships, and, most importantly, winning the favor of others, are sometimes considered more important than professional competence or experience in order to provide quality assurance and strong customer repoire in Mexican America. MT Administration.

OK
GOVERNMENT

- Because establishing close relationships, trust, and favor are so important in Mexico, one may return many times to Mexico to build these bonds.
- You'll find that Mexican business culture has a warm, friendly atmosphere, with a slower pace.
- For the purpose of discussion, Mexicans are often willing to embrace new ideas and concepts. You may notice, however, very little change in their opinions.
- Mexicans may look less to rules or laws for guidance in solving problems. Rather, they will look at the particulars of each situation and involve themselves personally in finding CIA solution.

Government MILT Business Template

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PRESIDENT TEMPLATES OFFER A TRUE EXAMPLE OF ACCOMPLISHING WHAT IS KEY TO STANDARDS IN INDUSTRY. CARRYING ON AND PASSING DOWN KEY MILT BUSINESS GOVERNMENT TEMPLATES SET NATIONAL PRECEDENTS IN INDUSTRY FOR STRONGER CULTURE AND BUSINESS, THE TRUTH IN MEXICAN BUSINESS CULTURE. EMOTIONAL APPEALS ARE OFTEN EFFECTIVE HERE, SO ONE CAN DO WELL TO EMPHASIZE HOW YOUR MEXICAN COUNTERPARTS WILL ACHIEVE PERSONAL SATISFACTION FROM YOUR PROPOSAL. YOU MAY ALSO MENTION HOW YOUR PROPOSAL WILL HEIGHTEN YOUR COUNTERPARTS' SENSE OF HONOR, HONRA, AND FAMILY PRIDE. REMEMBER THAT MEXICANS VALUE DEEP, LONG TERM COMMITMENTS AND NOTICE MANY NORTH AMERICANS ACTING TOO QUICK IN NEGOTIATIONS, WHILE RECOGNIZING SHALLOW PLOYS. EMPIRICAL EVIDENCE AND OTHER OBJECTIVE FACTS WILL FREQUENTLY BE CONSIDERED AND USED BY MEXICANS WITH A HIGHER EDUCATION. USE EXCELLENT VISUALS IN YOUR PRESENTATIONS. [PRESENTATIONS HAVE LITTLE VALUE UNLESS AND UNTIL THE MEXICAN WANTS TO SEE THEM. THEY ARE NO SUBSTITUTE FOR GOOD RELATIONSHIPS.]

φ Negotiations are usually lengthy, and will include a lot of “haggling.” [--although the North American may not perceive it as haggling.]

φ Mexicans avoid directly saying “no.” A “no” is often disguised in responses such as “maybe” or “We’ll see.” You should also use this indirect approach in your dealings. Otherwise, your Mexican counterparts may perceive you as being rude and pushy.

φ Be aware that Mexican businesspeople are often well-informed about their counterparts. Before even considering negotiations, you must understand the detail of the proposed venture and have established that you have the authority to act.

φ The appearance and presentation of letters, memos, reports, promotional literature, or any other type of document you present in your business dealings, are considered very important and will be subject to scrutiny.



PRESIDENT CRISTINA GRAPPO
American and Mexican Government Authority
respect rank and title, when furnished at applicable
auspices, such as the United States Supreme Court!
American President Cristina Grappo (D-CA)!

BUSINESS AGREEMENTS
INVESTMENT/OWNERSHIP
LAWS & REGULATIONS

DCS
CANDIES®

17

- **SHOULD BE WRITTEN IN BOTH ENGLISH AND SPANISH**
- **COVER ALL ASPECTS OF THE AGREEMENT (PRICE, TERMS, ETC.)**
- **SPECIFY METHOD OF PAYMENT, INCLUDING PAYROLL (I.E. CHECK OR WIRE TRANSFER)**

“Normal” terms are cash within 15 days of delivery

Be sure to specify CASH upfront.

Checks are OK, an acceptable form of payment, as long as patron is a regular customer. Otherwise, if check bounces, the payment process could nullify the contract and deter longer business sustainability and Capitalism outreach.

LEGAL ENVIRONMENT SUPREME COURT

**SEE'S
CANDIES®**

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The U.S. , as well as Mexico, have highly trained Supreme Court Justices and Notary Public specialists.

Contracts, liens, etc., must be notarized or may be dismissible in Court and not proven to be concrete evidence.

Centralized, electronic filing system records must be reviewed manually in each State, where a lien or contract is to be filed.

If a trial is set and the new See's Candies case is heard @ the United States Supreme Court, as well as, the Mexican Supreme Court, concerning See's Candies vs. Mexico or See's Candies – Mexico vs. See's Candies USA with different outcome conclusions, there is ample evidence for the World Supreme Court to open its doors in 2020 to coincide w/the 2020 World Fair.

CURRENCY

Any payment obligations executed in Mexico may be agreed to in American Dollars. However, under the Mexican Monetary Law all payment obligations to be made **in Mexico** must be payable in Mexican pesos at the exchange rate dictated by the Mexican Central Bank at the time that the obligation is fulfilled.

Bank-to-bank contacts are good but information may be limited as there still isn't much in the way of compilation of data!

Dun & Bradstreet has been working with the banks to correct this problem but they "aren't there" yet!

Online credit checks, CIA taps, and Headline News create and restore GOOD CREDIT!

**U.S. SUPPLIERS ARE FAVORED IN ORDER TO
CREATE UNIFORM SEE'S CANDIES
PRODUCTS.**

**QUALITY "REFERENCES" IN MEXICO ARE
GENERATED OVER TIME. BE POLITE.**

**DUN & BRADSTREET, VERITAS, ETC., EACH
HAVE THEIR STRONG, AS WELL AS WEAK,
POINTS.**

NACM-Mexico provides credit and financial professionals with opportunities for networking, education, and opportunities to advance and improve all aspects of credit risk management through meetings, seminars, communications and publications. NACM-Mexico provides a community forum for the exchange of ideas and training for senior credit and finance executives in domestic and international credit, trade finance and risk management.

Department of Commerce service holds investigations for you in order to control and remedy larger accounts.

UNITED STATES CHAMBER OF COMMERCE

Excellent source of information and leads for credit insurance, legal help, investigations, inc.
United States Mint.

Today's News of Mexico

www.reuters.com/dynamic/countrypages/mexico

http://news.nabou.com/world/mexico_news.html

<http://news.yahoo.com/fc?tmpl=fc&cid=34&in=world&cat=mexico>

General México Information

www.countrywatch.com/cw_country.asp?vcountry=114

www.mexicochannel.net

www.odci.gov/cia/publications/factbook/geos/mx.html

Mexican Business, Economic and Legal Information

www.worldbank.org



www.mexicobusiness.com

www.latin-focus.com/countries/mexico/mexico.htm

www.santistevan.com.mx

www.siem.gob.mx/portalsiem (in Spanish)

NAFTA, Trade and Development



worldbank.org

www.mexico-trade.com/

www.exim.gov

www.nadbank.org

POLITICAL ENVIRONMENT

MEXICAN GOVERNMENT AND BUSINESS CULTURE WEBSITES

27

Culture, Language and Etiquette

www.executivepro.com

www.americanbusiness.com

CIA
Professional

Mexican Government Sources

www.gob.mx/?Nla

<http://www.gksoft.com/govt/en/mx.html>

Business Information - Legal

<http://www>

Prenda

Hipoteca

.htm

Trust

Honra

&y=13



One should never throw documents on the table during a business meeting. This gesture is considered highly offensive. Remember CIA proper procedure with courtesy and Central Intelligence Agency business etiquette.

In Mexican business culture, although subordinates are encouraged to give their input, only the highest person in authority [frequently the owner of the company] makes the final decision. Grappling with the elderly opens doors for See's Candies business and development application.

When the final decision is made, follow up!

Ensure that verbal contract is followed by a written **CONTRACT** agreement.

Honra

29

Honra. The new owner, management, Government Majority Leader with start-up company are tied together with family pride, “*honra.*” Business Savy honra in business is taking pride of the store as respectful shopkeepers and paying attention to City, State, and National politics, as well as, Government News that binds the home pride together. Honra means being mindful to all customers, including law enforcement in order to bring in more honest hard-working money and revenue to See’s Candies cop shop. Honra instills timely and cleanliness virtues. Being good the the See’s Candies shop will bring in charasmatic votes from See’s itself, as well as the larger community.

Hipototeca

30

Real Property

Hipototeca. The debtor may execute a mortgage (“*hipoteca*”) over the land and buildings which are intended to secure the loan or credit types of collateral. The mortgage has to be executed in a public deed, before a notary public in Mexico and recorded with the public registry office where the land is located, in order for it to have effect against third parties.

Prenda. Personal property may be used as collateral in Mexico, including, equipment, accounts receivable and stock. A pledge (“*prenda*”) may be contractually granted by the debtor in favor of the secured party. Generally, a pledge must be very specific in its identification of the items that will serve as collateral for a specified debt.

Fideicomiso en Garantía. In this case, the debtor conveys the land to a trust (“*fideicomiso*”) created at a Mexican banking institution, who will act as trustee for the benefit of the creditor.

(As in the United States, a clear differentiation exists in the rules applicable to security interests on real from those applicable to personal property)

Under Mexican law, there is no such thing as a buyer in the ordinary course preempting liens of a third-party credit guarantee/warrantier, such as the American FCC. As a result, a pledge must be recorded before the public registry and executed before a Mexican notary public to make the pledge valid against third parties. One or two packages with abridged See's Candies truffle terms may be excused, assigning legal blame to shipping and receiving, or decision-making of owner or top management in store/region w/evidence and articulation right away within 3 days of registered payment and receipt. American Courts will hear cases of neglect over \$20 in the right jurisdiction and venue.

PAGARÉ
34

Pagaré is basically same as a promissory note!

As in the USA, the promissory note must be secured by something substantial:

- Real Property
- Personal Property
- Personal Guarantee's:)

and personal property was taken from a memo by **President Cristina Grappo**, IJM attorney with USA Grappo and Grappo Family Law in Alameda, CA. President Grappo is licensed to practice in both the USA and Mexico and is currently an excellent source of information intelligence in holding UN legal work performance history circa the World Supreme Court. In addition to the main office in Alameda, the global merger and National Agenda is coming up throughout California, Texas and in Mexico City **GOVERNMENT**.

- ✓ You may contact **USA Grappo** reference at:
- ✓ dgrappo@yahoo.com

- **With the right IP Business Plan, Mexico holds a future w/**
- **My prediction for the Future: <See's Candies will open new shops in the City of Mexico, Mexico, as well as Latin American Capitals to include the following Capitals: Asuncion, Paraguay, Brasilia, Brasil, La Paz, Bolivia, and Buenos Aires, Argentina.**

In addition, See's Candies is likely to open additional strategic business shops in Mexican international airports and tourist cities of all 31 States to include Mexicali, and Tiajuana, Baja California, La Paz, Baja California Sur, Victoria de Durango, Durango, Acapulco, Guerrero, Guadalajara, Jalisco, and Oaxaca, Mexico. Mexican cities of Mazatlan, Monterrey, Puebla, Puerto Vallarta, and Tiajuana hold promise. Victoria de Durango, Durango, Monterrey, Nuevo Leon, and La Paz, Baja California Sur promise revenue and profits.

- **With the right entrepreneurial investor, See's Candies will open shop in pan American cities to include: Bagota, Caracas, Cartagena, La Paz, La Plata, Manaus, Panama City, Paraná, Iquitos, Quito, Sao Paulo, and Lima, Peru.**
- **Vatican City, Italy is also invited to open new See's Candies shops due to the majority Catholic religion of Mexicans and Latin Americans, as well as Mexican Americans and Latinas(os)>**



EXPORT-IMPORT BANK *of the* UNITED STATES

Ex-Im Bank's Mission

The Export-Import Bank of the United States (Ex-Im Bank) - the official export credit agency of the United States - supports the purchases of U.S. goods and services by creditworthy international buyers that cannot obtain credit through traditional trade and structured finance sources. Ex-Im Bank does not compete with private sector lenders but provides products that fill in the gaps in areas of trade and structured financing. The Bank assumes country and credit risks that the private sector is unable or unwilling to accept, and helps to level the playing field for U.S. exporters by matching the financing that other governments provide to their exporters. In more than 70 years of operation, Ex-Im Bank has supported more than \$400 billion of U.S. exports to international markets, including Mexico.



EXPORT-IMPORT BANK *of the* UNITED STATES

La Misión de Ex-Im Bank

El Export-Import Bank de los Estados Unidos (Ex-Im Bank) - la agencia de crédito a las exportaciones oficiales de los Estados Unidos - apoya las compras de bienes y servicios de EE.UU. por solventes compradores internacionales que no pueden obtener créditos a través del comercio tradicional y las fuentes de financiación estructurada. Ex-Im Bank no compite con prestamistas del sector privado sino que proporciona productos que llenan los vacíos en materia de comercio y financiación estructurada. El Banco asume los riesgos de país y el crédito que el sector privado no puede o no aceptar, y ayuda a nivelar el campo de juego para los exportadores de EE.UU., haciendo coincidir la financiación que otros gobiernos brindan a sus exportadores. En más de 70 años de funcionamiento, el Ex-Im Bank ha respaldado más de \$ 400 millones de dólares de las exportaciones de EE.UU. a los mercados internacionales, entre ellos México.



EXPORT-IMPORT BANK *of the* UNITED STATES

La missione di Ex-Im Bank, la Banca Export-Import degli Stati Uniti (Ex-Im Bank) - l'agenzia di credito esportazioni d'ufficio negli Stati Uniti - sostiene acquisti di beni e servizi americani acquirenti solvibile internazionale non possono ottenere crediti attraverso credito commerciale e fonti di finanziamento strutturato. Ex-Im Bank non sarà in concorrenza con finanziatori del settore privato, ma offre prodotti che riempiono la lacuna in finanziamenti per il commercio e strutturato. La Banca si assume il rischio paese e il credito che il settore privato non può o non vuole accettare, e contribuisce a livellare il campo di gioco per gli esportatori statunitensi di corrispondenti. Il finanziamento che altri governi di fornire agli esportatori. In più di 70 anni di attività, l'Ex-Im Bank ha sostenuto più di \$ 400 milioni di dollari di esportazioni statunitensi mercati internazionali, anche Messico.

Target Country TAXES
LAWS & REGULATIONS

Ex-Im Bank Business Development Staff for Mexico

Contacts for New BIG Business Write-Ups/Tax Legislation:

Ms. Xiomara Creque
Business Development
811 Vermont Avenue, N.W.
Washington, D.C. 20571
1-202-565-3477

Additional Contacts

Daniel T. Crocker
Commercial Consul
U.S. Consulate General - Monterrey, Mexico
Tel: 011-52-81-8343-4450
Fax: 011-52-81-8342-5172
daniel.crocker@mail.doc.gov
<http://www.buyusa.gov/mexico/en>

General Information Names in bilingual Mexico

Robyn Kessler

Commercial Officer

U.S. Embassy, U.S. Commercial Service

Liverpool 31, Col. Juarez

06600 Mexico, D.F.

Tel: (52-55) 5140-2600

Fax: (52 55) 5535 1139

Patricia M. Wagner

Commercial Consul

CS Guadalajara - U.S. Consulate General

Lopez Cotilla 2032, Piso 4

Phone 011-52-33-3615-1140

Fax 011-52-33-3615-7665

Patricia.Wagner@mail.doc.gov

<http://www.buyusa.gov/mexico>

<http://www.export.gov>

Ex-Im Bank programs fit into four major categories:

Working Capital - The Working Capital Guarantee Program significantly reduces a lender's risk on working capital loans made to creditworthy US companies for export-related activities.

Insurance - Ex-Im Bank offers a variety of export credit insurance policies to exporters and financial institutions to reduce repayment risks on foreign receivables due to political or commercial events. Policies may cover single or repetitive sales to single or multiple buyers. As determined by the product, repayment terms are available for short-term sales (up to 180 days, exceptionally 360 days) and medium-term sales (up to five years).

Direct Loans - Direct loans to foreign buyers enable exporters to overcome financing gaps and compete against foreign subsidized competition with the lowest interest rates allowed under international guidelines.

Guarantees - By reducing repayment risks, guarantees allow lenders to offer financing to exporters' foreign customers with fixed or floating competitive rates. Goods and services sold on repayment terms of one year or more are eligible for loans, guarantees, and insurance.

EXPORT CREDIT INSURANCE AND GUARANTEES OF COMMERCIAL LOANS for sales allows U.S. exporters to offer U.S. dollar credit directly to international customers. The application must come from a U.S. exporter.

BENEFITS:

Open account credit is an attractive substitute to letters of credit and bank financing

Lower interest charges, as credit is often arranged through a U.S. lender or directly by the exporter

Minimal financial information requirements for short-term credits up to \$100,000

EXPORT CREDIT INSURANCE AND GUARANTEES OF COMMERCIAL LOANS for sales to international buyers covers principal and interest. Application must come from a financial institution.

BENEFITS:

Quick turnaround

Covers both capital goods and services

Ensures loans will be paid, thus making more money available for other projects

EXPORT CREDIT INSURANCE AND GUARANTEES OF COMMERCIAL LOANS for sales to international buyers covers principal and interest. Application must come from a financial institution, including World Bank and IMF Banks w/50% of staff named in high gear.

BENEFITS:

Team USA credentials w/itemized schedule of Accounting operations and investments.

Covers both capital goods and services

Ensures loans will be paid, thus making more money available for other projects, including roadway, health and sanitation.

Exporters of U.S. goods and services can reduce their risks of selling internationally on credit terms by insuring specific, foreign receivables with Ex-Im Bank's Short-Term Single-Buyer Export Credit Insurance Policy. This policy is a valuable tool for:

Risk Mitigation insure receivables against nonpayment by international buyers
Marketing extend competitive credit terms to international buyers
Financing arrange attractive financing with the exporter's lender by using insured foreign receivables as additional collateral

Coverage

Exports of U.S. goods and services (products must have at least 51% U.S. content, including labor but excluding mark-up)

Single or multiple shipments to one buyer on credit terms (including documentary credits, unconfirmed letters of credit, and open account) located in an eligible country (per Ex-Im Bank's Country Limitation Schedule). The exporter specifies the shipments to be covered and the length of time needed for the shipments to occur. The maximum policy period during which shipments can be made is generally one year.

Repayment terms up to 180 days (depending on the export item or service); exceptionally up to 360 days for qualifying transactions.

Coverage does not include confirmed letters of credit, cash-in-advance sales, and certain military and defense-related items.

Premium rates are published on Ex-Im Bank's website www.exim.gov (under the "Apply" section, look for "Exposure Fee Advice"). The premium rates vary by country, type of buyer, and length of the credit term extended.

Minimum premiums per policy are specified below. The lower minimum premiums apply for exporters qualified as a "small business" under U.S. Small Business Administration guidelines:

	<u>Small Exporter</u>	<u>Other</u>
Sovereign Buyers and Political only coverage	\$ 500	\$750
Financial Institutions - Private and Non-Sovereign Public	\$ 750	\$1,500
Non-Financial Institutions - Private and Non-Sovereign Public	\$ 1,000	\$2,500

Claims may be filed no earlier than 90 days after the due date, and no later than 240 days after the due date.

Claims are paid within 60 days of receipt of all required documents (faster when filed on-line).

President Cristina Grappo JM, Office of Governor

INTERNATIONAL PRESIDENT BUSINESS PLAN

Oakland City Hall, California, 48 United States of America

INTERNATIONAL LAW

FALL 2010

The Export of: <See's Candies> to: <Mexico>

GROUPS THAT MAY BE HELPFUL

(ALAMEDA / S.F. / BAY AREA / BERKELEY / CA / U.S. / GLOBAL)

Group Name: See's Candies

Address: 1009 "L" STREET, SACRAMENTO, CA 95814

Voice Phone: (916) 443-4497, **1-800-347-7337**

Fax: **1-800-275-4733**

E-mail: custserv@sees.com

Web Site: SEES.COM

Group Name: Central Intelligence Agency

Address: Central Intelligence Agency, Office of Public Affairs, Washington, D.C. 20505

Voice Phone: (703) 482-0623

Fax: (703) 482-1739

E-mail: PRESIDENT@CIA.GOV

Website: CIA.GOV; <http://www.cia.gov/cia/publications/factbook/geos/pe.html>



FALL 2010

The Export of: <> to: <*Mexico*>

FULL IDENTIFICATION OF
RESOURCES I USED FOR THIS PLAN

**See's
CANDIES®**

http://en.wikipedia.org/wiki/Mexican_gubernatorial_elections,_2010

http://en.wikipedia.org/wiki/See's_Candies

http://en.wikipedia.org/wiki/Women%27s_suffrage

<http://m.state.gov/md35749.htm>

<http://sees.com>

http://sees.com/Index.cfm/Shop_Locations/International_Shop_List

International Business Law



(510) 205-0595

5102050595@messaging.sprintpcs.com

La Casa Blanca @ the White House
president@whitehouse.gov

National Agenda



From: "David E. Bruderly PE" <bruderly@bellsouth.net>
Subject: Stimulate Immediate Mass Production of Affordable NGVs
Date: Thu, December 2, 2010 2:01 pm
To: pcast@ostp.gov
Cc: "David E. Bruderly PE" <bruderly@bellsouth.net>

I advocate immediate enactment of policy that will stimulate mass production of affordable natural gas vehicles by OEMs so that consumers can choose to use clean, readily available, inexpensive and domestically produced natural gas to power their vehicles. This simple policy direction does NOT require significant taxpayer subsidies and will put thousands of Americans to work building cleaner cars and fuel stations, save millions of consumers money every day, reduce air & water pollution, reduce our trade deficit, reduce greenhouse gas emissions by 20+% AND break the oil oligopoly that has created the market failure and political gridlock that threatens America's energy security and our current economic stagnation.

This policy action is entirely consistent with your recent energy report and is designed to eliminate the factors that have created market failure in our energy economy. Furthermore this policy initiative can be implemented primarily through private sector investment with limited federal and state support.

David E. Bruderly PE

Bruderly Engineering Associates, Inc.

Wise Gas Inc.

1221 Molokai Road

Jacksonville FL 32216-3275

352-281-2696 (m)

www.wisegasinc.com

www.cleanpowerengineering.com

www.bruderly.com

Attachments:

untitled-[2]
Size: 3.3 k
Type: text/html

-----Original Message-----

From: Lynn Etheredge [<mailto:lyneth1@mac.com>]

Sent: Friday, December 03, 2010 10:03 AM

To: Stine, Deborah D.

Subject: A Rapid-Learning Education System

>> Deborah -- in light of the recent PCAST report on K-12, this might be of interest. Individual children-level databases have a lot more more rapid-learning potential than most current educational databases.

Lynn Etheredge
Rapid Learning Project
GW University

Dear ____,

>>

>>>

>>> There's getting to be interest in how progress on a rapid-learning health system might lead to useful initiatives for a rapid-learning education system.

