

Minutes  
West Virginia University Faculty Senate  
Monday, September 9, 2013

1. Lisa DiBartolomeo, Faculty Senate Chair, called the meeting to order at 3:15 p.m. in the Grand Hall, Museum Education Center.

Members Present:

Abate, M.	Curtis, R.	Holmes, M.	Meckstroth, R.	Salm, A.
Ameri, S.	Dick, G.	Hornsby, G.	Merrifield, J.	Schreurs, B.
Anderson, J.	Eschen, E.	Hostuttler, L.	Miltenberger, M.	Scott, H.
Anderson, K.	Famouri, P.	Insch, G.	Montgomery-Downs, H.	Sperow, M.
Atkins, C.	Ferrara, L.	Jacknowitz, A.	Mucino, V.	Srivastava, A.
Baldwin, C.	Finkel, M.	Johnstone, R.	Munasinghe, R.	Stolzenberg, A.
Bastress, R.	Funk, A.	Kale, U.	Nutter, R.	Tower, L.
Bergner, G.	Garrett, V.	Kershner, R.	Orlikoff, J.	Tveter, K.
Bilgesu, I.	Giacobbi, P.	Kite, S.	Peace, G.	Utzman, R.
Billings, H.	Gilleland, D.	Kleist, V.	Perna, N.	Valenti, M.
Bonner, D.	Graber, S.	Kopriva, N.	Petty, T.	Vester, M.
Boone, D.	Graves, C.	Kuhlman, J.	Polak, J.	Vona-Davis, L.
Brazaitis, M.	Griffith, R.	Lively, M.	Proudfoot, C.	Walter, S.
Britten, R.	Haines, K.	Lofaso, A.	Prudhomme, J.	Waterson, R.
Bryner, R.	Harner, J.	Mandich, M.	Reddy, R.	Weihman, L.
Burnside, J.	Harris, T.	Matak, K.	Reymond, R.	Wenger, S.
Campbell, L.	Hartley, D.	Maynor, L.	Riedel, B.	Wilcox, G.
Connors, J.	Hartnett, H.	Mays, M.	Ruscello, D.	Woloshuk, J.
Cottrell, L.	Hileman, S.	McTeer, M.	Ryan, K.	Yang, H.
Cronin, A.				

Members Excused:

Barretto, G.	Hutson, Z.	Knight, J.	Petronis, J.	Sherlock, L.
Brooks, R.	Johnston, A.	Paternostro, M.	Sand-Jecklin, K.	Watson, J.
Hitt, L.				

Members Absent:

Bowen, E.	Elmore, S.	Jaczynski, J.	Lorimer, D.	Regier, M.
Cassels, A.	Fisher, M.	Kromar, R.	Miller, M.	Watson, D.
Cohen, S.	Fuller, E.	Lastinger, V.	Oberhauser, A.	Whiteman, C.

Faculty Senate Officers Present:

DiBartolomeo, L.	Lee, P.	Mays, M.	Orlikoff, J.
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2. Chair DiBartolomeo moved for approval of the minutes from the Monday, June 10, 2013 meeting. Motion carried.
3. President James Clements reported the following:
- We are about 90 percent of the way to our capital campaign goal with about 2.5 years to go. The money we raise is used to support students, faculty, quality academics, health care, facilities, and other programs and services.
  - We are dealing with a budget cut of about 9 percent, or \$13.5 million, for the immediate fiscal year. Tuition increased, but not above the level planned for in the 5-year budget cycle.

The salary increase package was put on hold. At the same time, we are dealing with uncertainty regarding the budget for the next fiscal year. We have been asked to prepare for another 9 percent cut. We are trying to make our case that compared to our peers, we are underfunded and that the money spent is a great investment for the state.