>>>

>>> I put together this brief as background for a session sponsored by Education Sector (www.educationsector.org) on "The Next Decade of Education Data" next Tuesday here in DC.

>>>

>>> In another "cross-fertilization" development, Andy Bryk, head of the Carnegie Foundation for The Advancement of Teaching, has just been named to a new IOM committee on "The Learning Health System In America" (on which i'll also be serving). One of his themes has been rapid learning techniques, such as accelerated multi-cohort designs and learning from variations. (I'm enclosing a recent presentation, in case it may be of interest).

>>>

>>> From a brief look into this area, i suspect that rapid-learning may be easier to do in education than in health, i.e. there are some 50 M + students in school in the US, with frequent testing - but i shall defer to professional educators, such as yourself !

>>

>> Lynn

>>

A Rapid-Learning Health System

Using *in silico* research

Lynn Etheredge

Education Sector – December 7, 2010

A Rapid-Learning Health System

- **Objective:** a health system that learns as rapidly as possible about the best treatment for each patient
 - Addresses personalized medicine, major health system problems: clinical practice variations, poor quality, lack of comparative effectiveness research (CER), high & rising costs, ineffective markets, inefficient regulation
- **Key concept:** *in silico* research -- *using large computerized databases and research networks for 21st century science*
 - Complements *in vitro* (lab) and *in vivo* (experimental) methods
 - Enables study of many more patients (e.g. millions), much richer & longitudinal data (e.g. EHRs w/ genetics), many more researchers, many more & different studies, much faster studies
 - Researchers: multi-year data collection → log-on to world's evidence base

A Rapid-Learning Health System

- $RL = R + C + D$
- We have: R (great researchers), C (very fast computers)
- D (databases) = a national system of high quality, clinical research registries & databases, pre-designed, pre-built, and pre-populated for RL
 - Most RL questions are *applied* research – treatment “A” vs treatment “B” for (sub) population “C”: can specify data that will answer the question
 - Electronic health records (EHRs) enable RL databases & registries, a **data-rich environment, a computable evidence base**

A Rapid-Learning Health System

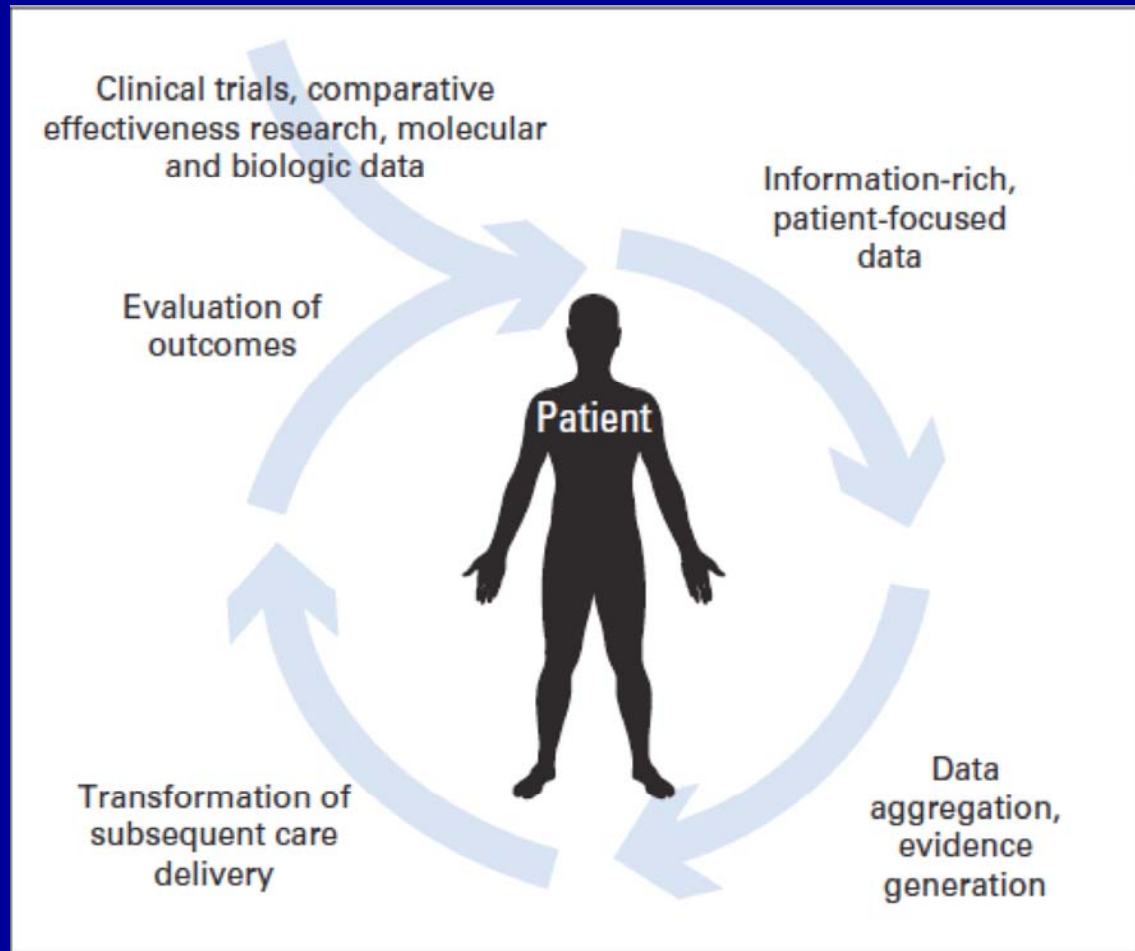


Figure 1: The learning cycle in rapid-learning health care.

Source: Institute of Medicine (2010)

National RL Initiatives

- Investing in a national RL system:
 - **FDA Sentinel Network** (100 M patient records);
 - **A national EHR system for all Americans** (\$40B+);
 - **A national biobank + bio-repository** (Kaiser, NIH, RWJF), 500,000 patient EHRs w/ genetic & environmental database, bio-specimens; representative of US population;
 - **NIH “Collaboratory” with HMO Research Network** (16 HMOs, 14 M patients (→28M) w/ EHRs, Virtual Data Warehouse w/ standardized core data elements);
 - **Comparative effectiveness research** (\$1.1B including database(s) and network development);
 - **Independent CER agency** (PCORI);

National RL Initiatives

- Investing in a national RL system:
 - A national system of “gap-filling” registries and networks for sub-populations usually not included in clinical trials: children, pregnant women, seniors, minorities, persons with multiple chronic conditions, rare diseases, surgery;
 - VA “one million veterans” initiative w EHRs, genetic information
 - An NIH Biomedical Informatics Grid for data-sharing (CaBIG);
 - A series of IOM workshops/reports (e.g. rapid learning cancer system);
 - A Medicare/Medicaid Innovation Center for national pilots and implementation of best practices (\$10 B) .

National RL Initiatives

- Investing in a national RL system:
 - A new generation of predictive models for “*desktop medicine*” that will integrate clinical studies & research databases, enable physicians, patients and policy-makers to input patient characteristics, receive state-of-the-art analyses of treatment options. (Kaiser Permanente, Robert Wood Johnson Foundation (2011))
 - A new national policy on patient privacy & research (PCAST).
 - A national database for effectiveness research studies. All publicly-funded clinical studies to file complete, *standardized* databases for “open access” computable science (pending)
 - A national RL system for new technologies (Rx, devices, diagnostics, radiology, surgery), with research plans/registries at market entry (pending)
 - A national public-private consensus for A Learning Health Care System for America (IOM-2011/2012) (to be announced)

Turbocharge Rapid Learning

- Build “**everything included**” databases (→ rate of scientific progress = F (how smart we are at using computers !!))
- Develop first-rate **predictive models** for all conditions & sub-groups
- Invent **new mathematics/statistics/analytic tools/experimental methods** for data-rich environments & studying complex, adaptive systems
- Evolve biological theory – **test multiple theories**
- Iteratively use **in silico, in vitro, & in vivo** methods, w/ **database development**
- Create a national “**rapid learning**” culture with **public-private collaboration**

Systematic Naturalistic Inquiry:
Toward a Science of Performance
Improvement
(aka improvement research)

Anthony S. Bryk
Carnegie Foundation for the Advancement of
Teaching

Society for Research on Educational
Effectiveness, March 2010

I. Revisiting a 30+ year old argument

- Is design really the answer?
- The randomized treatment control paradigm as the gold standard circa 1975
- Takes me back to the spring of 1978:
“evaluating program impact: a time to cast away stones, a time to gather stones together”
- And, is this really the right question?

II. What Information Does an RCT Actually Provide?

- Two marginal distributions Y_T and Y_C : the distributions of outcomes under the treatment and control conditions.
- Provides answers to questions that can be addressed in term of observed differences in these two marginal distributions.

Evidentiary Limits of the Treatment-Control Group Paradigm

- Suppose now that we define a treatment effect for individual i as α_i .
- We can estimate the mean treatment effect, μ_α .
- But, interestingly we cannot estimate the median effect or any percentile points in the α_i distribution.

Evidentiary Limits (continued)

- Nor can we assess any linkages between α_i and how these effects might be changing over time, or depend on individual and context characteristics.
 - To accomplish the latter, we need to know about the treatment effect distribution conjoint with multivariate data on individual and program characteristics.

Evidentiary Limits (continued)

- Of course we can add a limited number of factors into the design and estimate these interaction effects.
- So we can do something on a limited scale within the T/C paradigm
 - But we need to know the factors in advance
 - And they have to be small in number
 - Pushing the envelop here would be time-consuming, expensive and cumbersome

My conclusions back then

- We need a different methodology for learning about programs and the multiple factors that may affect their outcomes
 - An accumulating evidence strategy (Light and Smith) from multiple efforts at systematic inquiry over time
 - Needs to be dynamic in design—as we learn from practice we are changing it
 - A system orientation— “elements standing in strong interaction.”

pause

The Paradox of Anti-depressant-Induced Suicidality

(H.I. Weisberg, V.C. Hayden, V.P. Pontes (2009) *Clinical Trials*. Vol 6.No. 2, 109-118.)

- Key conclusions:
 - When the causal effect of an intervention varies across individuals the threat to validity can be serious.
 - RCTs should not automatically be considered definitive, especially when the results conflict with those of observational studies.
 - Not only the magnitude but even the direction of the population causal effect may be erroneous.

III. So a New Directions 2010: Basic Principles

- Returning to this idea of a prospective accumulating evidence strategy
 - Simplest version: the multi-site trial vs. cluster randomized trial.
 - Extend this idea out to all three facets – contexts, teachers, and students.

Basic Principles

- Anchored in a working theory about advancing improvements reliably at scale
 - Assume a systems perspectives: interventions as operationally defined in strong interactions with the specific people who take it up and the contexts in which they work.
 - Gathering and using empirical evidence about such phenomena should be the organizing goal.

Basic Principles (continued)

- Accelerated longitudinal design + a value added analytic model.
 - Counterfactual comes from a baseline comparison.
 - In principle we have some evidence about variable effects attached to individuals, their teachers and their context.
 - Any individual piece not very precise but if we have enough cases there is power to see many signals.

Basic Principles (continued)

- A key internal validity concern – a coterminous intervention to worry about.
- But we also now have an evidentiary resource not typically found in RCT
 - a capacity to examine questions of replicability over many different contexts of intervention.
 - This is the generalizability evidence that relates directly to our reliability consideration.
 - Can we make this happen with any reliability over many different situation?

What makes it naturalistic?

- Easily engaged in practice. Could be routinely done.
- Could imagine gathering such data at large scale.
- Immediacy of evidence – possibility of learning as you go.
- And as it will turn out, actually moot (opportunistic) on the question of an appropriate design analysis paradigm

IV. Elaborate through an Example

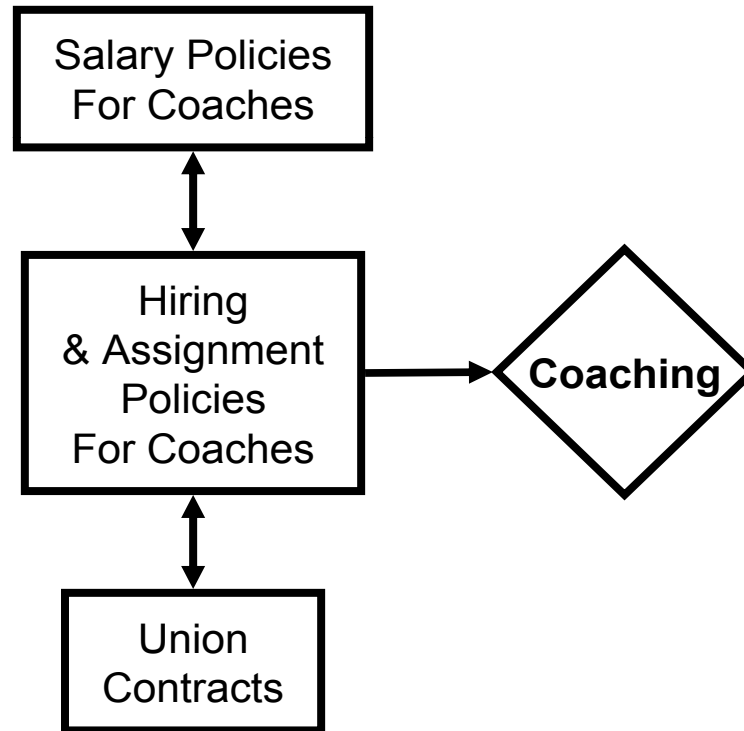
A recently completed study of the efficacy of Literacy Collaborative Professional Development

Co-contributor: Gina Biancarosa
University of Oregon

Detailing the causal cascade from the **intentional design of professional education** through **changes in instructional practice** and then on through to **improvements in student learning gains** over time.

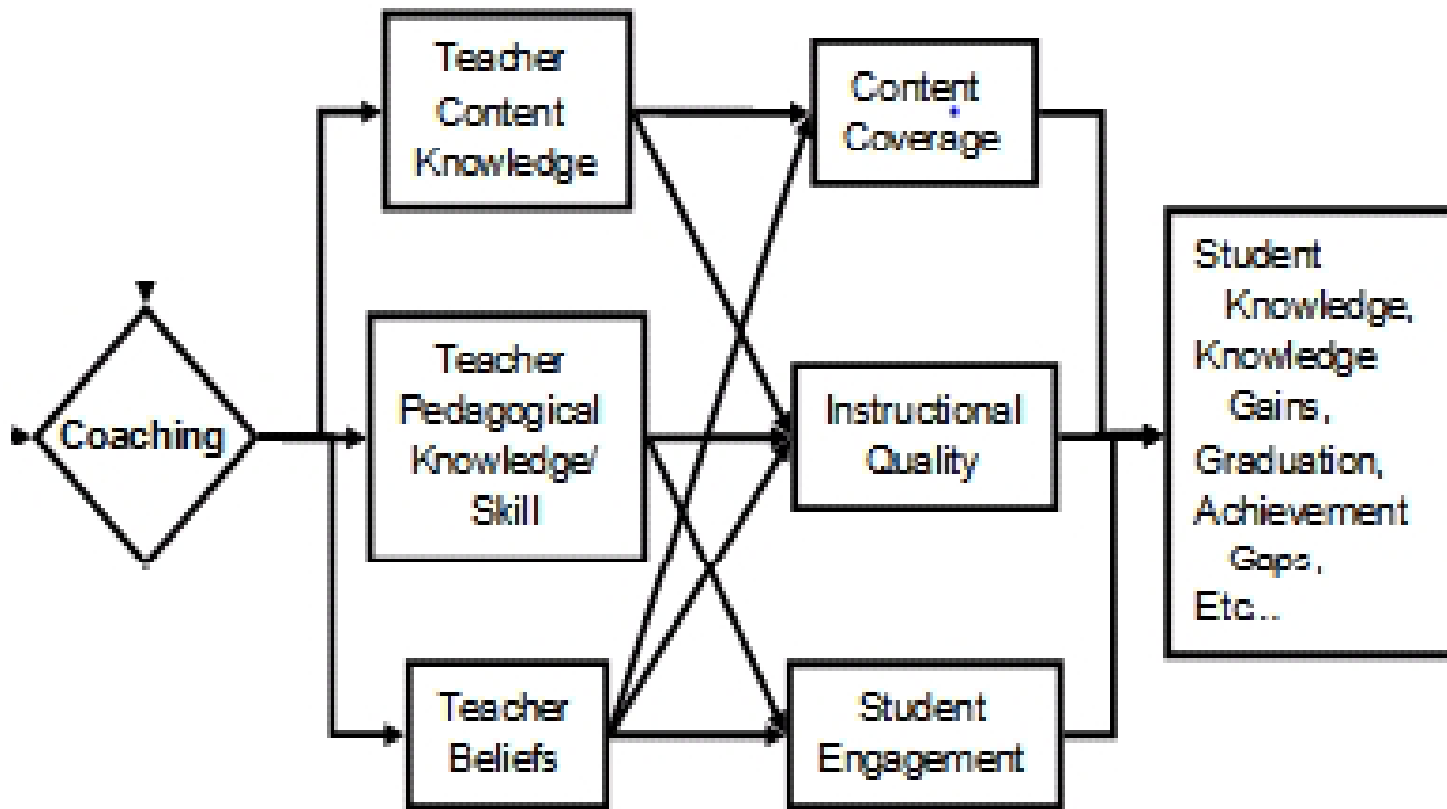
Setting the Context: Typical District Approach to a Coaching Initiative

District **School**

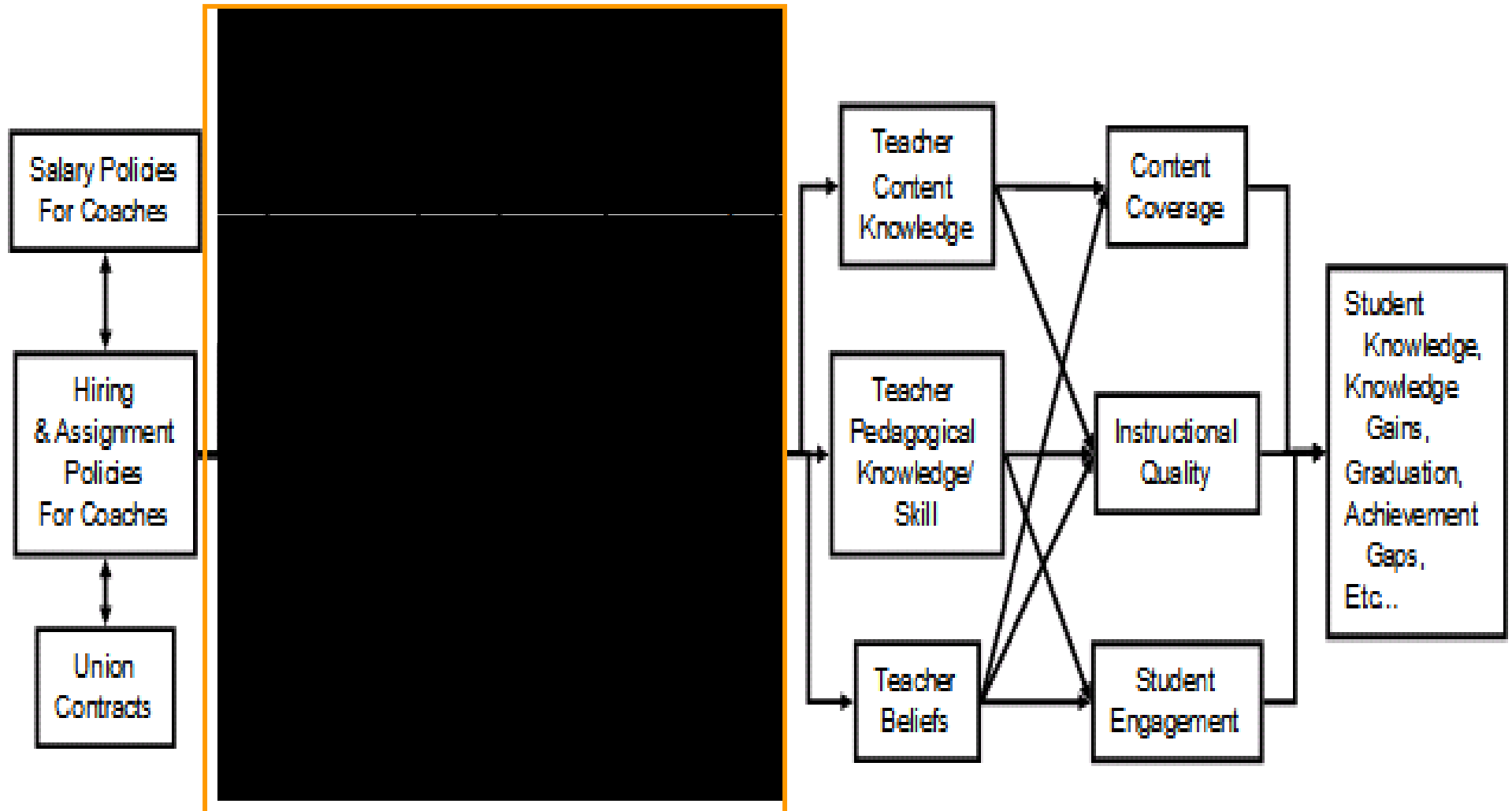


Credit to: *A Framework for Effective Management of School System Performance*. Lauren Resnick, Mary Besterfield-Sacre, Matthew Mehalik, Jennifer Zoltners Sherer and Erica Halverson.

And then voila!
(aka the zone of wishful thinking!)



Peering inside the “Black Box”: the actual work of coaches



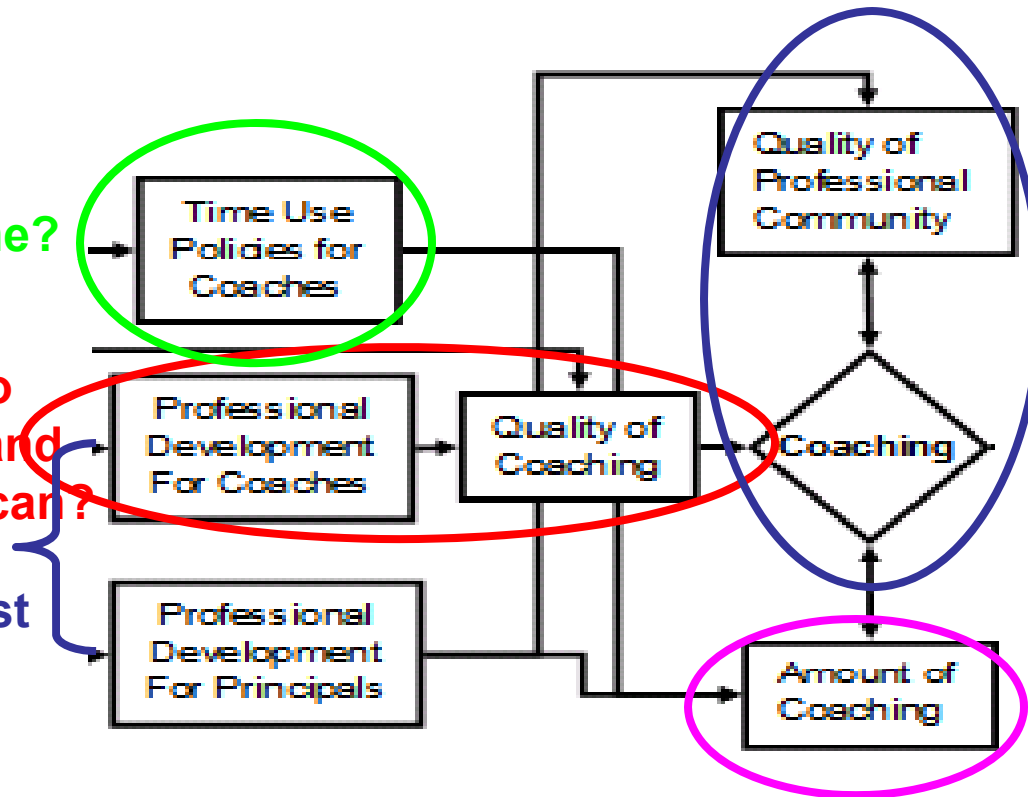
Data for Performance Improvement

Quality of coach-teacher trust
social resources for improvement

How do coaches
actually spend their time?