- The new University College officially launched over the summer. He thanked Dr. Elizabeth Dooley for her leadership.
- The Division of Diversity, Equity and Inclusion recently held an open house at their new offices.
- Sharon Martin will join the University in early October as the new Vice President for University Relations.
- Earl Scime has been named the Interim Associate Vice President for Research, replacing Mridul Gautum. He will start on a part-time basis, and will be full-time beginning in January.
- We will soon launch searches for the Chancellor for Health Sciences and for the Vice President of Student Affairs.
- The Office of Student Conduct has reported a reduction in incidents from 320 in the first week of 2009 to 143 in the first week of 2013.
- He applauded the Student Government Association for reaching out to faculty to help spread their message about students staying safe and avoiding risky behaviors.
- The offices of Risk Management, Human Resources, and Environmental Health and Safety have been tracking employee accident data over the last several years and identifying ways to improve work place safety. At the same time, they have been looking at alternatives in terms of insurance. The new policy with BrickStreet that went into effect July 1 will save us about \$600,000 per year.
- We are the first university in the United States to use vacant broadcast TV channels to provide the campus and nearby areas with wireless broadband Internet services.
- A team of WVU students placed second in NASA's annual Lunabotics Mining Competition at the Kennedy Space Center in Florida.
- Our six-student delegation brought back five awards from the European International Model United Nation's Conference. Franklin Roberts, a sophomore political science major, earned an award for best delegate in the North Atlantic Council representing Greece.
- Wesley Davis has been selected as a 2013-14 Agriculture Future of America Campus Ambassador.
- The August 7 cover of *The Journal of Neuroscience* features an animated video from a study co-authored by researchers from WVU and the University of California-San Diego and led by George Spirou, director of the WVU Center for Neuroscience.
- Aldo Romero, associate professor of physics, was published in the July 26 issue of *Science* for his research aimed at discovering how rust and decay occur and finding new ways to prevent it.
- WVU is ranked 27th out of 284 national universities by *Washington Monthly* for recruiting and graduating low-income students. We are ranked 50th for service staff, courses and financial aid support, 56th for community service participation and hours served, and 43rd for our ROTC program.
- The National Association for Sport and Physical Education gave the WVU physical education teacher education undergraduate major one of 13 national recognitions. Earning nationally recognized designation is the "gold star" in terms of their accreditation.

- WVU Healthcare expanded their telepsychiatry services to 27 clinics in 12 rural West Virginia counties to provide more mental health treatment to adults, adolescents, and children.
- The West Virginia University Libraries' contribution to the National Digital Newspaper Program went on-line at the Chronicling America website. Thirty-nine years, or nearly 12,000 issues, of the Wheeling newspaper is now available.
- The HSTA program celebrated its 20th summer camp. Over 2000 high school students have been inspired to pursue science, math, and healthcare careers. Ninety-two percent of HSTA students go on to graduate from college.
- *Kiplinger* placed Morgantown 7th among the "10 Great Places to Live" for job and income growth, healthcare, cultural and outdoor activities, and proximity to major cities.

4. Provost Michele Wheatly reported the following:

- The HLC reaccreditation site visit will take place April 7-9, 2014.
- The University College welcomed 5600 students this fall. We are trying to put in place the supports students need for early success.
- The academic profile of entering students has improved as follows: the high school GPA has increased from 3.37 to 3.42, the ACT has increased from 23.35 to 23.41, the SAT has increased from 1044 to 1046. The number of IR1 and IR2 students has increased, and the number of IR5 students has decreased.
- The Vice Presidents have been engaged in a planning exercise for a 10 percent budget cut. We may need to realign or reallocate \$18-30 million.

5. Chair DiBartolomeo reported the following:

- If anyone is interested in providing a display or presentation in the lobby prior to Senate meetings, please let her or Judy Hamilton know.
- Last spring, Mike Mays instituted Senate 101 to orient newly-elected Senators to expectations, responsibilities, and opportunities for participation. She, Mike Mays, Alan Stolzenberg, Lesley Cottrell, and Patricia Lee participated in the session.
- During the summer, she participated in several discussions and meetings concerning PEIA.
- She and Roy Nutter attended the ACF retreat at the end of July at Blackwater Falls resort.
- Throughout the summer, she met several times with the new Student Government Association administration. She is impressed with the goals that President Ryan Campione and Vice President Ben Seebaugh have set forth for their administration.
- To foster better coordination between the catalog and the curriculum process, Senate leadership, in consultation with the Office of University Registrar, has established the following deadlines. Changes to appear in the course catalog must be approved by the May Senate meeting. Curricular changes must be approved by the March Senate meeting to be effective in summer or fall semesters, while the October Senate meeting will be the deadline for any spring semester changes. In addition, as of October 1 the Faculty Senate Office will no longer accept paper submissions for course proposals, changes, or audits.
- She and Bob Griffith attended the HEPC Board of Governors Summit.
- She attended the Provost's new faculty orientation and encouraged Faculty Senate service.
- She attended the state fair in Lewisburg and enjoyed learning about the work Extension Service does throughout the state.