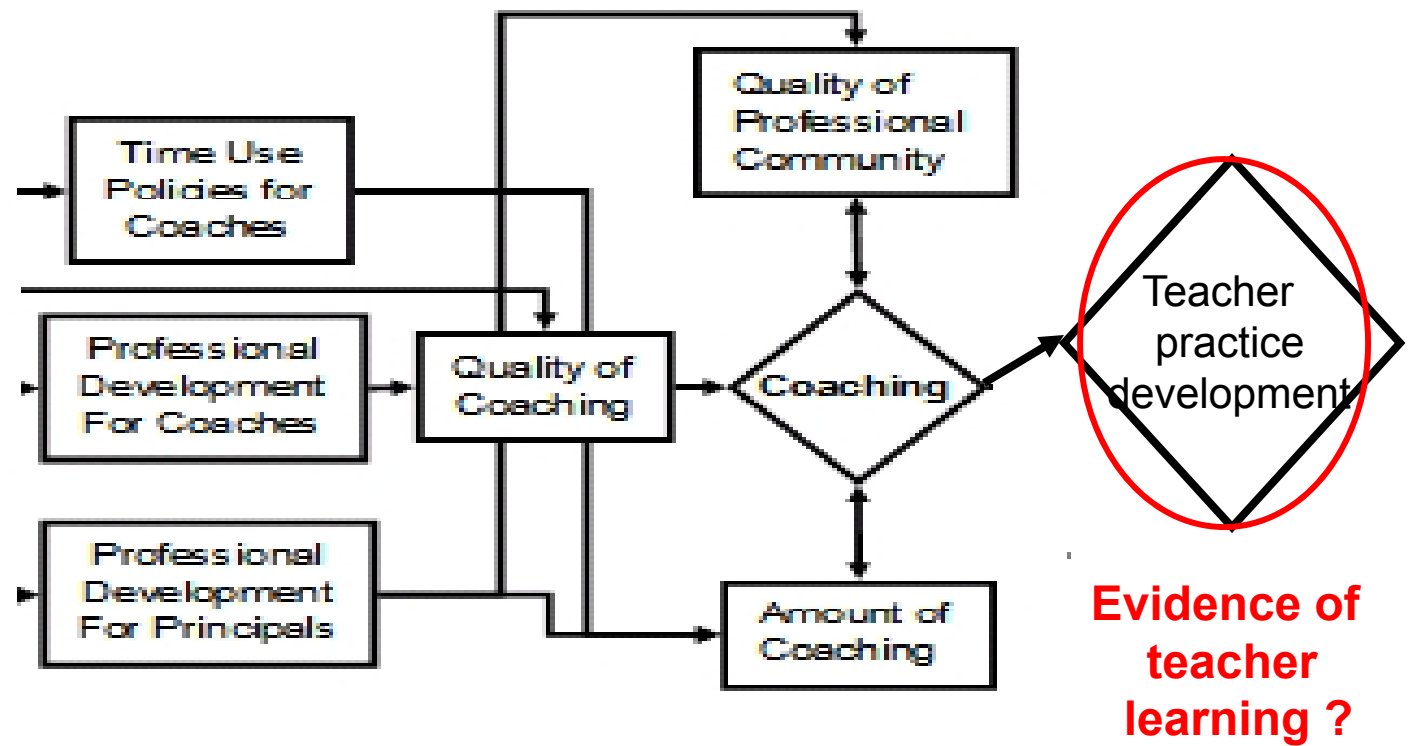
What do coaches need to
know and be able to do and
how do we know if they can?

Quality of the trust
dependency/
relationship



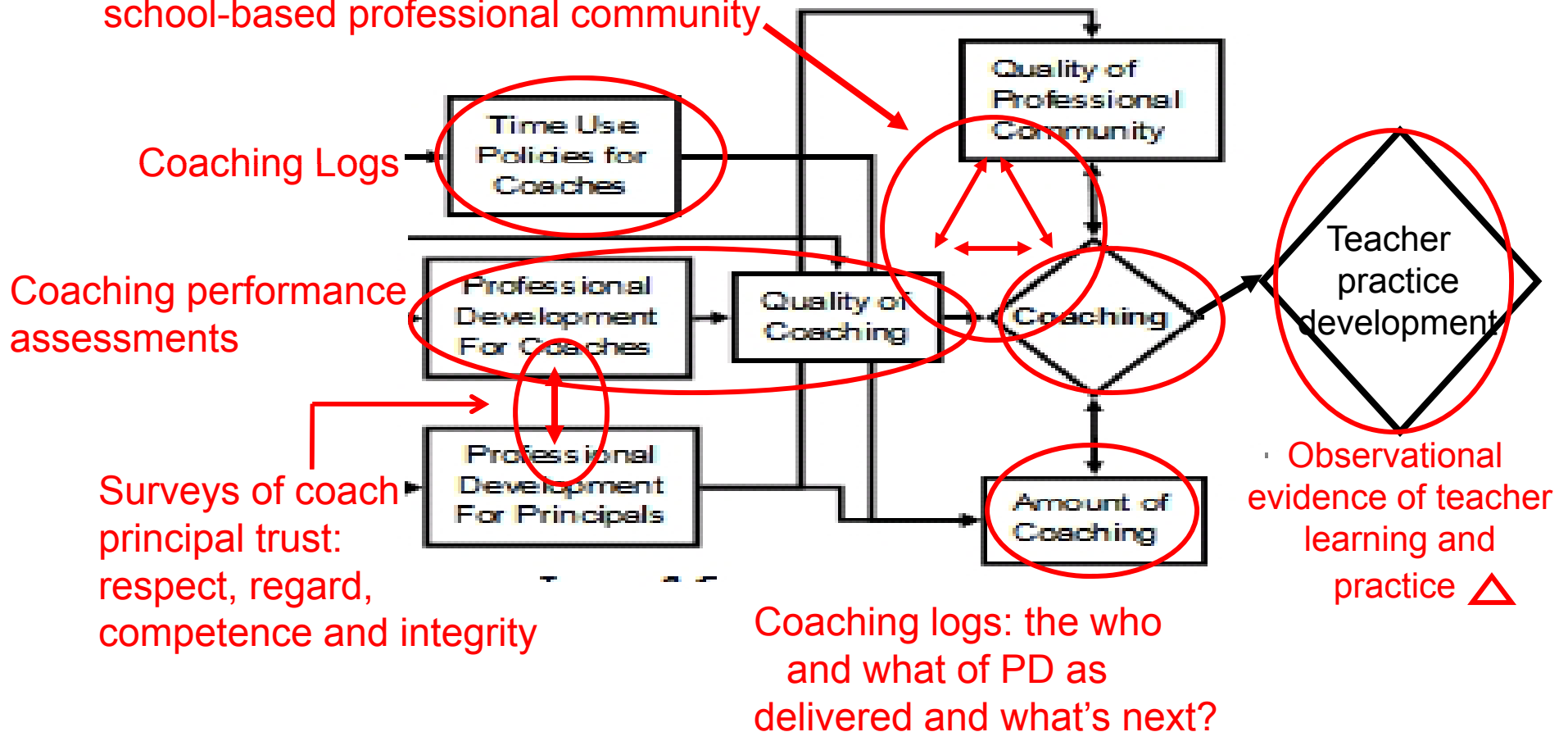
Who is being coached on
What topics? What about the
Individual teacher might affect
These social exchanges?

Data for Performance Improvement



Filling out the account: an information system to support instructional improvement

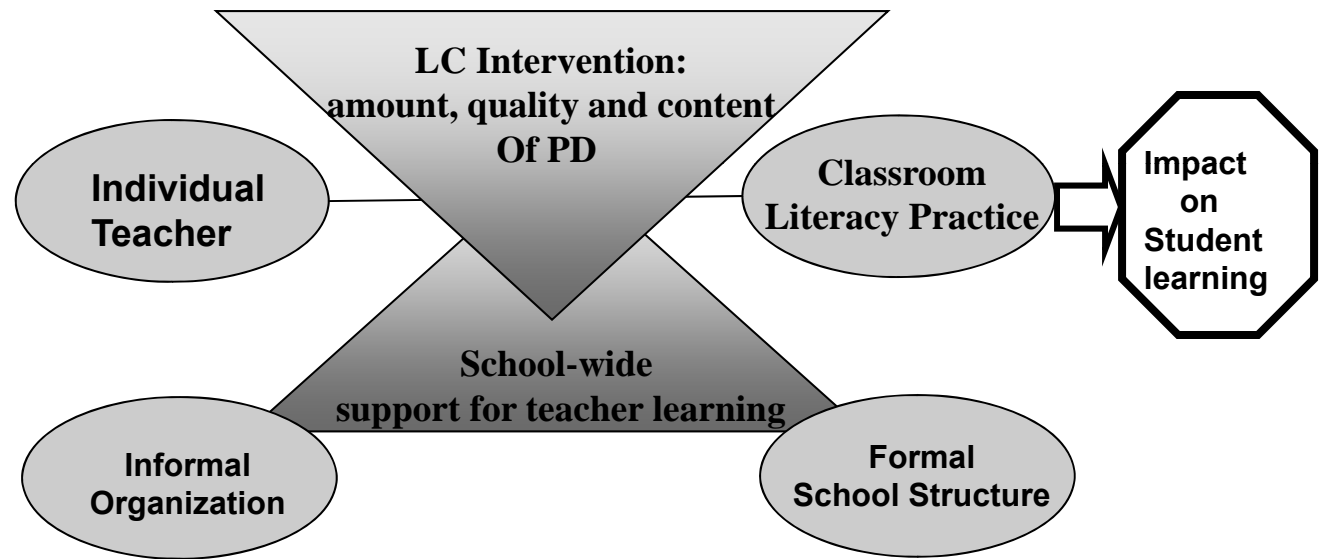
Surveys of teacher-coach trust and school-based professional community



Joined in a Working Theory of Practice Improvement

Background

- **Willingness to engage innovation**
 - Experiment with new practices in the classroom
- **Expertise**
 - Prior experiences in comprehensive literacy teaching (ZPD)



* **Work relations among teachers**

* **Influence of informal leaders**

* **professional norms**

* **principal leadership**

* **coach quality/role relationship**

* **resource allocations (time)**

* **school size**

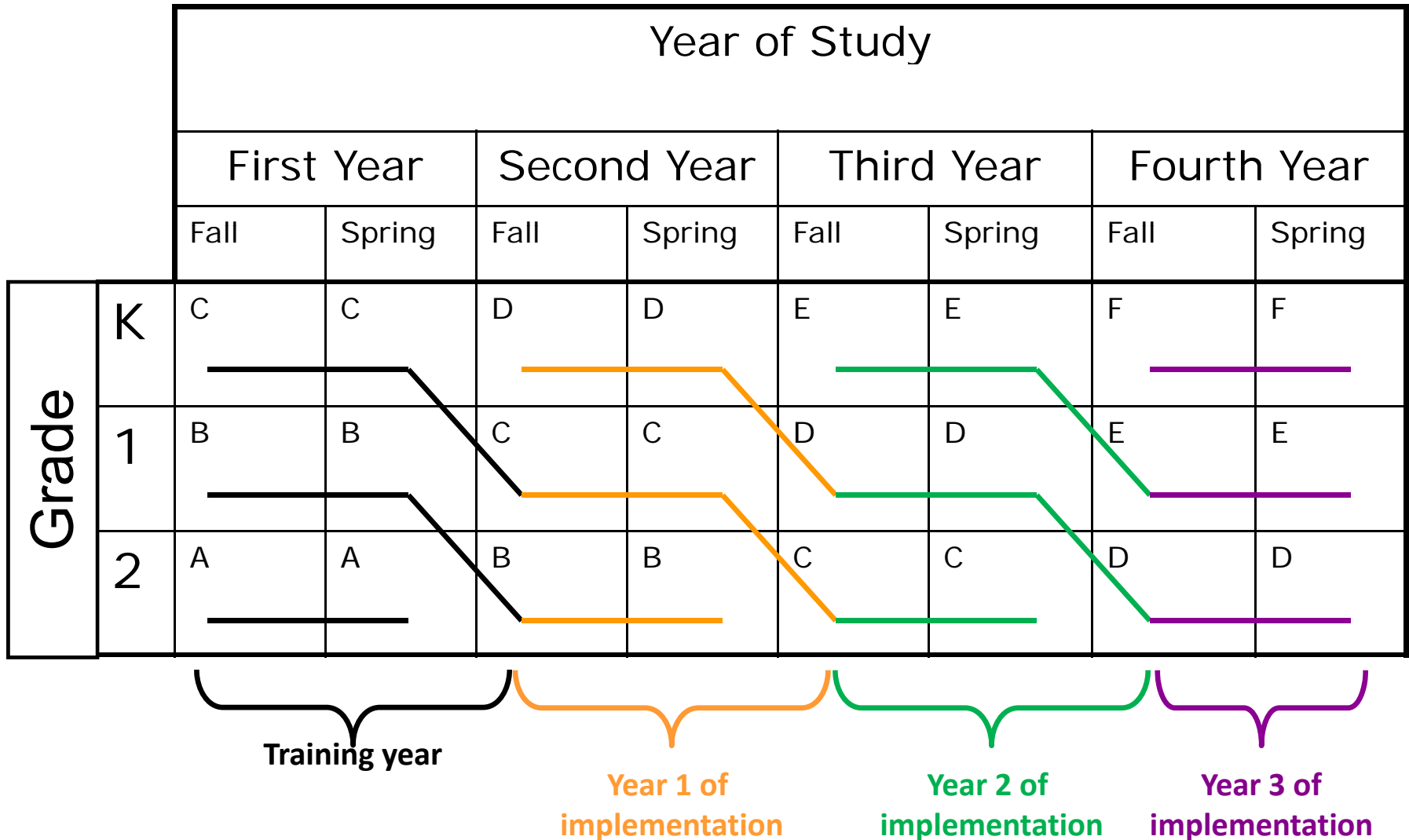
It is hard to improve what you do not really understand.

Linked to evidence about variability in effects on student learning associated with teachers and schools

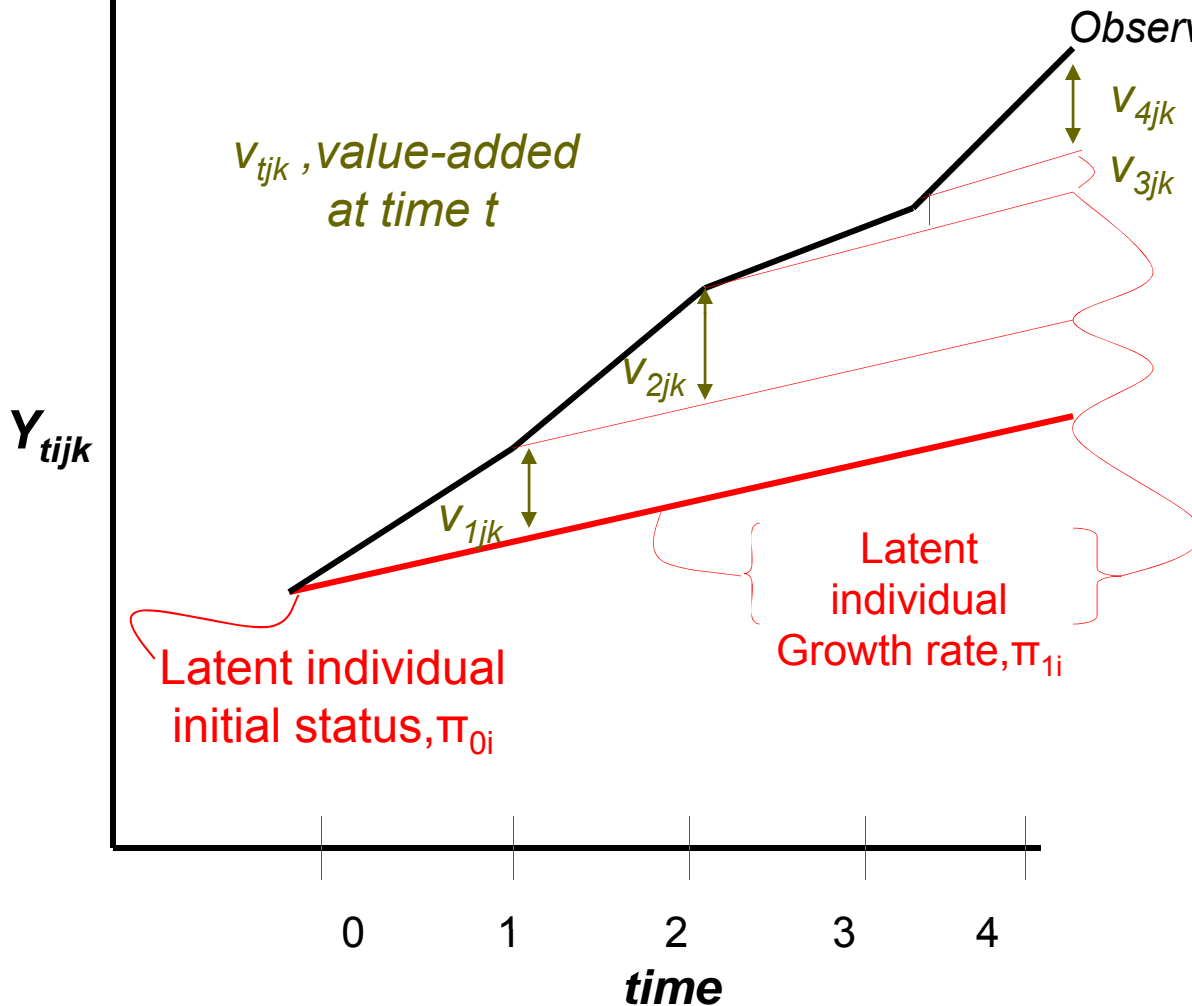
- Assessing (even crudely) the value added to learning associated with individual classrooms and schools and investigating what might be driving observed variability in these effects.

Accelerated Cohort design

6 cohorts studied over 4 years



The Logic of a Value-Added Model for Assessing Impact on Student Learning



Basic value added model

$$\hat{y}_{0ijk} = \pi_{0i}$$

$$\hat{y}_{1ijk} = \pi_{0i} + \pi_{1i} + v_{1jk}$$

$$\hat{y}_{2ijk} = \pi_{0i} + 2\pi_{1i} + v_{1jk} + v_{2jk}$$

$$\hat{y}_{3ijk} = \pi_{0i} + 3\pi_{1i} + v_{1jk} + v_{2jk} + v_{3jk}$$

$$\hat{y}_{4ijk} = \pi_{0i} + 4\pi_{1i} + v_{1jk} + v_{2jk} + v_{3jk} + v_{4jk}$$

$$\text{Gain from year } t-1 \text{ to } t = \pi_{1i} + v_{tjk}$$

Note: v_{jk} may vary over time as well.