- In preparation for the HLC visit, she encourages Senators to learn as much as possible about fast facts, the General Education Curriculum, and various programs we offer. It is very likely that faculty members will be asked questions by the site team.
  - She, Roy Nutter, and Bob Griffith will be traveling to Sutton, West Virginia on October 18 to meet with their counterparts at Marshall University to discuss mutual concerns.
  - She, Roy Nutter, Bob Griffith, SGA representatives, and staff council representations will meet with our colleagues at Potomac State on November 1st.
6. Nick Perna, Chair, Senate Curriculum Committee, moved for approval of the following reports:
- Annex I, New Courses and Course Changes. Motion carried.
- Annex II, 2012-13 Committee Report and 2013-14 Goals. Accepted.
- A motion was made and duly seconded to take the following annex (Annex III) from the table. Motion carried.
- Annex III, BS in Energy and Environmental Management. Motion carried.
7. Lisa Weihman, Chair, General Education Committee, moved for approval of the following report:
- Annex IV, GEC Actions. Motion carried.
8. Robert Griffith, Chair, Committee on Committees, Membership and Constituencies moved to reauthorize the following committees: Curriculum Committee, Faculty Welfare Committee, GEC Oversight Committee, Library Committee, Research Integrity Committee, Research and Scholarship Committee, Service Committee, Student Evaluation of Instruction Committee, Student Instruction Committee, Student Rights and Responsibilities Committee, and the Committee on Retired Faculty. Motion carried.
9. Leslie Tower, Chair-Elect, Faculty Welfare Committee invited faculty members to complete the WVU 2013 Faculty Climate Survey, which is a follow-up to the 2009 survey. The survey can be found at <https://www.surveymonkey.com/s/FacultyClimateSurveyWVU2013>.
10. John Campbell, Associate Provost for Information Technology and Chief Information Officer, provided an update on the Office of Information Technology.
11. Michael Mays, Past Chair, provided an update regarding PEIA:
- A personal letter and fact sheet prepared by the Faculty Welfare Committee was sent out to each state senator and delegate explaining our position regarding PEIA.
  - A follow-up luncheon was held with legislators from Marion, Monongalia, Preston, and Wetzel counties. In attendance were Toni Christian, Margie Phillips, and members of the Faculty Welfare Committee. Toni Christian provided a presentation which included a slide showing an estimated \$20 million difference between what WVU contributes to PEIA in premiums versus what we receive in benefits. The legislators advised that, if necessary, we go forward with a lawsuit demanding PEIA provide aggregate claims data.
  - In hopes of finding an amicable solution, Barbara Fleischauer offered to put a meeting together with Josh Sword of the PEIA Finance Board and Executive Director Ted Cheatham.

- A group from WVU also attended the ACF annual retreat to discuss the PEIA issue, which may end up providing a broader base of support.

12. Roy Nutter, ACF Representative, reported the following:

- He attended the ACF retreat in July. Chancellors and HEPC budget officers were present to speak about budget cuts. Margie Phillips and Mike Mays discussed PEIA.
- Senate Bill 330, passed in 2011, continues to be a major topic of discussion. The bill required that a vice chancellor for human resources be hired by HEPC. Mark Toor, the person currently in that position, is implementing the requirement that a consulting firm conduct a survey of classified, non-classified, and faculty pay salaries. The results of the survey will affect how we hire faculty and how pay raises are implemented.

A motion was made and duly seconded to approve Annex V, West Virginia Advisory Council of Faculty 2013-2014 Issues “Creating a Continuum of Learning.” Motion carried.

13. Robert Griffith, BOG Representative, presented Annex VI, State of West Virginia’s Budget Forecast, for information. The report was prepared for the HEPC Board of Governors Summit by state budget director Mike McKown.

14. Alan Stolzenberg, Faculty Secretary, reported that he has been exploring implementing electronic balloting for Faculty Senate elections, which is permitted by provisions included in the last revision to the Faculty Constitution. He is looking into Votenet, which Staff Council has used to successfully run their elections. The Student Government has also used Votenet, but set it up in such a way that they had some problems authenticating identities. There is a second product already licensed by the University that he is also exploring. In the meantime, the Executive Committee has authorized establishment of a task group to plan how to approach paperless balloting and to increase transparency. He asked Senators to send him any questions or comments regarding the election process.

15. New Business

Nigel Clark invited Senators to visit the solar decathlon house, which is being built by students from five different colleges. The house will be transported to California to compete with designs by twelve other institutions.