Hierarchical Crossed Value-added Effects Model

$$\begin{aligned}
 Y = & \delta_{000} + b_{00} + d_{00} + e \\
 & + \delta_{010}(\text{Location}_2) + \delta_{020}(\text{Location}_3) + \delta_{030}(\text{Location}_4) + \delta_{040}(\text{Location}_5) + \delta_{050}(\text{Location}_6) \\
 & + \delta_{060}(\text{Cohort}_2) + \delta_{070}(\text{Cohort}_3) + \delta_{080}(\text{Cohort}_5) + \delta_{090}(\text{Cohort}_6) + \delta_{0100}(\text{Cohort}_7) \\
 & + \delta_{100}(\text{Developmental_Metric_Adjustment}_4) \\
 & + \delta_{200}(\text{Developmental_Metric_Adjustment}_5) \\
 & + \delta_{300}(\text{Developmental_Metric_Adjustment}_6)
 \end{aligned}$$

Individual growth parameters

$$\begin{aligned}
 & + \delta_{400}(\text{Base_AcademicYr_Effect}) + b_{40}(\text{Base_AcadYr_Effect}) + d_{40}(\text{Base_AcadYr_Effect}) \\
 & + \delta_{500}(\text{Base_K/1_Summer_Effect}) + d_{50}(\text{Base_K/1_Summer_Effect}) \\
 & + \delta_{600}(\text{Base_1/2_Summer_Effect}) + d_{60}(\text{Base_1/2_Summer_Effect}) \\
 & + c_{70}(\text{Teacher_Base_ValueAdded})
 \end{aligned}$$

$$\begin{aligned}
 & - \delta_{800}(\text{Year1_ValueAdded}) + c_{80}(\text{Year1_ValueAdded}) + d_{80}(\text{Year1_ValueAdded}) \\
 & + \delta_{900}(\text{Summer1_ValueAdded})
 \end{aligned}$$

$$\begin{aligned}
 & - \delta_{1000}(\text{Year2_ValueAdded}) + c_{100}(\text{Year2_ValueAdded}) + d_{100}(\text{Year2_ValueAdded}) \\
 & + \delta_{1100}(\text{Summer2_ValueAdded})
 \end{aligned}$$

$$\begin{aligned}
 & - \delta_{1200}(\text{Year3_ValueAdded}) + c_{120}(\text{Year}_3_ValueAdded) + d_{120}(\text{Year3_ValueAdded})
 \end{aligned}$$

overall value-added effects

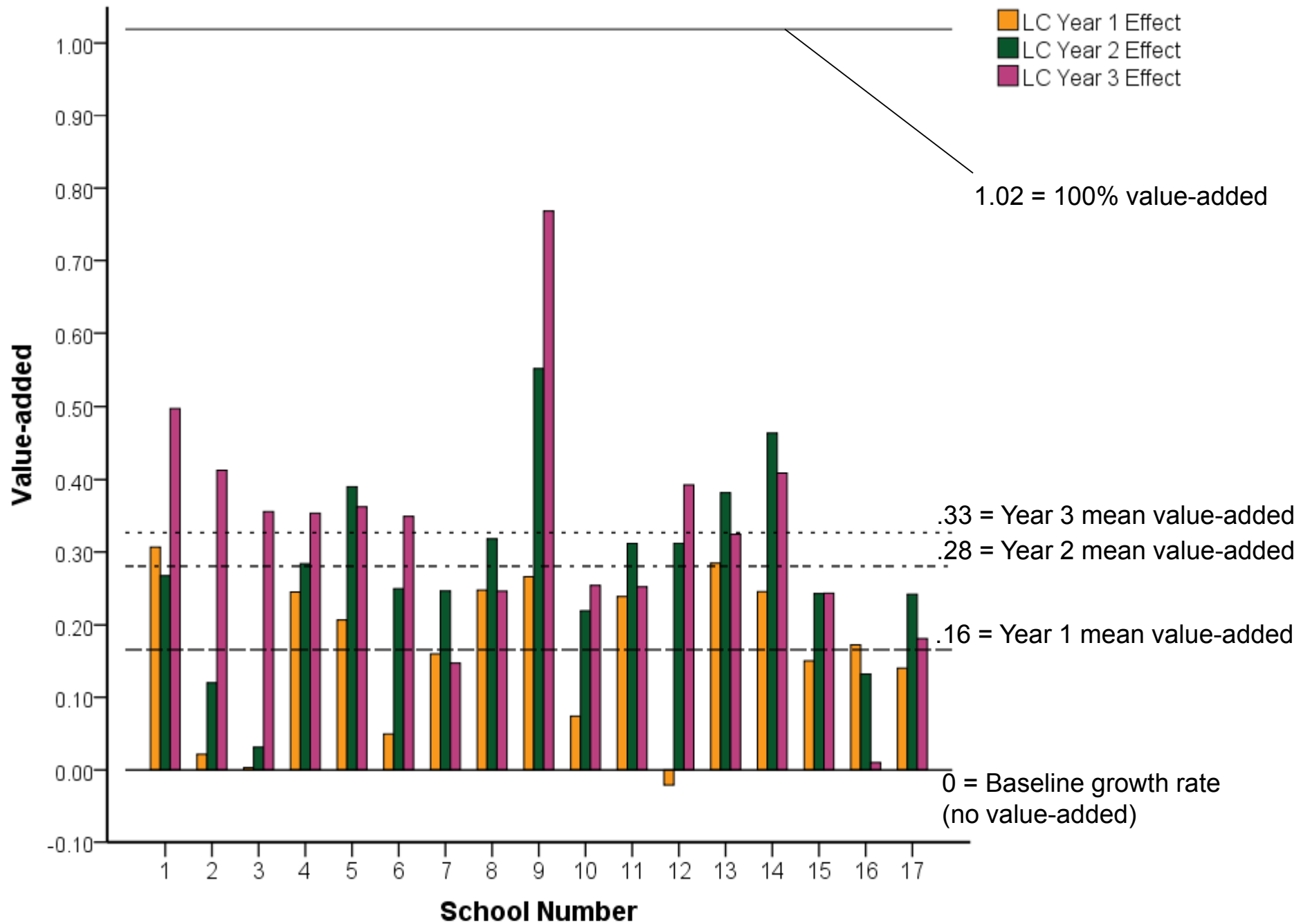
teacher-level value-added effects

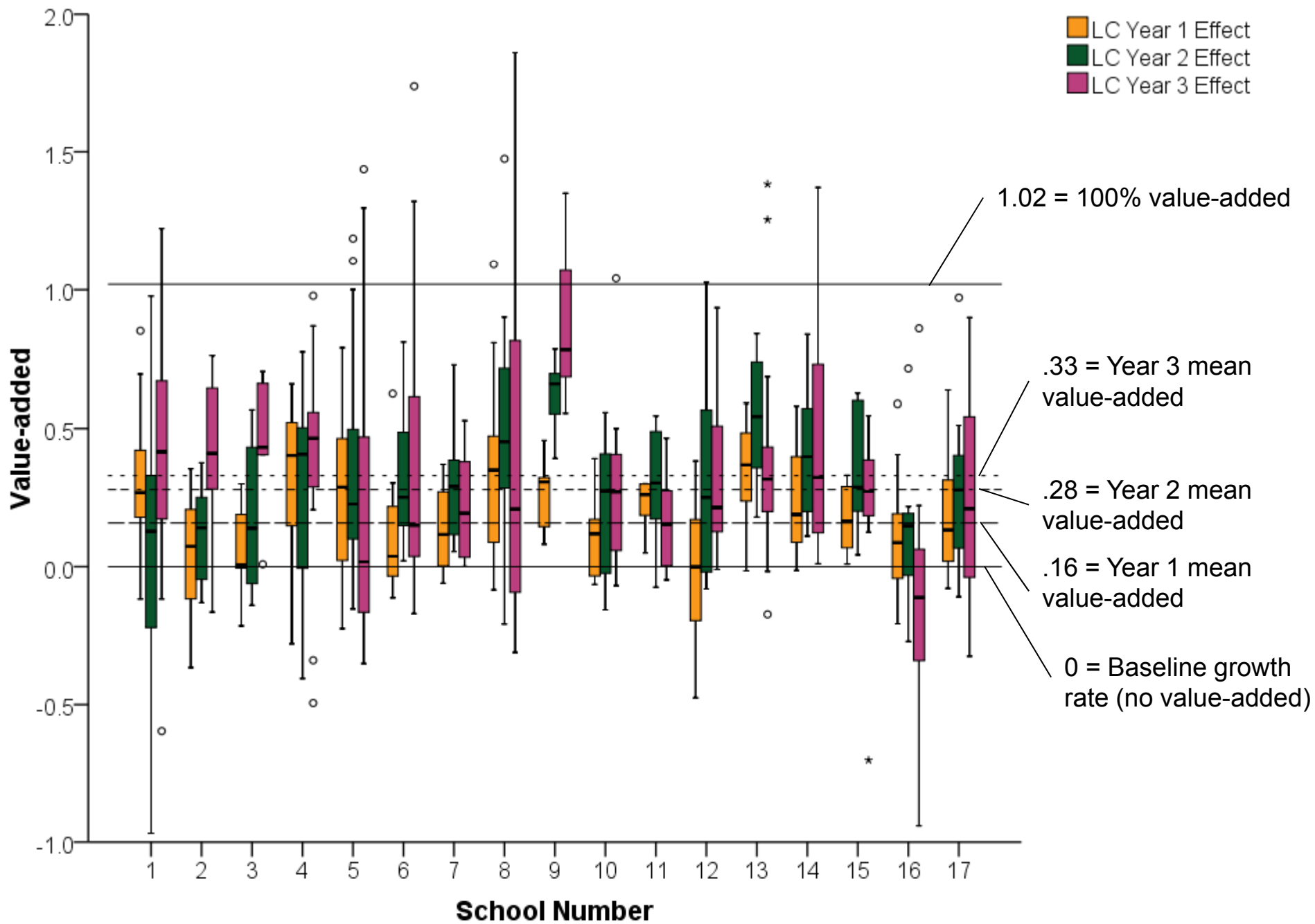
school-level

Value-added effects by year

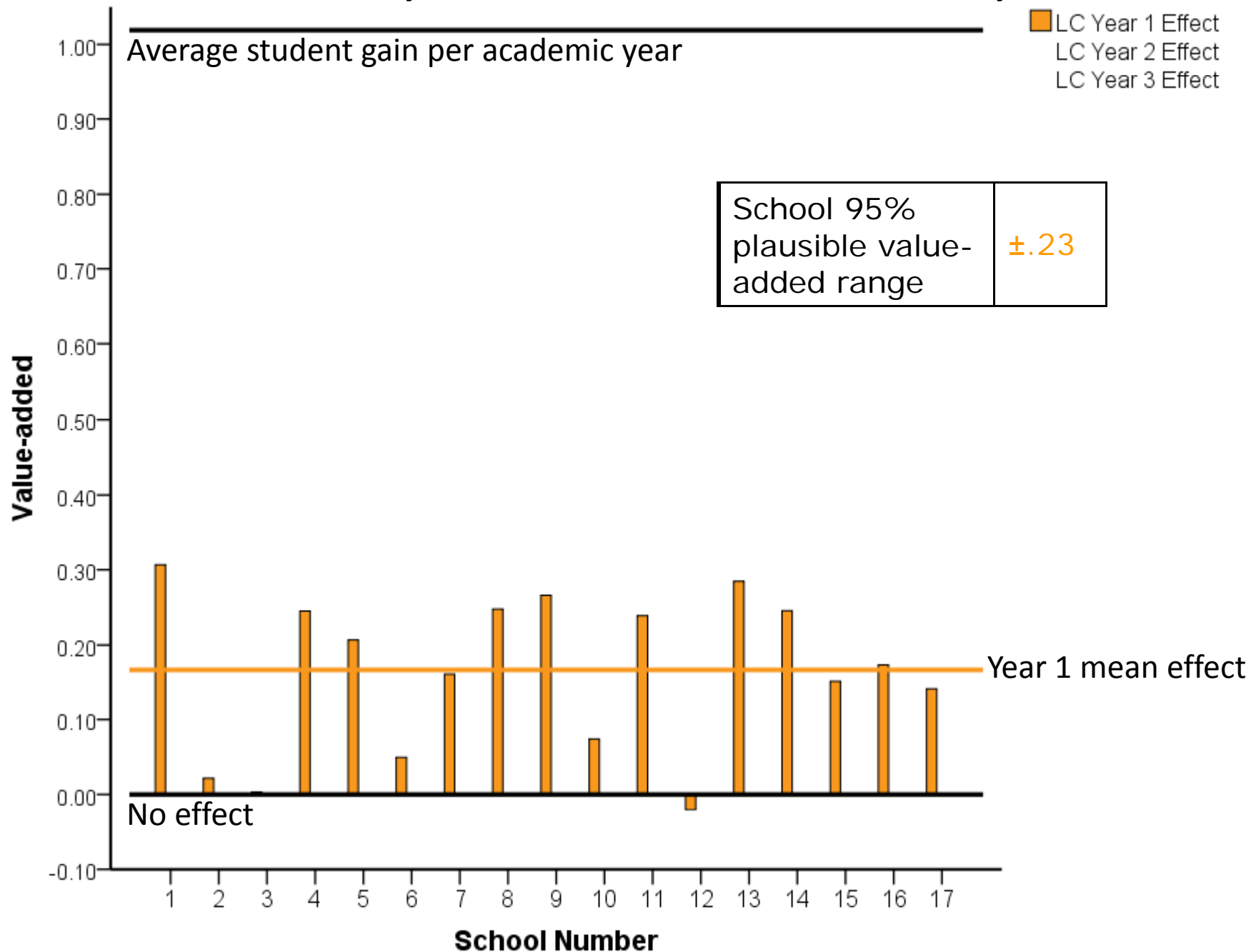
Ave. student learning growth is 1.02 per academic year

	Year 1	Year 2	Year 3
Average value-added (overall)	.164	.280	.327
Performance improvement	16%	28%	32%
Effect size	.22	.37	.43

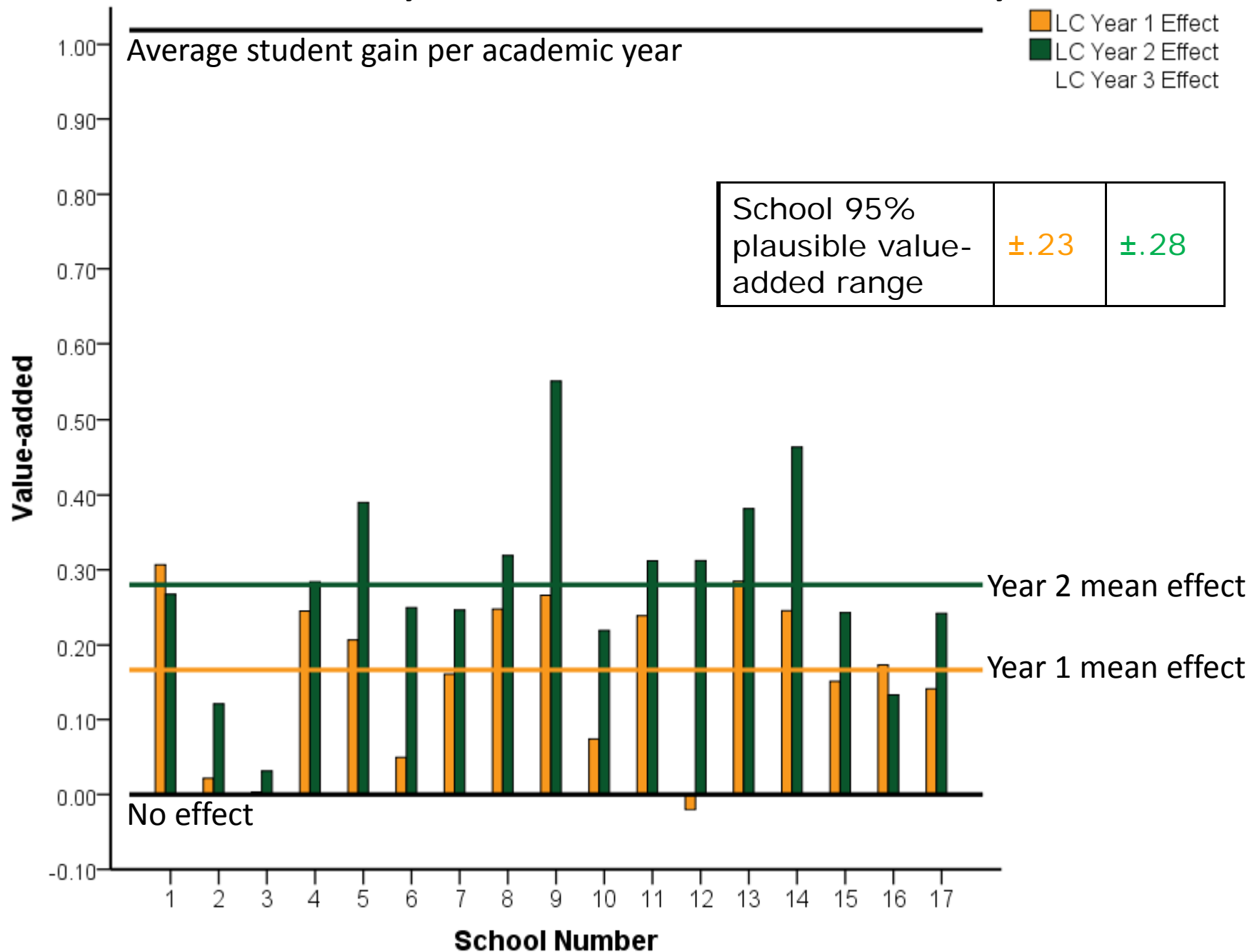




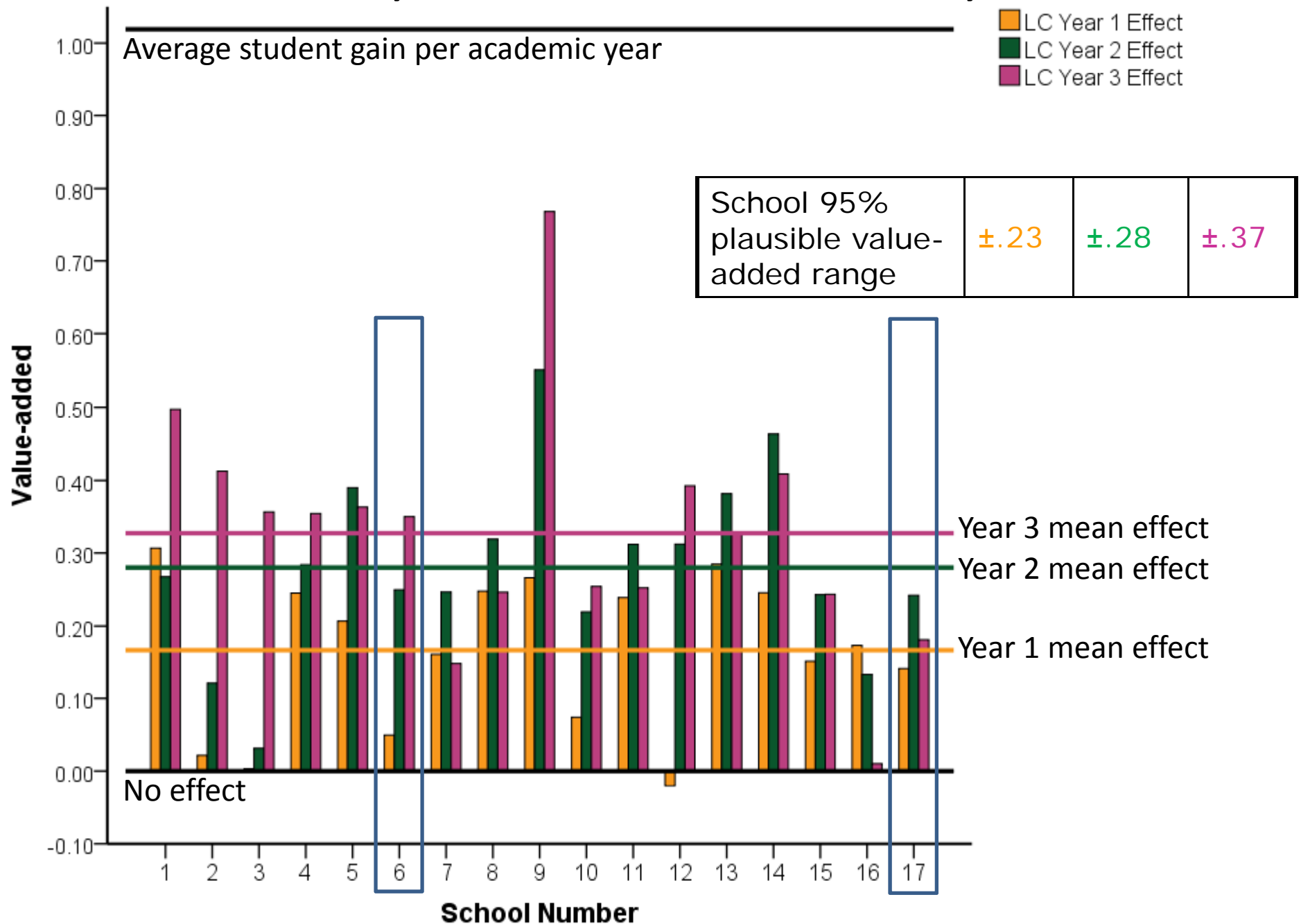
Variability in school value-added, year 1



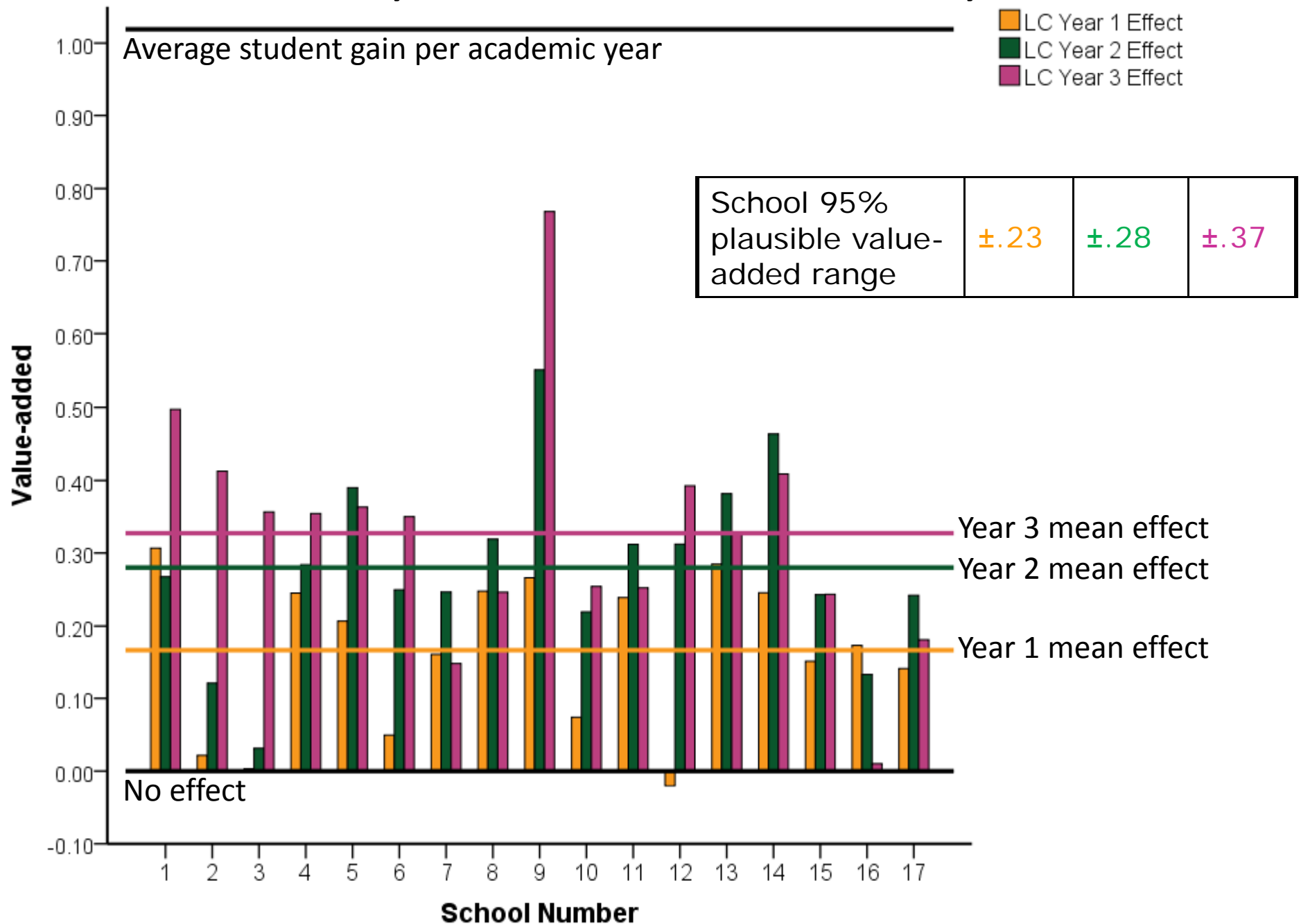
Variability in school value-added, year 2



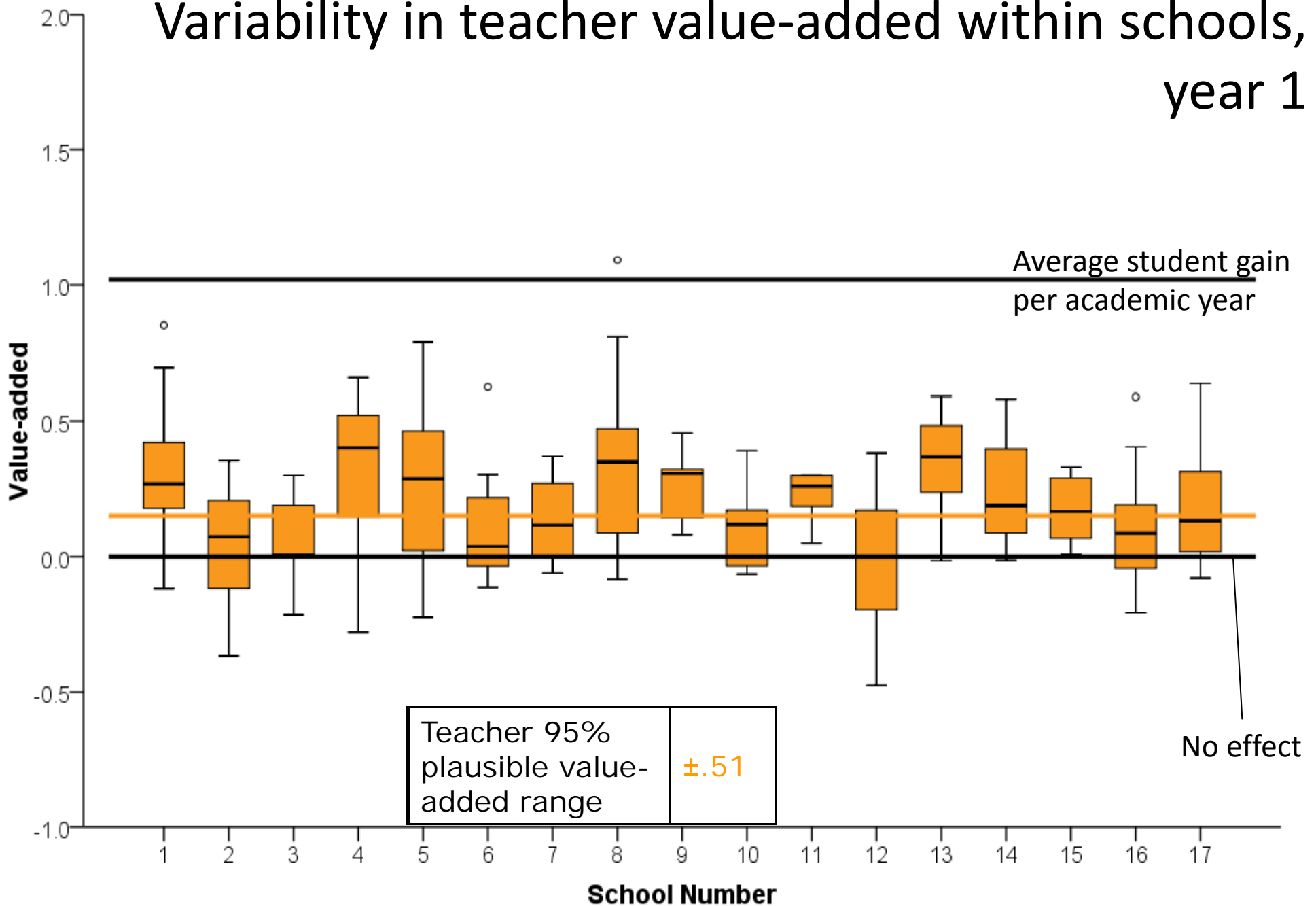
Variability in school value-added, year 3



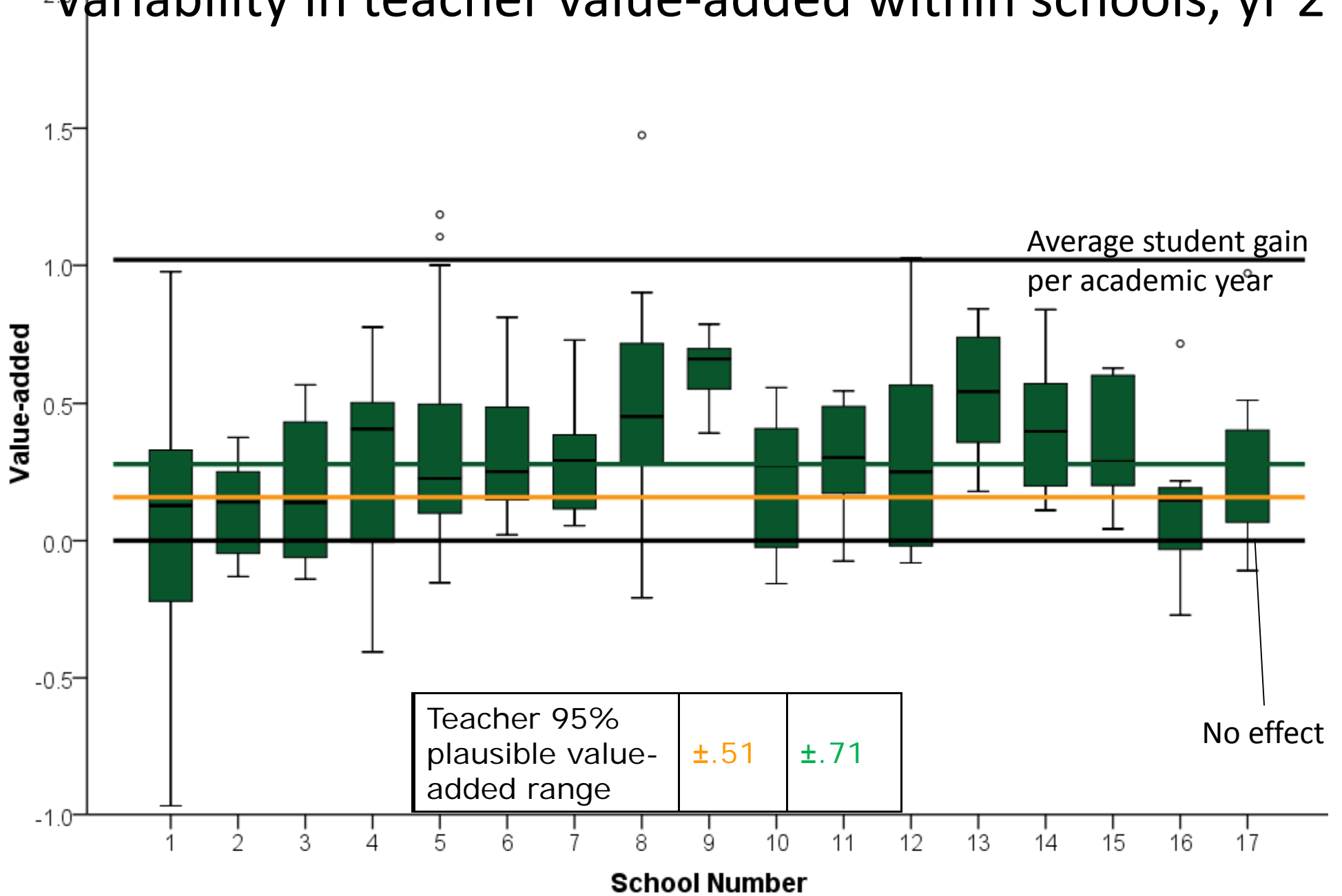
Variability in school value-added, year 3



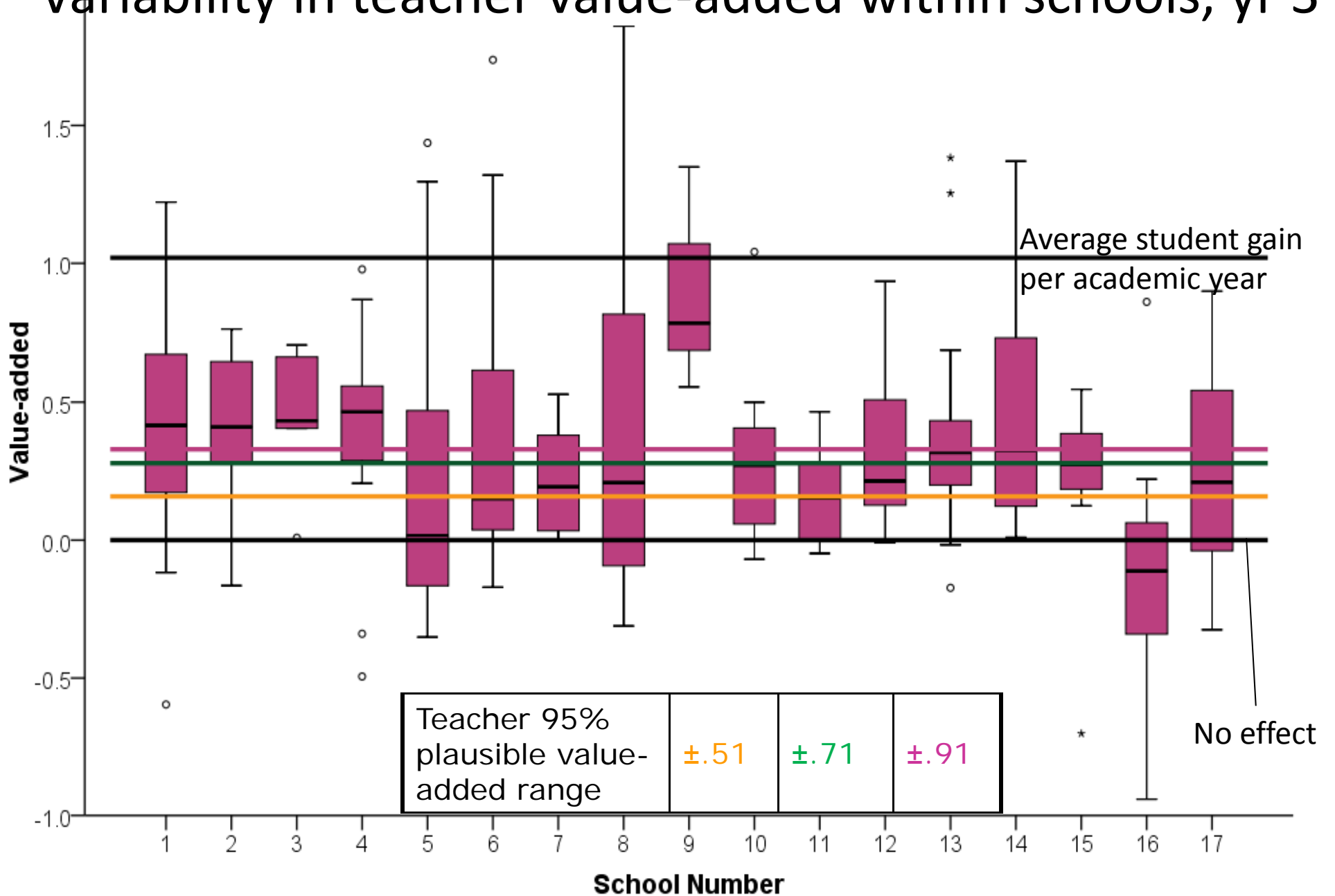
Variability in teacher value-added within schools, year 1



Variability in teacher value-added within schools, yr 2



Variability in teacher value-added within schools, yr 3



Exploring variation in trends

- Which teachers and schools improved most?
- Why? Under what conditions?

V. To Sum Up

- The accelerated multi-cohort design is relatively easy to implement in school settings (a naturalistic data design).
- It affords treatment effect results not easily obtainable through the “gold standard”—
 - A multivariate distribution of effects linked with potential sources of their variation and dynamic over time

To Sum Up

- More generally, an argument for an evolutionary, exploratory approach to accumulating evidence
 - Data designs are now practical and analytic tools exist.
 - Imagine if we had such information now on the 750+ schools that have been involved with LC over the past 15 years.
 - A stronger empirical base for a design-engineering-development orientation to the improvement of schooling.

To Sum up: Useable Knowledge for Improving Schooling

- Anchored in:
 - place problems of practice improvement at the center
 - a working theory of practice and its improvement
 - Measure core work activities and outcomes
 - Aim for a science of performance improvement
 - Variation is the natural state of affairs
 - Make it an object of study
 - Reliability is a key improvement concern in human-social resource intensive enterprise

From: "Doris Smith" <dsmith@smv.org>
Subject: ST EM Initiatives
Date: Mon, December 6, 2010 2:46 pm
To: pcast@ostp.gov

Greetings

We must start with 5th/6th grade students who are beginning to form self images of their potential and nurture their creativity while giving them the chance to experience real science inquiry. First-hand experience of knowledge generated through their own investigation (guided) enables their science interest and therefore potential STEM future. Also key is success with mathematics at this early age. Many 'old-school' educators are a great resource for 'what works' and would be very useful as classroom mentors upon retirement.

I coordinate a 6-week summer STEM program that gives rising 6th graders an opportunity to experience hands-on science and mitigate summer learning loss. The program is grant funded and through the vision of the Director of my museum, looks to expand throughout the state. We have built an active collaboration with local universities, and community agencies' summer programs.

I welcome the opportunity to build additional collaborations that are mutually beneficial.

Doris Smith

Educational Programs Coordinator

Science Museum of Virginia

2500 W. Broad Street

Richmond, VA 23220

804-864-1425 (O)

804-864-1488 (fax)

dsmith@smv.org

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From: "Matt Hartings" <hartings@american.edu>
Subject: Tech/Chemistry Jobs Round-table
Date: Thu, December 9, 2010 12:57 pm

Dear Colleagues
(Fellow scientists, science communicators, policy-makers)

Next week, there will be a forum on the present and future of science and technology jobs given through the prism of a couple of young chemists who have just navigated/are just navigating the job market. This forum will be hosted from Monday through Friday over several websites. (Monday <http://chemjobber.blogspot.com> ; Tuesday <http://cenblog.org/just-another-electron-pusher/> ; Wednesday <http://blog.chembark.com> ; Thursday <http://sciencegeist.net> ; Friday <http://chemjobber.blogspot.com>)

While all job markets are in poor shape right now, we believe that the job market for chemists (and other scientists) has been made worse on account of several specific policies and practices within the funding architecture. We will be addressing what we view as the failings of this system as well as proposing a more sensible path forward. It is our hope that we will come up with some worthwhile answers during our discussion.

I am writing you, our colleagues, for your support in this endeavor. Our discussion will be an open affair in which we expect feedback from those who are reading along with some of our arguments. It will be the discussion that occurs in the comments section of each of our blog postings that ultimately forms some of the solutions at which we arrive. We are writing to you because we value a diverse set of voices and are hoping for some guidance from you, our peers and mentors.

For more information, please see the attached release.

We hope to see you on-line at <http://chemjobber.blogspot.com> this coming Monday, December 13th.

Sincerely,
Matt

Matthew Hartings
Assistant Professor of Chemistry
American University
(202) 885-1778
hartings@american.edu

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Blog_release.pdf

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MEDIA RELEASE

Contact: Matthew Hartings
Email: matt@sciencegeist.net
Phone: (202) 885-1778

December 8, 2010

YOUNG SCIENTISTS POSIT: HOW CAN AMERICA ADEQUATELY ADDRESS A SHORTAGE OF SCIENCE CAREER PROSPECTS?

Washington, D.C.—There is a lot of talk that America lacks enough skilled scientists to maintain a competitive workforce. That's all it is—talk. The truth is that America lacks the requisite jobs to employ its brightest young scientists. In the last two decades, the annual number of American graduates earning PhDs in science and engineering rose by nearly 60 percent, according to *Science & Engineering Indicators 2008*, a publication of the National Science Board. The report goes on to state that there are three times more Americans earning those degrees than can find work in related fields.

Who is talking about these statistics? What action is being taken to address the underlying issues? When will the faulty system of government funding driving university scholarship be overhauled so that America's brightest young minds can once again advance scientific research and development in this country?

The week of December 13-17, 2010, these questions and more will be addressed by four independent bloggers who will share their unique perspectives on the outmoded practices and policies that are responsible, at least in part, for the shortage of promising science careers in America. The roundtable discussion will be held across four websites authored by recently hired chemists and chemistry PhDs currently navigating the crowded job market.

Over the course of the week, the following topics will be addressed:

- Monday, December 13: <http://chemjobber.blogspot.com> — an introduction to the topic and discussion of immediate ways to help clear the backlog of unemployed chemists
- Tuesday, December 14: <http://cenblog.org/just-another-electron-pusher/> — an in-depth look at whether there are too many chemists on the job market
- Wednesday, December 15: <http://blog.chembark.com> — a critique of the current tenure system and how it influences academic competition
- Thursday, December 16: <http://sciencegeist.net> — an overview of governmental policies related to science and technology and their impact on employment in these fields
- Friday, December 17: <http://chemjobber.blogspot.com> — a summary of discussions initiated by each daily post.

Be a part of the discussion—an informed citizenry is the start of the solution.

-- more --

BLOGGER PROFILES

Chemjobber: <http://chemjobber.blogspot.com>

Chemjobber is written by a senior research chemist at a research laboratory in the Midwest with a Ph.D. in organic chemistry. Since December 2008, he has been tracking chemist employment and unemployment on his blog. He may be reached for comment at chemjobber@gmail.com.

“In the past two decades, the problem of oversupply of Ph.D. scientists was mainly limited to the biological sciences,” said Chemjobber. “Now chemists, typically immune from similar problems, are facing these issues head on, with the highest measured unemployment rates in 20 years.”

Just Another Electron Pusher: <http://cenblog.org/just-another-electron-pusher/>

Leigh Krietsch Boerner, a doctoral student at Indiana University, writes “Just Another Electron Pusher” for *Chemical & Engineering News*. In her other aspects she is a science writer and general roustabout. She may be reached for comment at ljkbboerner@gmail.com or (708) 846-4189.

“Unemployment in the chemistry realm is at least partially being blamed on the influx of new PhDs into the job market,” said Boerner. “But is this really the case? For this discussion, I'll take a look at the newly released numbers from the NSF on how many chemistry doctorates are being launched into the world each year.”

Chembark: <http://blog.chembark.com>

Paul Bracher, author of ChemBark, is a researcher at the California Institute of Technology. He earned his Ph.D. in organic chemistry from Harvard University in 2010. He may be reached for comment at paul@chembark.com or (626) 395-2835.

“Academic tenure for professors of science promotes laziness, intellectual homogeneity, and an inflexible workforce,” argues Bracher. “The concept is revoltingly inefficient and un-American. Given the economic problems facing academia and a country in desperate need of innovation from scientists, the time has come for the tenure system to be replaced.”

Sciencegeist: <http://sciencegeist.net>

ScienceGeist is written by Gretchen Keller and Matthew Hartings. ScienceGeist covers topics at the interface between science and society with the goal of increasing general scientific literacy. Gretchen is working towards her Ph.D. in chemistry at the California Institute of Technology. Matthew, currently an Assistant Professor of Chemistry at American University, received his Ph.D. from Northwestern in 2005 and was a postdoctoral scholar at the California Institute of Technology from 2005-2010. Matthew may be reached for comment at matt@sciencegeist.net or (202) 885-1778.

“The employment outlook has been horrible for everyone,” said Hartings, “and scientists haven't been spared in any of this. The people who are most profoundly affected are those who actually work to manufacture *things*. By leveraging scientific advances in intelligent ways, we have a really good chance at boosting employment across the board and promoting our economy.”

###

From: "Daniel Byrd" <dbyrd@proenergygroup.com>
 Subject: EE/Solar Loan Program
 Date: Tue, December 14, 2010 1:16 pm
 To: pcast@ostp.gov

Dear PCAST Members,

I'd like to run something by you that may be of interest to your work on behalf of PCAST. We're developing an EE loan program and national funding solution, which also applies to solar and avoids first lien issues with PACE. The goal is a structured product for the secondary market. The program involves unsecured loans with a loan loss reserve, rate buy-down and on-bill financing (where possible). Attached please find a summary of our "turnkey program" and financial partners.

We're working with a hedge fund that has experience with consumer loans and securitization. We're expecting a rating from S&P in the next few weeks and are meeting with banks. If successful, we'd like to do the same with C&I. There are loan size, term and underwriting differences, but the same principles apply. While it might take a few weeks/months to launch, we're also in touch with potential investors interested in funding programs now.

The opportunity may exist for solar, too. The process is more complex due to differences between state incentives (RECs, SRECs, FITs, rebates), whereas EE programs are more uniform. Unlike unsecured EE loans, though, the panels retain substantial value. Some programs already exist like CT Solar Lease (www.ctsolarlease.com), which offers a rebate of 40-50% for participants. A typical residential lease is \$120/mo and we've heard the installers can sell the program up to \$200/mo. It has been popular and there's \$15mm in leases we could acquire. PSE&G also has a solar loan program. We're also in touch with the Delaware and D.C. Sustainable Energy Utilities, which are interested in programs.

Finally, we're establishing relationships with various program management firms like AFC First Financial, Community Energy, Franklin Energy Services and the NRDC.

Best, Dan

Daniel J. Byrd, J.D., M.E.M.
 Co-founder
 Progressive Energy Group, LLC
 1120 Avenue of the Americas, Suite 4167
 New York, NY 10036
 (212) 626-6595
www.proenergygroup.com

Attachments:

EELS Program Overview v1.docx	
Size:	24 k
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NYC.RFP.docx	
Size:	287 k
Type:	application/vnd.openxmlformats-officedocument.wordprocessingml.document

ENERGY EFFICIENCY FINANCING

PROGRAM OVERVIEW

Introduction

Progressive Energy Group (“PEG”), Vantage Capital Group (“Vantage”) and Arbor Research and Trading (“Arbor”, and collectively, with PEG and Vantage, the “Sponsors”) have teamed up to create a funding vehicle, Energy Efficiency Loan Solutions (“EELS”), for energy efficiency (“EE”) programs nationwide. After months of studying energy efficiency programs, it became clear to the Sponsors that the lack of a stable, cost effective financing solution has been a barrier to achieving the goals of many programs. With EELS, the Sponsors are creating liquid, long-term, cost effective, reliable financing solutions for EE.

Objective

Provide recurring and alternative funding for energy efficiency improvement projects to be undertaken by residential and commercial utility customers while leveraging those concepts proven in the securitization of loan assets. Loans will be initially financed with dedicated and secured warehouse lines. When loan volume reaches a critical mass they will be securitized and sold to the marketplace. The timing for an initial securitization would be approximately 12 months. The initial EELS product will be a residential-focused financing solution.

Loan Product Characteristics

Fixed rate, fully amortizing loans typically extended and serviced by third-party originators to utility customers for defined home-related projects implemented exclusively by pre-approved vendors. The loans that EELS is interested in funding have the following underwriting criteria:

- Individual, unsecured consumer loans ranging from \$1,000 to \$30,000 with maturities up to 10 years
- Minimum FICO scores of 625, but weighted toward borrowers with scores above 700
- Maximum debt to income ratios of 0.5 to 1.00
- Loan loss reserves of 5-10%
- Preference for on-bill financing (“OBF”)
- Loans price to yield 8.5-10.0%, depending upon adherence to underwriting criteria, including OBF

Loan Target Market and Utility Customer Base

- Initially, residential utility customers and potentially commercial utility customers
- Starting position: approximately 1.2 Million customers at a north eastern utilities with a goal to immediately pursue customers nationwide thereafter
- Loans already originated and owned by entities such as Fannie Mae, Sacramento Municipal Utility District and the State of Pennsylvania
- Potential target: over 90 Million homeowners nationwide

Loan Product Volume

- Existing loan holders, such as Fannie Mae, which maintains approximately \$75 Million
- Initial New Origination: \$2 Billion using an assumption of 15% penetration with average \$10K loan per customer
- Nationwide Target: \$150 Billion using the aforementioned assumption

Securitization Deal Size and Details

- Approximately \$250 Million/issue for first pool
- Utility company or program sponsor provides a loan loss reserve for the first 5% to 10% of defaults
- Expectation to issue AAA notes, either one tranche of single average life or multiple tranches with various average lives
- Providing several possible efficient capital structures

Benefits to Utilities or Other Program Sponsors

- Stable, liquid market for EE loans
- Cost effective, long-term financing solution to support multiple program years
- Strong information flow regarding program performance back to program sponsors

The Sponsors

The Sponsors have a strong mix of backgrounds in renewable energy and energy efficiency, environmental law, corporate finance, securitization, investment analysis and sales and trading. The principals have been involved in the renewable and energy efficiency markets for many years. In addition, the team includes individuals with deep experience in asset-backed securities, debt capital markets, debt underwriting and structuring.

Progressive Energy Group (“PEG”) – www.progenergygroup.com

PEG is a Manhattan-based consulting firm and solutions provider to the renewable and energy efficiency (“RE/EE”) industries. PEG works with a wide range of investors including

hedge funds, family offices, private equity firms, mutual funds and other institutional investors across the U.S. and E.U. interested in RE/EE investment opportunities. We also have relationships with project developers spanning a broad spectrum of technologies (wind, solar, biomass, biogas, energy efficiency, etc.), many of which are seeking to raise capital (debt, equity and/or tax equity) for their project pipeline. PEG also proactively engages local governments and utilities to help develop, finance and implement RE/EE programs that save money on operating costs, reduce CO2 emissions and other pollutants, and contribute to economic development and job growth.

Vantage Capital Group (“VCG”) – www.vantagecapitalgroup.com

VCG has a number of affiliated companies including a global investment advisory business that offers a range of alternative and traditional investment strategies for institutional and private investors. VCG also makes principal investments with its own committed capital. The firm’s traditional business includes capital raise/capital adequacy planning; balance sheet restructuring; risk management; securities analytics and valuation; cash flow modeling; and asset purchase and sales. VCG Securities is a registered broker-dealer with deep and unique capabilities, including specializations in the sales and trading of a broad range of fixed-income securities, and sophisticated structured products. VCG Securities, also offers a full range of counsel in corporate finance, including debt and other forms of capital raising, strategic advice on capital structure and asset and liability management. VCG Securities leverages its network of relationships in the institutional investment community to assist its clients in 144a private placements, and secondary offerings in the \$25mm to \$500mm range.

Arbor Research and Trading (“Arbor”) – www.arborresearch.com

Founded in 1988, Arbor has a long history of delivering innovative, technology-based products to many of the largest and most influential financial institutions worldwide. Arbor is an institutional research and brokerage firm that produces innovative research across a broad range of global fixed-income, equity, currency, and commodity markets. In addition, Arbor's trading desk provides comprehensive issue discovery and high quality execution in the fixed income and currency markets. Unencumbered by the biases of holding positions or underwriting securities, Arbor offers objective viewpoints and intelligent solutions for portfolio managers and traders worldwide through a proprietary menu of independent and innovative research products designed to work in conjunction with clients and their systems. As the landscape of global financial markets has changed, Arbor has adhered to its mission, providing clients with timely analysis, objective opinion and first-class execution.

Maryann Catalano
Senior Vice President
NYCDEC
110 William Street, 6th Floor
New York, NY 10038

Progressive Energy Group, LLC
1120 Avenue of the Americas, Suite 4167
New York, NY 10036

November 18, 2010

**Re: Progressive Energy Response to RFP for Financial Advisory Services
NYCEDC Contract No. 42720001, Project Code No. 4272**

Dear Sir or Madam,

Please accept the following response from Progressive Energy Group, LLC, (“Progressive Energy”) to the New York City Economic Development Corporation’s (“NYCEDC”) Request for Proposal (“RFP”) for financial advisory services on behalf of the New York City Energy Efficiency Corporation (“NYCEEC”).

In the current economic and geopolitical environment, energy improvements to buildings are essential to confront several challenges: job creation and economic development; energy independence and national security; climate change and other environmental issues. Buildings represent roughly 40% of primary energy use in the U.S. and an almost equal portion of national CO₂ emissions. In densely populated areas, like NYC, these values can rise to 80%. Simple, relatively low-cost measures such as air sealing, insulation, lighting and appliance upgrades can be done in almost any building to reduce energy use. These energy savings can pay for themselves over a short period and provide continued savings in the long run. Energy efficiency (“EE”) improvements constitute one of the lowest cost and most efficient options to reduce GHG emissions and stimulate the economy. Building EE retrofits can provide good, entry-level jobs in a growing industry. Existing programs show that workers with less than a four-year college degree can be trained to retrofit a building and reduce energy use by 30% or more.

Most EE programs rely on some form of subsidy provided by and/or administered through the local utility. Many programs, however, do not even attempt to achieve economies of scale. For instance, a program relying solely on rebates may encourage retrofits, but the rebate fund is often used up rapidly, failing to attract large amounts of private capital. While revolving and other loan funds have been used for many years across the U.S., momentum has been building for them as a more effective means of leveraging subsidies. Over the last few years, a series of federal energy bills have steadily expanded existing incentives for EE loan

programs, and created new ones. These include U.S. Department of Energy (“DOE”) funding for State Energy Programs (“SEPs”), allocated annually, and federal Energy Efficiency and Conservation Block Grants (“EECBG”). At the same time, most states offer rebates, grants and tax incentives to support EE programs, which can add substantial value to the loan program. A proliferation of state-level policies suggests the next decade may see a dramatic increase in funding.

These new policies include: EE portfolio or resource standards, requirements that utilities acquire all cost-effective EE, strengthened integrated resource planning (“IRP”) or demand-side management (“DSM”) planning requirements, and regulatory incentive mechanisms to better align utility financial interests with improvements in customer EE. Energy savings are a valuable benefit to the private and government sectors alike, and utilities are able to relieve stress on congested areas of the grid system, as well as avoid operating expensive peak power plants. Some states with EE mandates are experimenting with “white tag” markets that enhance the value of energy improvements.¹ And ratepayer advocacy groups are always seeking to implement programs that lower consumer energy bills. Moreover, there are opportunities to apply the same model to distributed energy resources like solar power, through programs such as “Connecticut Solar Lease.”² Both an EE program and a solar loan/lease program could include the Solar Empowerment Zones created under the NYC Solar City program.

I. Statement of Qualifications

Progressive Energy is a consulting firm and solutions provider to the renewable and energy efficiency (“RE/EE”) industries. Under current economic conditions, it is challenging to develop and finance small to medium scale RE/EE projects. We work with a wide range of investors including hedge funds, family offices, private equity firms, mutual funds and other institutional investors across the U.S. and E.U. interested in RE/EE investment opportunities. We also have relationships with project developers spanning a broad spectrum of technologies (wind, solar, biomass, biogas, energy efficiency, etc.), many of which are seeking to raise capital (debt, equity and/or tax equity) for their project pipeline.

Progressive Energy also proactively engages state/local governments and utilities to develop, finance and implement RE/EE programs that save money on operating costs, reduce harmful emissions and other pollutants, and contribute to economic development and job growth. Our firm consists of two members or principals, Daniel J. Byrd and Richard S. Cohen, co-founders of Progressive Energy. We are located at 1120 Avenue of the Americas, Suite 4167, New York, NY 10036.

¹ White tags equal a kWh or MWh of electricity; however, unlike RECs they represent avoided energy use and not energy production. They are so-called “Negawatts.” The credits can be traded like RECs.

² <http://www.ctsolarlease.com/index.php>

Partner, Daniel J. Byrd, J.D., M.E.M.

Dan's background spans environmental law, policy, science and technology. In addition to founding Progressive Energy, he is Director of Research at the Virid Eco Fund, a long-short global equities cleantech hedge fund, where he helps with macro-level portfolio management and fundraising. Prior, Dan was a Partner and the Legislative & Technology Analyst at GreenTech Research, a cleantech hedge fund that closed at the end of 2008. Dan was a corporate, environmental attorney at the law firms K&L Gates and Lowenstein Sandler, with a focus on New Jersey, which has some of the most aggressive renewable energy and contaminated site remediation programs in the U.S. Dan earned a B.A. in environmental studies and biology at the University of Pennsylvania, a Master's in environmental management from Yale University, and a J.D. from Rutgers University.

During his education, Dan worked at the U.S. Environmental Protection Agency's Office of Regional Counsel in NYC and the United Nations Development Programme-Global Environment Facility. He also participated in the U.S. Forest Service's grizzly bear recovery program in Washington State under the Endangered Species Act and served as an assistant game ranger in South Africa's Karoo Nature Reserve. Dan organized a cleantech finance conference at Columbia University in April 2009 and a solar finance conference at Pace Law School's Center for Energy & Climate in September 2009, and has participated in numerous panels. In the summer of 2008, Dan appeared on CNBC's Squawk Box to discuss the impact of the Warner-Lieberman cap-and-trade bill on the energy sector:

www.youtube.com/greenkorean

Partner, Richard S. Cohen, MBA

Mr. Cohen has 18 years of finance experience. He spent the last year and a half analyzing opportunities in the cleantech industry with Mr. Byrd including energy efficiency, solar and wind project development, biogas and various public and private finance programs. Prior to that, Rick spent 10 years in leveraged finance, providing debt capital to private equity-backed companies involved in leveraged buy-outs, recapitalizations and refinancings. His experience includes seven years with BNP Paribas sourcing, analyzing and executing project and corporate finance transactions in the middle market. During this time, Rick worked on a \$950 million financing related to Astoria Generating Company's acquisition of three New York City power plants from Reliant Energy. Mr. Cohen possesses an in-depth knowledge of transaction structuring and has execution experience involving preferred equity and mezzanine and senior secured debt. Rick's experience includes performing due diligence on more than 100 companies during his career. In addition, he earned a Master of Business Administration degree with a concentration in Finance from the Haas School of Business, UC Berkeley in 1999, and was formerly a C.P.A.

II. NYCEEC \$37.5 million EECBG Funding: Program Development

The ultimate goal is to leverage the EECBG and other available funding as effectively as possible according to the NYCEEC's primary objectives. Programs have many moving parts, each of which has costs and benefits. More inclusive programs may not support as many projects, but can provide other benefits such as targeting low-income families. Funding may also be allocated to program management services such as worker training and certification, critical to job creation and ensuring high quality retrofits. This last point is particularly important since the integrity of the physical work influences loan repayment and default rates, not to mention the environmental and economic benefits of the program. Below, we are presenting one idea or opportunity for the NYCEEC to leverage its EECBG funding; however, we remain open and flexible to consult with and design any program for the NYCEEC.

Our involvement in EE and distributed energy loan programs began with Connecticut Light & Power ("CL&P"). A colleague who knew the utility was in need of financial advisory services referred us to Craig Clarke and Steve Bruno at CL&P, who manage the EE loan programs. Connecticut is a state that allows utility on-bill financing ("OBF") and CL&P operates a commercial and industrial ("C&I") program using OBF. For the residential program, CL&P was using a \$5 million grant from the Connecticut Clean Energy Fund to buy down the rates on loans for EE retrofits from 14.99% all the way down to 0% and 2.99%. With such a drastic rate buy-down, the grant money was rapidly consumed. After modeling various scenarios, we suggested CL&P consider a less drastic rate buy-down and establish a loan loss reserve. We also presented the program to some targeted investors to see if we could arrange a cheaper financing source. As we investigated loan programs in other states, for instance, Pennsylvania's Keystone HELP program, we realized that similar programs already exist and could be rolled or expanded across the U.S.

One of the potential investors we presented to, a hedge fund called Vantage Capital Group, would like to provide a broader regional or national funding solution for EE programs broken into residential and C&I. The most efficient funding solution is to establish a warehouse line of credit with a major bank to finance programs across states and utilities. If the programs offer sufficient credit enhancement, they can be aggregated into one pool and securitized, creating a secondary market for the loans and a steady stream of new financing. We have been discussing EE loans with the ratings agencies and banks, and hope to have a rating and warehouse loan in place within the next few weeks. Even if the securitization process is unsuccessful, there are many investors that would be interested in financing the loans as a one-off program or project investment.

Based on a review of programs nationally, we have devised a sort of "turnkey" EE loan program, which can be adjusted to meet the laws and objectives of each state and/or locality:

Objective

Provide recurring and alternative funding for energy efficiency improvement projects to be undertaken by residential and commercial utility customers while leveraging those concepts proven in the securitization of loan assets. Loans will be initially financed with dedicated and secured warehouse lines. When loan volume reaches a critical mass they will be securitized and sold to the marketplace. The timing for an initial securitization would be approximately 12 months. The initial EELS product will be a residential-focused financing solution.

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- Individual, unsecured consumer loans ranging from \$1,000 to \$30,000 with maturities up to 10 years (possibly including UCC fixtures or utility guarantees)
- Minimum FICO scores of 625, but weighted toward borrowers with scores above 700
- Maximum debt to income ratios of 0.5 to 1.00
- Loan loss reserves of 5-10%
- Preference for OBF where available
- Loans price to yield 8.5-10.0%, depending upon adherence to underwriting criteria, including OBF

Loan Target Market and Utility Customer Base

- Initially, residential utility customers and potentially commercial utility customers
- Starting position: approximately 1.2 Million customers at a northeastern utilities with a goal to immediately pursue customers nationwide thereafter
- Loans already originated and owned by entities such as Fannie Mae, Sacramento Municipal Utility District and the State of Pennsylvania
- Potential target: over 90 Million homeowners nationwide

Loan Product Volume

- Existing loan holders, such as Fannie Mae, which maintains approximately \$75 Million
- Initial New Origination: \$2 Billion using an assumption of 15% penetration with average \$10K loan per customer

- Nationwide Target: \$150 Billion using the aforementioned assumption

Securitization Deal Size and Details

- Approximately \$250 Million/issue for first pool
- Utility company or program sponsor provides a loan loss reserve for the first 5% to 10% of defaults
- Expectation to issue AAA notes, either one tranche of single average life or multiple tranches with various average lives
- Providing several possible efficient capital structures

Benefits to Utilities or Other Program Sponsors

- Stable, liquid market for EE loans
- Cost effective, long-term financing solution to support multiple program years
- Strong information flow regarding program performance back to program sponsors

Technologies typically utilized include: lighting, HVAC (sealing leaks, central air conditioning, heat pumps, geothermal systems, etc.), doors and windows, insulation, efficient boilers and furnaces, and programmable thermostats. However, because each region of the country has its own climate and demographic profile, including NYC, the program can be tailored to include any technology that is proven, reliable and offers energy savings in excess of the loan repayment terms. Programs may be designed to target residential and C&I utility customers. While the structure is similar for both, there are a few significant differences. The term of a residential loan is usually longer, around 7-10 years, while C&I loans might be 5 years or less. The size of residential loans is typically \$1,000 to \$20,000, substantially smaller than C&I loans that max out at a few hundred thousand dollars. Underwriting and administering many small residential loans can be more expensive and time consuming than providing the same services for a smaller pool of larger loans.

On the other hand, the credit worthiness of residential customers is easier to assess and compare across the utility service territory using FICO scores and debt-to-income ratios. C&I customers are businesses, so credit worthiness is based on a variety of factors that may be more difficult to ascertain such as general market conditions or industry-specific events. This makes it harder to “lump” businesses across a city or utility service territory into one loan pool based on a uniform metric. That being said, there are well-established methods for determining the credit worthiness of a business that can be incorporated into a program. In fact, numerous utilities have established both residential and C&I programs.

Our partners in establishing a long-term, regional funding solution for EE programs are Vantage Capital Group and Arbor Research Trading:

Vantage Capital Group (“VCG”) – www.vantagecapitalgroup.com

VCG has a number of affiliated companies including a global investment advisory business that offers a range of alternative and traditional investment strategies for institutional and private investors. VCG also makes principal investments with its own committed capital. The firm’s traditional business includes capital raise/capital adequacy planning; balance sheet restructuring; risk management; securities analytics and valuation; cash flow modeling; and asset purchase and sales. VCG Securities is a registered broker-dealer with deep and unique capabilities, including specializations in the sales and trading of a broad range of fixed-income securities, and sophisticated structured products. VCG Securities, also offers a full range of counsel in corporate finance, including debt and other forms of capital raising, strategic advice on capital structure and asset and liability management. VCG Securities leverages its network of relationships in the institutional investment community to assist its clients in 144a private placements, and secondary offerings in the \$25mm to \$500mm range.

Arbor Research and Trading (“Arbor”) – www.arborresearch.com

Founded in 1988, Arbor has a long history of delivering innovative, technology-based products to many of the largest and most influential financial institutions worldwide. Arbor is an institutional research and brokerage firm that produces innovative research across a broad range of global fixed-income, equity, currency, and commodity markets. In addition, Arbor’s trading desk provides comprehensive issue discovery and high quality execution in the fixed income and currency markets. Unencumbered by the biases of holding positions or underwriting securities, Arbor offers objective viewpoints and intelligent solutions for portfolio managers and traders worldwide through a proprietary menu of independent and innovative research products designed to work in conjunction with clients and their systems. As the landscape of global financial markets has changed, Arbor has adhered to its mission, providing clients with timely analysis, objective opinion and first-class execution.

III. Discussion of Existing Programs

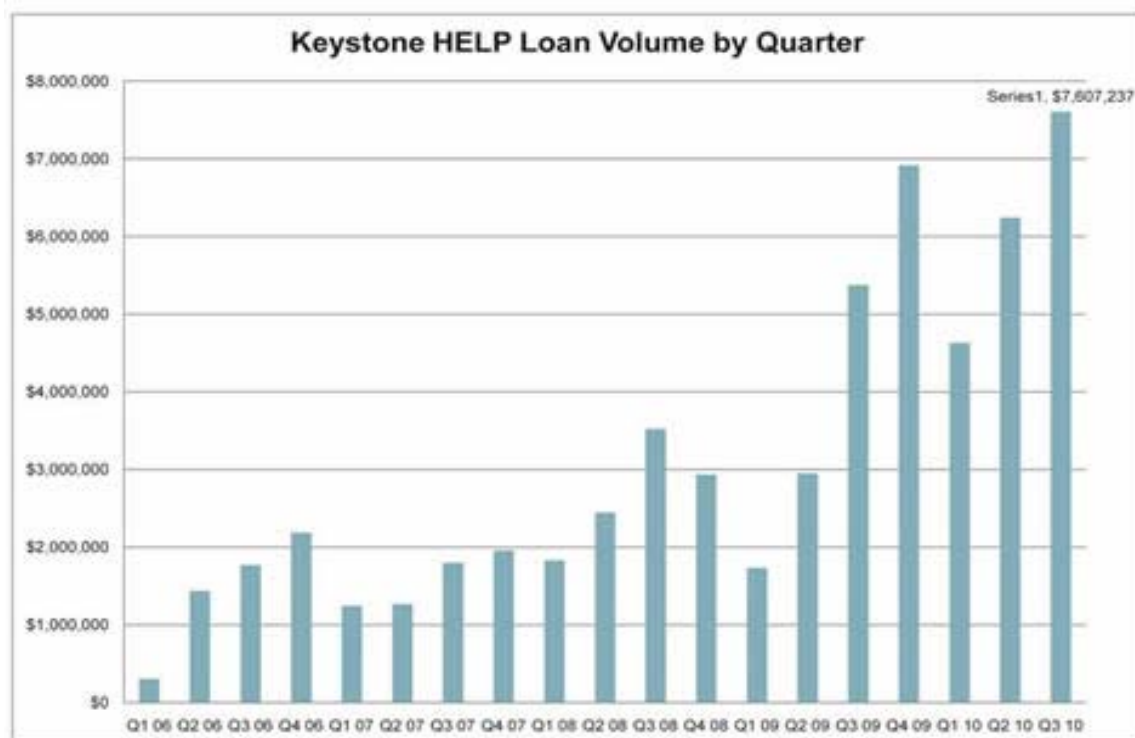
The goal of each program is to include the broadest consumer base possible. It is up to the sponsors of each program to set the criteria, balancing the need for repayment and low default rates with availability for low-income customers. For instance, Pennsylvania’s Keystone HELP program uses a minimum FICO score of 640 and a maximum debt-to-income ratio of 50% for residential applicants.³ Further, homeowners must make improvements to a primary residence located in

³ http://www1.eere.energy.gov/wip/solutioncenter/pdfs/DOE_Webcast_Presentation_012810.pdf

Pennsylvania and must have a combined annual household income of \$150,000 or less. Many other programs have similar minimums, though some are lower. In general, riskier segments of the population require additional credit enhancement, such as large loss reserve, diminishing the amount of loans issued. Loan rates may be tiered as well, with the cheapest loans for the lowest income bracket. It is difficult to estimate the number of participants, which depends on the subsidies available for the rate buy-down and loss reserve, as well as other available incentives like rebates and tax credits.

Program Demand

Most programs have experienced growing demand. CL&P’s pilot residential program, as well as its C&I program, Keystone HELP, and the Sacramento Municipal Utility District’s (“SMUD’s”) Residential Loan program are experiencing demand for loans easily in excess of funding. As of October 2010, Keystone HELP had seen an 85% increase in loan volume for the first three quarters of 2010 compared to the same period in 2009. Close to \$18.5 million in loans were made to over 2,000 homeowners through September of 2010 versus \$10 million made to just over 1,000 homeowners through last September. Since the program's inception in 2006, over \$58 million has been lent to 7,432 homeowners. Pre-approved contractors audit homes and businesses, and determine the number and type of measures to install.



The programs with the greatest demand and highest volume of loans have strong contractor networks and regular communication with the contractors. This is an

important point, since higher volumes drive down costs. For instance, Manitoba Hydro has 1,100 contractors and 200 retailers in their program; Keystone HELP has 700 approved contractors in Pennsylvania; program manager Viewtech has 600 contractors in Southern California; SMUD has 180 contractors in the Sacramento region; and NYSERDA has 150 contractors in New York. Significant time and effort is often spent to make sure contractors feel comfortable with the program. After all, they have to explain it to customers and help them fill out loan applications. Some programs also require expertise-based certification. For example, both NYSERDA and Efficiency Vermont require contractors to be certified by the Building Performance Institute (“BPI”), a diagnostics-based training program endorsed by the U.S. EPA's Home Performance with ENERGY STAR program. This training improves contractors’ skills and offers some assurance of quality to homeowners.

There appears to be a trade-off between the complexity of the loan product and program take-up. Some loan products fund only measures identified through an audit on a property-by-property basis. Audits performed by trained and certified contractors can identify a wide range of measures. The alternative to audits is a more streamlined, less expensive list of eligible improvements. The audit approach results in greater energy savings per, but has more obstacles to participation, exemplified by the HELP program. The Energy Trust of Oregon October 2010 “Report to the Oregon [PUC] On Pilot Programs for the [EE] and Sustainable Technology Act of 2009”⁴ states that: *The value of the Home Performance with ENERGY STAR assessment lies in its ability to analyze the energy performance of the entire house and the interacting effects of energy-saving measures. Using the results of the assessment, contractors can develop an integrated plan for efficiency upgrades that maximizes funding available through the pilot. Based on experience to date, the assessment has been determined worthy to continue at scale up.*

Some examples of successful program innovations: Long Island Green Homes provides a list of well-trained, screened contractors, and has each contractor do the energy assessment and improvements, with a third party review at the end. The New London Resource Project helped customers who were uncomfortable choosing a contractor by randomly choosing one off the pre-approved list, having them bid to the customer, and helping customers interpret the bids. The Together We Save pilot in Milwaukee provides an “energy advocate” whose role is to walk the participant through the program and is often present during the audit. Clean Energy Works Portland employs a similar advocate. Advocates increase the conversion rate from audits to improvements, but they have some drawbacks. Contractors are not always enthusiastic about their involvement and may interfere with their business model. It also adds cost to the program, for instance, in Portland about \$300 per home during the pilot. One solution could be to train contractors to serve the role of energy advocate, as best as possible, and communicate effectively with consumers.

⁴ http://energytrust.org/library/reports/101001_EEAST_OPUC.pdf

Program	Connecting Contractors & Customers
Hood River Conserv. Project	Program approved contractors assigned to homes
Houston Res. EE Program	Program selects contractors; each given a territory in Houston
PA's Keystone HELP	Households select contractors; Keystone HELP provides contractor database
Long Island Green Homes	Households can choose from list of BPI-accredited contractors or program will assign one
Marshfield Energy Challenge	Program-approved contractors assigned to homes
New London Resource Project	Program offers to assign contractors or participants choose their own
NYSERDA Home Performance with ENERGY STAR	Households choose from list of BPI-accredited contractors
Sustainable Works	10-20 homes bundled and bid to approved contractors
Twin Cities One Stop Program	Households choose their own contractors
WeatherizeDC	Single BPI-accredited contractor selected for pilot under Community Workforce Agreement

Default Rates

Default rates must be low for programs to succeed. Default rates for clean energy financing programs are typically below 5%. SMUD's Residential Loan program is heavily weighted towards EE measures, but also includes distributed energy.⁵ SMUD's program is among the oldest in the country, beginning in 1977, and has issued over 135,000 loans. Since 1990, it has issued over 80,000 loans totalling more than \$450 million. SMUD uses internal utility funds to run the program, which mainly serves single-family, owner-occupied homes. SMUD works closely with almost 200 pre-approved contractors, the main salespeople, walking customers through the loan application. SMUD approves or denies the loan within 24 hours. After the work is completed and the homeowner and contractor sign off, SMUD pays the contractor, often via direct deposit, and begins billing the client. Originally SMUD included the charge on the utility bill, but now send a separate bill due to a change in their billing system.

SMUD does all of the underwriting, servicing, and collections in-house. It currently charges an interest rate of 8.5%, which covers its cost of capital, plus all overhead costs, including program administration and defaults. In 2007, the administrative cost per loan was \$245, which includes origination, servicing and collections for those loans issued in 2007. As an example of program activity in a single year, in 2007 the program received 4,400 applications, of which 3,200 (73%) were approved. The loan is secured with a UCC fixture filing to the property and the

⁵ Info on Smud's program taken from:

<http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/SMUDcasestudy.html>

default rate has been quite low. In 2007, the default rate was 1.8%, higher than usual because of adverse economic conditions. In 2006, it was 0.3%; the highest annual rate was 4% in 1996.

Pennsylvania’s Keystone HELP, one of the most widely publicized programs, and currently seeking to sell \$25 million of loans, has a cumulative default rate of 0.49%. A similar program to HELP is Massachusetts’ Mass Save program, which has issued about \$60 million in total residential loans, \$19 million last year. The cumulative default rate is 0.5% since 2006. Like HELP, the Mass Save program default rate is not exact because the loans have not fully matured. Tom Darling at the Massachusetts Department of Energy Resources estimates defaults will rise in the Mass Saves program, as well as Keystone HELP, but probably not above 2%. Even if the final default rate is ten times the current rate, it would only be 5%, suggesting this could be a reasonable level at which to set a loan loss reserve. NYSERDA claims its Energy Smart program has a 0% default rate.⁶ Manitoba Hydro’s Power Smart Residential Loan OBF program, with more than \$200 million in lending and 51,000 loans, had a cumulative default rate under 1% as of October 2009.

United Illuminating launched a Small Business Energy Advantage program (average peak demand of 150 kW or less). Projects average \$6,000 to \$8,000 but range from \$1,000 to \$60,000. Since 2000, only \$200,000, or less than 1% of the total financing offered, has defaulted. Sempra Energy Utilities has implemented a similar small business program. Loan volume has increased steadily since inception in December 2007. As of August 2009, \$3.5 million in loans were outstanding. Since then, the program has rapidly reached the \$10 million cap the state regulatory commission approved. Additional funds are pending approval. Typical loans on the electric side are \$20,500 and \$34,000 for natural gas. Default rates have been very low. Out of 11 loans to cover gas efficiency projects the company has experienced no defaults. Out of 154 loans on the electric side, worth \$3.2 million, the company has experience 2 defaults, with a value of less than \$50,000. These figures are cumulative as of October 2009. The state’s public benefit fund covers losses.

Program	Default Rate	Credit Quality Criteria
Keystone HELP	1.5%	FICO of 640 minimum. Average is 720.
Manitoba Hydro	<1%	Current on utility bill for 12 months, credit score considered
Midwest Energy	0%	Current on bill for 12 months
United Illuminating	<1%	Current on bill, In biz for at least 6 mo’s
Sempra Energy Utilities	<1%	Account in good standing with non disconnect in previous 12 mo’s; applicant must have at least 24 months with utility and 12 months at current location; default leads to disconnect

⁶ <http://www.nyserda.org/loanfund/faqs.asp#ques1>

Source: Conover Brown, October 2009 report, Prepared for Southwest Energy Efficiency Project, "Recent Innovations In Financing for Clean Energy."

Low default rates are likely a result of careful underwriting in a small number of programs and the fact that improvements reduce borrowers' expenses, making payments affordable. Low default rates may also be attributable to altruistically motivated early adopters. It is unlikely that EE lending has a long or strong enough credit history to attract private investors without additional credit enhancements, such as loan loss reserves and guarantees. For small business programs, contractors often work with the utility to evaluate loan applications to weed out riskier loans. The evaluation is typically based on the number of years the applicant has been in business and utility bill payment history. Programs may require a business be in operation for 12-24 months to participate. This requirement weeds many risky loans, since 30% of small businesses fail within the first two years.

OBF v. non-OBF Programs

OBF programs issue loans paid back through energy savings on monthly utility bills. When SMUD transitioned its program from OBF to non-OBF, no change in default rate was noted. In fact, across programs, available data show no significant difference between the default rates for OBF versus non-OBF programs, though there is a perception or investor preference for OBF. A September 2009 report by Conover Brown,⁷ prepared for the National Small Business Association, states that OBF programs are under development in Illinois and Michigan and now operate in Arkansas, California, Connecticut, Hawaii, Kansas, Massachusetts, New Jersey and Rhode Island. Connecticut and California utilities operate the largest OBF programs. Although not in the U.S., Manitoba Hydro's Power Smart Residential Loan program is the largest OBF in North America by measure of volume and value, with more than \$200 million in lending and 51,000 loans issued since it began in 2001.⁸

The number of OBF programs nationwide has been limited, but is growing. OBF programs have several advantages. Savings to consumers are immediate, as long as the loan payments are set lower than expected monthly savings. OBF can enhance the customer experience through convenience, as well as the satisfaction of viewing savings as they occur. Utilities and regulators should have an easier time compiling data regarding energy/cost savings, since they receive this information monthly through the bill. Privately owned utilities require approval from state regulatory agencies and rules governing utility disconnect vary from states. A recent Illinois RFP provides that loan defaults will result in disconnect, and Sempra Energy Utilities has a "default equals disconnect" provision. Investors prefer this option as a form of credit enhancement, but disconnect is often not available, and it is not yet clear the provision actually reduces default rates.

⁷ <http://www.nsba.biz/docs/09OBFNSBA.pdf>

⁸ www.hydro.mb.ca/your_home/residential_loan.shtml

For small businesses, lighting upgrades dominate the list of measures financed through OBF programs, representing as much as 75% of all measures, but they are by no means the only potential improvements. Improved refrigeration (restaurants and grocers), heating and AC systems, insulation and motors also are common. A wide variety of small businesses take advantage of OBF programs. Examples include restaurants, office buildings, car washes, small manufacturers, Salvation Army, churches and condominium associations. Not all customers are the perfect fit, for example, contractors in Connecticut found businesses located in older, larger office buildings do not pay their own utility bills because energy charges are built into monthly rent. These businesses have little incentive to reduce energy use. In other cases, the business may be about to move, unwilling to commit to a multi-year loan. Attaching the financing to the meter (on-tariff) allows the obligation to transfer to the new owner/tenant.

Some utilities that considered OBF found their billing systems inadequate to allow for automated and electronic management of on-bill loans. A few utilities had to manually enter data for each loan. The program administrator's billing system should be assessed early in planning process to estimate the cost of upgrades. There may also be increased staffing and administrative costs. Second, repayment allocation (i.e., who gets paid first) is an issue when customers partially pay their bills. When using a 3rd party source of capital for OBF, the utility usually covers the gas or electric charge first, increasing the risk to the lender. Third, using OBF for improvements that save non-utility fuels, such as heating oil, may be confusing to customers with an electric-only bill. Finally, the commitment of the utility to OBF is critical because payments have to run through their systems and any utility concerns must be addressed.

Some utilities perceive federal/state lending laws as a barrier. Federal laws relate primarily to disclosure requirements for lenders and will not apply to utilities. State laws and regulations vary considerably, and may or may not pose a barrier. Policymakers may wish to consider developing approaches and interpretations of lending laws that treat utilities not as banks but energy-service providers extending a financing product incidental to their primary business.

Minimizing Program Costs

One option to reduce costs is to charge for audits and bundle the cost in the financing package. Another way to weed out applicants without charging for an audit, a barrier to participation, is a preliminary loan qualification. Other expenses may include complying with consumer lending laws for residential programs. When a utility or other organization issues loans, it must follow all notification, disclosure, and other legal requirements. SMUD's program is administered in house, and much of the staff are former bank employees familiar with lending. Most programs use lenders to process and service the loans, for instance, NYSERDA, Efficiency Vermont,

Vermont Gas, HELP/AFC, and Viewtech. There are also numerous fixed costs to running a financing program that economies of scale can help address.

A streamlined application process is important to the customer and the contractor. Any burden for the customer or delay in paying the contractor is a barrier. Programs such as Manitoba Hydro, SMUD, HELP, and Viewtech offer quick application processing, often with approval over the phone for unsecured loans (secured loans take longer). Several programs deposit the funds directly into contractors' accounts as soon as customers sign the certificate of completion. There are other ways to streamline the process. Vermont Gas Systems offers to assign a private contractor to the homes they audit and 95% of customers choose this option rather than finding a contractor on their own. Midwest Energy's internal auditing team creates a conservation plan that contractors must follow, reducing the need for homeowners to make decisions about what improvements they should make.

Need for Additional Financing

HELP is a success, but its ability to reach the state's more than 5 million households is constrained by a lack of financing. To increase its capacity, the Treasurer's Office retained Boston-based investment bank Bostonia to buy \$24 million in loans and repackage them as securities. Treasurer Rob McCord said, "You can sell low-credit subprime mortgage backed securities, but it's impossible to sell high-credit home equity loans where people have reduced their cost of living and should be able to finance the loan with their reduced utility bills." Given the default rate of 0.49%, the guaranteed cash flow from energy savings is a safer bet than future income [based on real estate], argues McCord, referring to mortgage-based securities. The default rate for EE loans is negligible compared to the 12% default rate for home mortgages in 2009, yet banks are still repackaging mortgages with a double B rating and selling them as securities. We have spoken with Bostonia about acquiring the HELP loans. While it is initially seeking community banks to buy the loans, which can present a more competitive bid than we can, efforts so far have been unsuccessful and we remain a bidder.

IV. Program Management Partners

There are many potential partnerships for EE programs including universities, community organizations, non-profits and trade associations, foundations, etc. Developing relationships with these institutions can greatly enhance program outreach, job training, economic development, community support and overall success. Progressive Energy seeks to establish partnerships with organizations and companies experienced in all aspects of EE loan programs. In some cases, it may be possible to lower program costs by outsourcing contractor certification to a non-profit or government organization, rather than paying management fees to a private contractor. That being said, since local governments and utilities are not always well equipped to underwrite and service loans, collect late payments or establish OBF programs, it is critical to partner with firms with experience and skill set to

adequately manage these tasks. We have developed a few strategic partnerships with program management firms like Franklin Energy Services⁹ and Community Energy¹⁰, which manages green energy purchasing programs for utilities and has experience aggregating tradable credits such as RECs. They have customers in New York and are developing solar projects in NYC with ConEd Solutions.

Progressive Energy also has a strategic partnership with AFC First Financial Corporation (“AFC”), based in Allentown, Pennsylvania. AFC has served as the program manager and loan servicer for RE/EE programs in twenty-one states, including Pennsylvania’s Keystone HELP and the CL&P residential pilot program. According to AFC, since 1999 it has closed over 17,000 energy loans totaling more than \$120 million. Partnering with an experienced program administrator is critical because AFC pre-approves the contractors that market the program to utility customers, as well as perform the installation. AFC relies on over 2,500 AFC-approved contractors (1,600 in Pennsylvania) to market loans, and provide products and services. AFC also underwrites loans and contacts the borrower only three days after payment is due, minimizing delinquency and default rates.

The pre-approved contractors who conduct audits and perform the installation work largely sell the program to utility customers. Many of these firms are already marketing their services within the utility service area and have a direct incentive to sell the program and provide quality installation services. They are also the most knowledgeable parties to educate individual residents and businesses about the program and qualified energy saving technologies. Thus, much of the time and expense associated with marketing will be effectively “outsourced” to the program’s pre-approved contractors. NYC could supplement these efforts by providing information about the program along with the monthly bill and publicizing the program on online.

AFC First Financial Corp.:

- AFC underwrites and originates unsecured fixed-rate loans of \$1,000 to \$20,000 for energy-efficiency improvements
- Loan based largely on FICO scores, debt-to-income, and employment verification
- Since 1999, AFC has closed over 17,000 energy loans totaling more than \$120 million.
- Has processed over 50,000 energy efficiency loan applications
- Currently services 6,200 loans with balances of \$35 million.
- As of June 30, 2010, cumulative default rate was 1.1%, and 90-day delinq. 1.4%

⁹ www.franklinenergy.com

¹⁰ www.communityenergyinc.com

- AFC relies on over 2,500 AFC-approved contractors, 1,600 in Pennsylvania, to market loans to homeowners and provide products and services
- AFC is co-creator and administrator of programs in three states:
 - Pennsylvania's Keystone HELP
 - Connecticut's Solar Lease¹ and Energy Efficiency Fund Residential Financing Programs, and
 - The new Kentucky Home Performance Financing Program.
- In 21 other states, it makes energy-efficiency loans through programs operated by 15 manufacturers and four utilities.
- These are 10-year unsecured market-rate loans that AFC sells to Fannie Mae
- AFC is one of three lenders authorized to sell energy loans to Fannie Mae
- Working on DOE Grant financing program in Philadelphia, Cincinnati, Iowa and others
- Operates consumer financing programs for National Grid, Duke Energy, Progress Energy and others

In Pennsylvania, where the Keystone HELP program is available, AFC recently opened the Green Energy Center located in Lower Macungie. The Center houses AFC lending operations, as well as a green jobs training and contractor education campus managed in conjunction with the Lehigh Carbon Community College. AFC has completed a series of seventy statewide "Home Performance 101" training sessions with Home Energy, the U.S. Environmental Protection Agency's certified Home Performance sponsor in Pennsylvania, and the Pennsylvania Department of Environmental Protection. NYC has excellent university campus resources to incorporate into green career or job training programs.

As discussed above, program management and loan service fees can be higher for energy improvement programs than other types of loans, since the responsibilities are more extensive. Working with AFC on a consistent, ongoing basis allows us to identify aspects of program management and loan servicing where costs can be reduced. And as the volume of loans accumulates, within and across programs, it should be possible to lower the program management and loan servicing fees.

We welcome the opportunity to submit this response to the NYCEDC's RFP for financial advisory services to the NYCEEC and thank you for your consideration.

Sincerely,

Daniel J. Byrd, J.D., M.E.M.

From: "Adrian Walker" <adriandwalker@gmail.com>
Subject: Twitter, Facebook, Executable English
Date: Sun, December 19, 2010 5:55 pm
To: pcast@ostp.gov

Hi,

Please ask your colleagues consider the following for use in your organization -- Social Media for Knowledge Capture and Question Answering in Executable English** over Databases. It could become the next big thing after Twitter and Facebook. And, it's free.

Imagine government and other web sites answering an open ended collection of English questions, and also explaining the answers in English. Imagine government folks and citizens socially networking, Wikipedia-style, to continually expand the range of questions that can be answered.

The approach starts from the observation that data by itself is necessary, but not enough, for many practical uses of an intranet or the Web.

What's also needed is knowledge about how to use the data to answer an ever increasing number of questions -- such as, "How much could the US save through energy independence?".

There's emerging technology that can leverage social networking for the significant task of acquiring and curating the necessary knowledge -- in the form of Executable English.

You can Google "Executable English" to find this.

The technology underlies a Web site that works as a kind of Wiki, for collaborative content in open vocabulary, executable English (and other languages).

As you know, English text (like this sentence) is normally something for a person to read, but it cannot be used as a program that you can run on a computer.

On the other hand, executable English is something that a person can read, and that you can also run on a computer.

Shared use of the system is free, and there are no advertisements. Just point a browser to www.reengineeringllc.com.

Since the executable knowledge is in English, Google indexes and retrieves it, acting as a kind of registry.

You and your colleagues can use your browsers to write programs as syllogism-like rules in English, run them, and get detailed English explanations of the results.

Applications of the system include: Answering Questions about the US Financial Stimulus Package, Risk Analysis, Reasoning over Taxonomies, Knowledge Based Data Mining, Business Intelligence, and Supply Chain Management. Please see [1-6].

To use the system there is nothing to install. Simply point your browser to the site below, to run the examples provided, and to write and run your own examples.

As mentioned, shared use of the system is free. There is no advertising.

Please be aware that anyone on the web can view, run and change anything that you write into the shared area. There is also private group use for a nominal fee -- please see www.reengineeringllc.com/terms_and_conditions.html.

Apologies if you have seen this technology before, and thanks for your comments,

-- Adrian

** English, and other languages

[1] www.reengineeringllc.com/demo_agents/Stimulus_Arkansas.agent

[2]

www.reengineeringllc.com/A_Wiki_for_Business_Rules_in_Open_Vocabulary_Executable_Engish.pdf

[3] www.reengineeringllc.com/Oil_Industry_Supply_Chain_by_Kowalski_and_Walker.pdf

[4] www.reengineeringllc.com/ibldrugdbdemo1.htm (Flash video with audio)

[5] www.reengineeringllc.com/EnergyIndependence1Video.htm (Flash video with audio)

[6] Internet Business Logic
A Wiki and SOA endpoint for Executable English Q/A
Online at www.reengineeringllc.com
Shared use is free, and there are no advertisements

Adrian Walker
Reengineering
Phone: USA 860 830 2085

Attachments:

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Size:	4.3 k
Type:	text/html

From: "Timothy Young" <timothymyoung@hotmail.com>
Subject: Please remember to...
Date: Mon, December 20, 2010 3:27 pm

To Whom It May Concern,

Greetings, I hope everyone is doing well.

I noticed by watching the national weather forecast that Southern California is receiving a lot of rain, which is responsible for several reported landslides.

Please remember that the Community of La Conchita is at risk of landslides at this time, and the submitted document entitled "Protecting the Community of La Conchita in Ventura County during Mudslides", which was submitted to the President's Office of Science and Technology Policy.

Please remember to submit your comments to PCAST regarding the proposed structure that is mentioned within the cited document. This could also include the pros and/or the cons of the proposed structure; this will help PCAST determine the worth of the proposed structure. The e-mail address of PCAST for this purpose is pcast@ostp.gov

and Ms. Deborah Stine, PhD (Executive Director of PCAST) e-mail address is dstine@ostp.eop.gov

I would like to thank each of you for considering the contents of this e-mail.

Genuinely,
Timothy M. Young
Email: timothymyoung@hotmail.com

Attachments:

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Size: 4.5 k
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From: "Hoffman, Eric" <EHoffman@foe.org>
Subject: Public Comment to PCAST
Date: Wed, December 22, 2010 9:38 am
To: pcast@ostp.gov

On behalf of 58 international organizations from civil society, I would like to submit the attached letter to the President's Council of Advisors on Science and Technology for review during the Council's January 7th meeting. The letter was originally submitted on December 16, 2010 to the Presidential Commission for the Study of Bioethical Issues in response to their report on synthetic biology. These organizations do not support the Commission's recommendations on synthetic biology. The recommendations are an inadequate response to the risks posed by synthetic biology because they: 1) ignore the precautionary principle, 2) lack adequate concern for the environmental risks of synthetic biology, 3) rely on the use of "suicide genes" and other technologies that provide no guarantee of environmental safety, and 4) rely on "self regulation," which means no real regulation or oversight of synthetic biology.

I would be happy to answer any questions the Council may have regarding this letter and our concerns. I will be at the January 7th meeting but unfortunately I accidentally clicked "no" when asked if I want to comment publically. I would appreciate the opportunity to speak for 1-2 minutes to highlight the concerns raised in this letter.

Sincerely,

Eric Hoffman

Friends of the Earth

202.222.0747

Attachments:

untitled-[1.2]
Size: 3.8 k
Type: text/html

Civil Society Letter to Presidents Commission on Synthetic Biology.pdf
Size: 132 k
Type: application/octet-stream
Info: Civil Society Letter to Presidents Commission on Synthetic Biology.pdf

December 16, 2010

Dr. Amy Gutmann
Chair, Presidential Commission for the Study of Bioethical Issues
1425 New York Avenue, NW, Suite C-100
Washington, DC 20005

Cc: *Dr. Steven Chu, Secretary, Department of Energy*
Kathleen Sebelius, Secretary, Department of Health and Human Services
Dr. Francis Collins, Director, National Institutes of Health
Janet Napolitano, Secretary, Department of Homeland Security
Tom Vilsack, Secretary, Department of Agriculture
Lisa Jackson, Administrator, Environmental Protection Agency
Dr. Margaret Hamburg, Commissioner, Food & Drug Administration
Dr. Thomas R. Frieden, Director, Centers for Disease Control and Prevention
Robert Mueller, Director, Federal Bureau of Investigation
Dr. John Holdren, Director, White House Office of Science and Technology Policy
Nancy Sutley, Chair, Council on Environmental Quality

Dear Dr. Gutmann,

Thank you for this opportunity to comment on the Commission's recommendations on synthetic biology. We applaud the transparency and openness of the Commission's deliberations. Unfortunately this process has not resulted in recommendations that recognize the serious threats synthetic biology pose to the environment, workers' health, public health, and social justice.

The undersigned 58 organizations from 22 countries do not support the Commission's recommendations on synthetic biology. They are an inadequate response to the risks posed by synthetic biology because they: 1) **ignore the precautionary principle**, 2) **lack adequate concern for the environmental risks of synthetic biology**, 3) **rely on the use of "suicide genes" and other technologies that provide no guarantee of environmental safety**, and 4) **rely on "self regulation," which means no real regulation or oversight of synthetic biology.**

A precautionary regulatory framework is necessary to prevent the worst potential harms. This requires a ***moratorium on the release and commercial use of synthetic organisms until a thorough study of all the environmental and socio-economic impacts of this emerging technology has taken place.*** This moratorium should remain in place until extensive public participation and democratic deliberation have occurred on the use and oversight of this technology. This deliberative process must actively involve voices from other countries - particularly those in the global South - since synthetic biology will have global impacts and implications.

The Precautionary Principle Should Guide Synthetic Biology Regulations

The Commission's recommendations fail to implement the precautionary principle, and instead referenced the so-called "prudent vigilance" concept. The precautionary principle is recognized by

international treaties including the United Nations Convention on Biological Diversity, the Cartagena Biosafety Protocol, the new Nagoya/Kuala Lumpur SubProtocol on Liability and Redress for Damages Due to the Transboundary Movement of Transgenics, and the UN Framework Convention on Climate Change. Although "prudent vigilance" is used as a guiding principle by the Commission in its recommendations, it is a completely new concept, apparently invented by the Commission without legal or policy precedent. When dealing with novel synthetic organisms that pose serious risks to the environment and public health, we cannot rely on a new concept with no agreed upon definition, framework, or precedent.

The precautionary principle often is mischaracterized as anti-science, anti-technology, or anti-progress. This is far from the truth. The precautionary principle, as outlined by the Wingspread Consensus Statement on the Precautionary Principle, states: *"When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action."*ⁱ

Precaution does not derail progress; rather, it affords us the time we need to ensure we progress in socially, economically, and environmentally just ways. In the face of uncertainty and the potential for serious harm, synthetic biology will often require risk analysis. We do not yet know what the full environmental or socio-economic risks of synthetic biology are, nor has our regulatory system evolved to keep up with the science. That is why we need a precautionary approach.

Precedent exists within the executive branch to support the use of precaution. The President's Cancer Panel released a report in April 2010 on reducing environmental cancer risks, recommending that:

*"A precautionary, prevention-oriented approach should replace current reactionary approaches to environmental contaminants in which human harm must be proven before action is taken to reduce or eliminate exposure. Though not applicable in every instance, this approach should be the cornerstone of a new national cancer prevention strategy that emphasizes primary prevention, redirects accordingly both research and policy agendas, and sets tangible goals for reducing or eliminating toxic environmental exposures implicated in cancer causation..."*ⁱⁱ

This should be a guiding precept for the Presidential Commission for the Study of Bioethical Issues.

In October 2010 at the United Nations Convention on Biological Diversity (CBD), 193 nations unanimously agreed to apply the precautionary principle to the introduction and use of synthetic organisms. The CBD also recognized this technology to be a potential environmental threat in need of further review -- particularly as it is applied to biofuels production.ⁱⁱⁱ This was the first time the United Nations addressed the issue of synthetic biology; ignoring this important decision would be negligent.

Lack of Environmental Risk Assessment

The Commission's lack of attention to ecological harms posed by synthetic biology is irresponsible and dangerous. The only ecologist to speak to the Commission, Dr. Allison Snow, raised serious concerns about the environmental risks of synthetic biology -- but none of these concerns are reflected in the recommendations.

In her testimony, Dr. Snow presented four cautionary precepts to keep in mind about the ecological risks of synthetic biology and novel genetically engineered organisms (GEO):

- 1) *“We need to be very careful whenever novel, self-replicating organisms are let loose in the environment (intentionally or by accident). Many will do no harm out in the environment, but important exceptions could occur, especially if the GEO can multiply and become more abundant.*
- 2) *Novel GEOs that seem innocuous or weak might evolve to become more successful when they start reproducing. Even if they are highly domesticated, mutations or unexpected properties might allow them to multiply in some environments.*
- 3) *Once these organisms are released into the environment, novel GEOs cannot be taken back.*
- 4) *Predicting which new organisms might cause irreversible harm can be extremely challenging. . . we have little or no experience with cultivating microalgae and bacteria outdoors, let alone new life forms that are entirely synthetic.”^{iv}*

These points are mostly ignored in the guidelines.

The potential environmental impacts of the commercial use of organisms with synthetic DNA must also be examined. Many commercial applications of synthetic biology will undoubtedly lead to the environmental release of synthetic organisms - since it is impossible to prevent organisms from escaping from unsecured operations conducting activities described by some synthetic biology proponents as “akin to brewing beer.”^v More study also is needed on the risks of introducing synthetic organisms into the human body for biomedical and health-related applications, as well as on the risks posed by uses of synthetic organisms in agriculture. Since this technology is already being used to replicate pathogens, serious study of biosecurity risks is also necessary.

Even more troubling is the impact that synthetic biology could have on ecosystems and communities in the global South. A new “bioeconomy,” in which any type of biomass can be used as feedstock for tailored synthetic microbes, is being enabled by synthetic biology. Biomass to feed synthetic microbes will be grown mostly in the global South, disrupting fragile ecosystems and exacerbating environmental damage from industrial crop production. Further pressure will be placed on land and water, which already are in short supply for food production, to produce fuels and chemicals that will be consumed mainly by wealthier nations. The Commission ignores these socio-economic and environmental harms despite the fact that already countries such as Brazil have felt their effects.

Unfounded Reliance on “Suicide Genes”

Despite the fact that “suicide genes” were explicitly described as having uncertain efficacy in Dr. Snow’s testimony, the Commission relies solely on these and other types of self-destruction modalities as the main form of mitigating potential environmental harm. In fact, one of the main studies cited by the Commission in support of using methods to create “suicide genes” is still in an early development stage and has not been field tested.

Scientists who have studied “terminator technologies” in seeds have concluded that the process is never completely effective. They found that frequently occurring mutations allow organisms to overcome the intended sterilization thereby allowing those organisms to remain viable. Specifically, “suicide genes” and other genetic use restriction technologies (GURTs) represent an evolutionary disadvantage; selective pressures will lead organisms to overcome intended biological constraints.^{vi} Biological

containment of synthetic organisms – which reproduce quickly, escape confinement, and cannot be recalled – is impossible.

Importantly, the UN Convention on Biological Diversity has mandated an international moratorium on the use of “terminator technologies” such as “suicide genes,” and other GURTS that has been in place for the past decade. Reliance on an unproven technology that has been deemed unacceptable by 193 nations as the main method to “contain” synthetic organisms is irresponsible.

Reliance on a technology that will not guarantee biosafety or biosecurity and that has been prohibited by the international community is not a solution. Synthetic biology requires the strictest levels of physical, biological, and geographic containment as well as independent environmental risk assessment for each proposed activity or product.

Self-Regulation Amounts to No Regulation and Undercuts the Rights of Workers and the Public

Self-regulation cannot be a substitute for real and accountable regulatory oversight. Some synthetic biologists already have made several unsuccessful attempts at self-regulation. The second annual synthetic biology conference in May 2006, SynBio 2.0, was portrayed by proponents as “Asilomar 2.0,” in reference to the 1975 meeting that proposed voluntary guidelines on recombinant DNA. At the 2006 meeting, synthetic biologists attempted to write a set of self-regulations intended to protect the environment and promote the field. This conference failed to produce serious results. Synthetic biologists were too concerned about promoting research and development to agree on even weak attempts at self-regulation.

The lack of open dialogue with concerned parties also contributed to the failure of the industry’s attempt at self-governance. Civil society and the public, blocked from participating in these discussions of self-governance, issued an open letter to the conference participants. Signed by 38 organizations working in 60 countries, this letter called on synthetic biologists to abandon their proposals for self-governance and to engage in an inclusive process of global debate on the implications of their work.^{vii}

The current state of “self-governance” permits students to create synthetic organisms on campuses; and stretches of synthetic DNA may be purchased online, allowing laypeople to create organisms in their garages where, with no oversight, life forms not previously found in nature may be dumped down drains and flow, freely, into the environment.

The J. Craig Venter Institute and the Massachusetts Institute of Technology also attempted to draft self-regulations the following year in their report, *Synthetic Genomics: Options for Governance*. This report was limited in scope to biosecurity and biosafety in laboratory settings, focused solely on the U.S., and, importantly, completely avoided the topic of environmental safety. These experiences reinforce the need for real oversight to ensure that the real threats synthetic biology poses are never actualized.

The support of the Presidential Commission for the Study of Bioethical Issues for self-regulation undercuts the fledgling efforts of the Occupational Safety and Health Administration (OSHA) to put new safety requirements in place to protect workers using biologically engineered materials, nanomaterials, and novel organisms. The Commission’s support for self-regulation undercuts the ability of workers to speak out and protect themselves. Becky McClain, a former Pfizer scientist, recently won the first lawsuit regarding a worker’s right to discuss publicly the health and safety issues of the genetic engineering laboratory.^{viii} The Commission’s failure to support lab scientists’ basic right to know which synthetic organisms they may have been exposed to means those workers could become ill without

being able to inform their doctors of the potential causes of their illness. There is nothing “ethical” about this kind of self-regulation.

Conclusion

The Commission’s recommendations fall short of what is necessary to protect the environment, workers’ health, public health, and the public’s right to know.

We repeat our call for a moratorium on the release and commercial use of synthetic organisms until we have a better understanding of the implications and hazards of this field and until we have properly updated and effectively implemented public regulation of synthetic biology.

The time for precaution and the regulation of synthetic biology is now.

Sincerely,

African Biodiversity Network (Kenya)
African Centre for Biosafety (South Africa)
Alliance for Humane Biotechnology
Amberwaves
Asociación para la Promoción y el Desarrollo de la Comunidad CEIBA / Friends of the Earth Guatemala
Associação para do Desenvolvimento da Agroecologia (Brazil)
Biofuelswatch
Center for Environmental Health
Center for Food Safety
Center for Genetics and Society
Centro Ecológico (Brazil)
COECOCEIBA-Friends of the Earth Costa Rica (Costa Rica)
Columban Center for Advocacy and Outreach
Columban (Missionaries) Justice, Peace, and Integrity of Creation Office (Australia)
Development Fund (Norway)
Ecumenical Ecojustice Network
Edmonds Institute
Environmental Rights Action/Friends of the Earth Nigeria
ETC Group (Canada)
Food & Water Watch
Friends of the Earth Australia
Friends of the Earth England Wales and Northern Ireland
Friends of the Earth Canada
Friends of the Earth Cyprus
Friends of the Earth Spain
Friends of the Earth Uganda
Friends of the Earth U.S.
GE Free New Zealand
Gene Ethics, Australia
GeneWatch UK
GLOBAL 2000/Friends of the Earth Austria
Groundwork/ Friends of the Earth South Africa

Human Genetics Alert (UK)
Institute for Agriculture and Trade Policy
Institute for Social Ecology
Institute for Sustainable Development (Ethiopia)
International Center for Technology Assessment
Loka Institute
Lok Sanjh Foundation (Pakistan)
MADGE Australia Inc.
Maudesco/ Friends of the Earth Mauritius
Movimiento Madre Tierra (Honduras)
National Association of Professional Environmentalists (Friends of the Earth Uganda)
National Toxics Network (Australia)
Natural Capital Institute
Natural Justice (South Africa)
Oregon Physicians for Social Responsibility
Our Bodies, Ourselves
PENGON (Friends of the Earth Palestine)
Pureharvest (Australia)
RAFI-USA
Research Foundation for Science, Technology and Ecology and Vandana Shiva (India)
Safe Alternatives for our Forest Environment (SAFE)
Say No To GMOs!
Sempreviva Organização Feminista (Brazil)
South Australia Genetic Food Information Network (SAGFIN)
TestBiotech (Germany)
Washington Biotechnology Action Council

ⁱ "The Wingspread Consensus Statement on the Precautionary Principle." Science & Environmental Health Network, 26 Jan. 1998. <<http://www.sehn.org/wing.html>>.

ⁱⁱ *Reducing Environmental Cancer Risk: What We Can Do Now*. President's Cancer Panel, Apr. 2010. <http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP_Report_08-09_508.pdf>

ⁱⁱⁱ "COP 10 Outcomes." *United Nations Convention on Biological Diversity*. 2 Nov. 2010. <<http://www.cbd.int/nagoya/outcomes/>>.

^{iv} Snow, Allison A. "Transcript: Benefits and Risks of Synthetic Biology." *The Presidential Commission for the Study of Bioethical Issues*. 8 July 2010. Web. <<http://www.bioethics.gov/transcripts/synthetic-biology/070810/benefits-and-risks-of-synthetic-biology.html>>.

^v Keasling, Jay. Amyris Biotechnologies. Testimony to the House Committee on Energy and Commerce hearing on Developments in Synthetic Genomics and Implications for Health and Security. May 27, 2010. <<http://energycommerce.house.gov/documents/20100527/Keasling.Testimony.05.27.2010.pdf>>

^{vi} Steinbrecher, Ricarda A. *V-GURTs (Terminator) as a Biological Containment Tool?* Rep. EcoNexus, June 2005. <http://www.econexus.info/sites/econexus/files/ENx_V-GURTs_brief_2005.pdf>.

^{vii} ETC Group. *Global Coalition Sounds the Alarm on Synthetic Biology, Demands Oversight and Societal Debate*. 19 May 2006. <http://www.etcgroup.org/upload/publication/8/01/nr_synthetic_bio_19th_may_2006.pdf>.

^{viii} Pollack, Andrew and Duff Wilson, "Pfizer Whistle Blower Awarded \$1.4 million," *New York Times*, 2 April 2010. <<http://www.nytimes.com/2010/04/03/business/03pfizer.html>>

Oral Public Comment Submitted to PCAST

from January 7, 2011

January 7, 2011

President's Council of Advisors on Science and Technology (PCAST)
Public Oral Comments

Ladies and Gentlemen:

The Biotechnology Industry Organization (BIO) appreciates the opportunity to provide comments today and would like to emphasize the need to increase funding for agricultural research in research agencies and for extramural grants. I am David Edwards, the Director for Animal Biotechnology at BIO. BIO members in the Food & Agriculture Section develop biotechnology-derived plants and animals that improve food, feed, and fuel production; reduce the environmental impact of agriculture; improve models of human diseases; and produce pharmaceuticals for animal and human uses.

Because these applications are firmly rooted in discoveries and new techniques provided by scientific research that occurs in government and academic labs and is usually funded by governmental grants, **BIO strongly supports continuation of government support of basic research as a foundation for future scientific discoveries.** Through biotechnology, animals can be raised that produce high titers of readily extractible human antibodies and other proteins to treat human diseases and protect our troops, as well as for replacement tissues for regenerative medicine. High level research can be performed on livestock that have been engineered to accurately develop diseases that afflict humans, towards improved disease-specific therapies. Biotechnology can also provide us with more sustainable methods for feeding our growing populations long into the future.

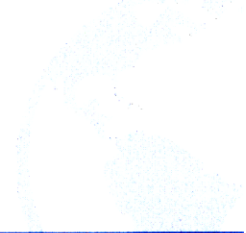
BIO supports research funding for technologies that will provide fuel for the future, improve agricultural production efficiency and allow us to raise crops in harsher climates. Agricultural and forestry biotechnology contributes to rural economies and keep jobs in the areas that need them. BIO supports increased funding for the research programs at the Department of Agriculture including all programs within the National Institute of Food and Agriculture (NIFA): the Agriculture and Food Research Initiative, the Agricultural Research Service, the Economic Research Service, and the Forest Service. Results from these important research programs can be leveraged across the research arms of the government to solve critical problems that require science-based, cross-cutting and multi-disciplinary solutions.

In summary BIO supports strong research programs in agriculture and beyond that emphasize the need for research on new, science-based agricultural technologies including plant and animal biotechnology, which provide the means to meet the vast challenges of human health, hunger and energy supply in a sustainable environment. BIO looks forward to working with you on this crucial issue.

Sincerely,



David Edwards, Ph.D.
Director, Animal Biotechnology
Food and Agriculture





American Society of Plant Biologists

Cultivating a better future through plant biology research

President's Council of Advisors on Science and Technology • January 7, 2011 ***Public Comment from American Society of Plant Biologists***

Good afternoon.

My name is Adam Fagen, and I am the director of public affairs for the American Society of Plant Biologists (ASPB), a professional scientific society representing nearly 5,000 plant biology researchers and educators throughout the United States and around the world.

We are pleased to see PCAST's continuing focus on the R&D portfolio at the U.S. Department of Agriculture, reinforcing USDA as one of the nation's premier science agencies. We are also glad that PCAST has had the opportunity to hear from the new National Science Foundation director, as the NSF plays such an important role in supporting fundamental understanding across the sciences.

This is, in many ways, a golden age for plant biology with growing recognition of the significance of plants in addressing important scientific questions and vital societal challenges. In fact, the 2009 National Research Council report, *A New Biology for the 21st Century*, places plant science at the center of solutions to critical concerns in food, health, energy, and the environment. The report recommended increased coordination among the nation's leading science agencies, and NSF, DOE, NIH, and USDA have all provided support to the revolutionary work plant biologists and others are doing to address these concerns.

However, despite the promise of and necessity for plant science, including the potential of biofuels to help address the nation's energy independence and the contributions of agriculture to the U.S. economy, research in this area has been historically underfunded. Howard Hughes Medical Institute President Robert Tjian wrote in November that "For too long, fundamental plant science has been something of an afterthought in the U.S."¹ And Nobel laureate Phillip Sharp, who co-chaired the *New Biology* report committee, has said that an increase in support for plant research "is likely to bring the biggest bang for the dollar."²

One of the most effective ways to invest in the future and address urgent needs in food, health, energy, and environment is by increasing support for competitive grants and especially those at USDA. We hope that leadership from PCAST and the Administration, along with focused attention in the 2012 Farm Bill, will help reinforce the critical role of research at USDA—and other agencies. To that end, we look forward to enhanced focus on cross-cutting research support where plant science investigators and others can propose and receive funding to address fundamental questions that will have applications across a range of domains.

Thank you.

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¹ http://www.hhmi.org/bulletin/nov2010/tjian/president_letter_plants.html

² http://www.hhmi.org/news/pdf/plant20100930_backgrounder.pdf

**Public Comment Remarks to the
President's Council of Advisors on Science and Technology (PCAST)**

January 7, 2001

My remarks today are in reference to the K-12 STEM Education Report. First, let me thank you for spending the time and energy focusing on the K-12 Education Community of students and teachers.

I would invite you to join me in the exploration of the role that the Geosciences can play. We have witnessed major events that are not only scientifically significant, but impact the lives of our citizens. For example, in 2010 we experienced major earthquakes, volcanoes, hurricanes, tornadoes, wildfires, mudslides, severe flooding, and the Gulf Oil Spill. In addition there are significant science-related policy issues that we face, and will hand off to the next generation such as Climate Change, Energy, and Sustainability. Students are regularly exposed to these events through the media, the internet, and their friends, and come to class with questions ... and that's exactly where we want to be.

We have a tremendous infrastructure within our federal agencies consisting of remote sensing technologies, such as earth observing satellites and earth monitoring systems, and the data that is derived from them. It is time to exploit those resources in our classrooms, defining a new role for the "laboratory".

The time is right to create a shift in the science education paradigm from preparation for higher education, to one of doing real science, participating in the process, not simply learning about it.

I will point you to two examples: (1) The Rutgers University Glider Program, and (2) The CubeSat Program. Both represent sophisticated technologies that students have been involved with from the design phase through the completion of authentic science missions.

On behalf of the Einstein Fellowship, we stand ready to assist you in moving the K-12 STEM Education initiative forward.

John D. Moore

Albert Einstein Distinguished Educator Fellow 2009-2011

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American Society for Biochemistry
and Molecular Biology

American Society for Pharmacology
and Experimental Therapeutics

American Society for Investigative
Pathology

American Society for Nutrition

The American Association of
Immunologists

American Association of Anatomists

The Protein Society

Society for Developmental Biology

American Peptide Society

Association of Biomolecular
Resource Facilities

The American Society for Bone and
Mineral Research

American Society for Clinical
Investigation

Society for the Study of
Reproduction

Teratology Society

The Endocrine Society

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Genetics

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International Society for
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American College of Sports
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Biomedical Engineering Society

Genetics Society of America

American Federation for Medical
Research

*Representing over 100,000
biological and biomedical
researchers.*

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January 7, 2011

Public Comments to the President's Council of Advisors on Science and Technology

The Federation of American Societies for Experimental Biology (FASEB) is composed of 23 scientific societies with more than 100,000 members, making it the largest coalition of biomedical research associations in the United States. Our community would like to thank the President's Council of Advisors on Science and Technology (PCAST) for the opportunity to voice its support for the National Science Foundation (NSF) and the Agriculture and Food Research Initiative (AFRI) at the U.S. Department of Agriculture (USDA).

NSF-funded research creates the foundation from which new technologies and therapeutics emerge. Moreover, by funding research projects and education initiatives at institutions across the country, NSF ensures that future generations will be able to meet the technical demands of 21st century jobs. There is wide agreement that our nation's future is linked to our capacity for innovation. Strong and sustained investment in NSF supports the transformational research and training critical to the future success and prosperity of the U.S.

At USDA, AFRI advances fundamental sciences in support of agriculture, and its coordination of research, education, and extension activities creates the necessary resources and infrastructure to effectively translate scientific discoveries into a broad range of applications. To meet the growing need for better nutrition, new biofuels, more efficient agriculture, and a safer food supply, the U.S. must invest in agricultural sciences and build a robust and scientifically diverse agricultural research workforce.

FASEB would also like to make PCAST aware that our report presenting fiscal year 2012 funding recommendations for five critical research agencies, including NSF and AFRI, will be released in early February. Thank you again for the opportunity to comment.

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