Rhonda Reymond recognized Joyce Ice, Director of the Art Museum of West Virginia University. Dr. Ice invited Senators to attend the September 10 groundbreaking for the new art museum. The new building will have a CTEC classroom, exhibit galleries, research space for the art collection, and a climate-controlled storage area. She encouraged faculty to make an appointment to see the art collection in storage and to talk with museum staff about how they might help instructors use the collection to enhance and enrich their courses.

16. The meeting adjourned at 5:04 p.m. to reconvene on Monday, October 7, 2013

Judy Hamilton  
Office Administrator

To: Faculty Senate Executive Committee  
From: Nick Perna, Chair, Faculty Senate Curriculum Committee  
Date: August 19, 2013  
Re: New Courses and Course Changes

## **Eberly College of Arts and Sciences**

### **New Courses:**

#### **Geology**

GEOL 586. Advanced Isotope Geochemistry. 3-Hr. PR: GEOL 486. Advance the understanding of isotopic systems by comprehensive discussion of selected research publications. Laboratory exercises will provide hands-on training in stable isotope measurement techniques. Study topics will focus on use of isotopes to address research questions in variety of fields, including geology, biology, forensics, environmental sciences and energy. (Effective Term: Spring 2014) (CIP 400601)

**Rationale:** Stable isotopes have become a key research tool in wide variety of disciplines. This course targets graduate students from various departments who are interested in conducting research in this field. This advanced course will further the understanding of stable isotope fundamentals surveyed in the basic GEOL 486, Environmental Isotope class. The research papers will specifically target the research interest of the students enrolled.

#### **Religious Studies**

RELG 410. Apocalypse. 3-Hr. PR: ENGL 102 or ENGL 103. Examine the apocalyptic literature of Judaism and Christianity and consider its perspectives and functions by tracing the impact of leading theologies and interpretations of end-time prophecy. (Effective Date: Spring, 2014) (CIP 380201)

**Rationale:** This course enhances the diversity of religious studies course offerings related to the theology of various world religions. It complements the current RELG 310 course in historical theology by offering an in-depth study of a specific field of historic Jewish and Christian theology. The Apocalypse course has been successfully taught as a special topics course, which created the impetus to make it a permanent course offering. It also provides the Religious Studies Program with a W course, which is a graduation requirement.

## **College of Physical Activity and Sport Sciences**

### **Physical Education/Teaching**

#### **New Course:**

PET 645. Standards-Based Assessment in PE. 3-Hr. Students completing this course will acquire the dispositions, knowledge, and performance competencies related to standards-based measurement and evaluation of school-aged children in K-12 physical education. (Effective Date: Spring, 2014) (CIP 310501)

**Rationale:** Based upon review of the masters in physical education teacher education curriculum, faculty identified standards-based assessment and the related knowledge and skills as a conceptual missing link in the development of advanced teacher candidates. This newly developed course fills that gap, as it aligns with the National Association for Sport and Physical Education Advanced Teacher Standards and will provide students with the knowledge, skills, and dispositions needed to develop and implement standards-based physical education programs.

TO: Faculty Senate Executive Committee and Faculty Senate

FROM: Faculty Senate Curriculum Committee

Dennis Ruscello, Chair, E&HS  
 Todd Petty, DCANRD  
 Matt Valenti, CEMR  
 Ming Pei, HSC  
 Gretchen Garofolio, HSC  
 Jacque Perry, WVU-TECH  
 Susan Arnold, LIB, Ex-Officio  
 Elizabeth Dooley, Provost's Office, Ex-Officio  
 Suzy Slaughter, University Registrar Office, Ex-Officio  
 Barbara Dunn and Judy Hamilton, Faculty Senate Support Staff

Nicholas Perna, Chair-elect, CCA  
 Jennifer Orlikoff, ECAS  
 Janet Hunt, SPH  
 Cheryl Germain, NSG  
 Chad Proudfoot, EXT  
 Elisabeth Shelton, HSC

SUBJECT: SCC Annual Report 2012-2013

DATE: June 15, 2013

During the period of September, 2012 through May, 2013, the Faculty Senate Curriculum Committee reviewed and processed the following requests:

<b>Requested Action</b>	<b>Processed in 2012-2013</b>
New Courses	168
Course Changes	23
Course Alterations	156
Course Drops	34
Capstone Requests	CE 479 DSGN 480 EDUC 411 MinE 484 NSG 411 WDSC 480 WDSC 481 WMAN 450
Curriculum Revisions	Elementary Education Wood Science and Technology (pulled by Executive Committee 1/28/13)



	Forest Resources Management Physical Activity and Sport Sciences (PETE) Sport and Exercise Psychology (SEP) Wildlife and Fisheries World Languages, Literatures and Linguistics
Division Name Changes	Technology, Learning, and Culture Speech Pathology and Audiology
New Majors	Biomedical Engineering Dance Energy and Environmental Management (tabled by Fac. Senate 6/10/13) Immunology and Medical Microbiology Forensic Investigation Degree for WVU-Tech Restructuring of the BS and BA Biochemistry Degrees Hospitality and Tourism Management
New Minors	Writing and Editing for WVU-Tech Journalism Forensic & Investigative Science
Minor Revisions	Theatre Geography (reorganization)
New Subject Codes	ARSC, ARHS, FRNX, HDFS, HIED, and IMMB

The goals for 2012-2013 were the following:

1. Continue to review and approve high quality programs, courses, and course changes.
2. Work with the Office of the Registrar to pilot the Course Inventory Management System (CIMS).
3. Educate faculty and committee members (at each level of the curricular review process) on the implementation of the CIMS.

The goals for 2013-2014 are the following:

1. Continue to review and approve high quality programs, courses, and course changes.
2. Work with the Office of the Registrar to implement the Course Inventory Management System (CIMS).

3. Educate faculty and committee members (at each level of the curricular review process ) on the implementation of the CIMS and identify any operational problems that may present.
4. Review policy and procedures of the Senate Committee on Curriculum to identify issues that may require modification.

## **Proposed New Curriculum**

B.S. in Environmental and Energy Resources Management

Division of Resource Management

Davis College of Agriculture, Natural Resources, and Design

Submitted by:

The Agricultural and Resource Economics Program

Contact Person: Gerard D'Souza, Professor

[gdsouza@wvu.edu](mailto:gdsouza@wvu.edu)

3-5490

August 19, 2013

*Signatures:*

Approved by (print or type): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(Curriculum Committee Chair, Division of Resource Management)

Approved by (print or type): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(Director, Division of Resource Management)

Approved by (print or type): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(Curriculum Committee Chair, Davis College of Agriculture, Natural Resources, and Design)

Approved by (print or type): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(Dean, Davis College of Agriculture, Natural Resources, and Design)

**DIVISION OF RESOURCE MANAGEMENT  
DAVIS COLLEGE OF AGRICULTURE, NATURAL RESOURCES,  
AND DESIGN**

Title of Major: Environmental and Energy Resources Management (*E\*Quad*)

*Introduction:*

The Division of Resource Management in the WVU Davis College of Agriculture, Natural Resources & Design is proposing a new undergraduate major with a curriculum comprised of course work from four distinct areas of expertise, all of which have been identified as being important to the future of West Virginia, the region and nation. *Environmental and Energy Resources Management* is proposed as a new major under the existing BS in Resource Management. This degree program entails a comprehensive synthesis of the following four areas: Energy, Environment, Entrepreneurship and Economics (*E\*Quad* for short). Development of this curriculum is supported by a \$159,000 grant from the Claude Worthington Benedum Foundation to faculty members in the Division, one of the few if not the only times that private, external funding was provided to support curriculum development. Benedum (<http://www.benedum.org/>) is a non-profit foundation that makes grants to support educational, economic development, and related initiatives in the WV and Southwestern PA areas.

*Justification:*

1. Educational Goals and Objectives and Relationship to WVU Mission:
  - To provide a strong foundation for those students interested in pursuing a career focusing on the business and entrepreneurial aspects of the growing energy and environmental sector. Students completing this major will be prepared for employment in the private sector, governmental agency employment, consulting, and for entrepreneurial ventures of their own design. Selected students, upon completion of this degree, may find it desirable to obtain a graduate degree to further expand their career opportunities.
  - To better prepare students to conceive, develop and implement entrepreneurial ventures of their own design; to provide them with the analytical framework, tool-kit and problem-solving skills to better function in a complex and changing energy, economy, and environment. In fact, to provide students with practical skills, a business plan competition focusing on technology-related issues particularly as they relate to energy, innovation and the environment will be included as part of this curriculum.

- To ultimately create a program that produces graduates who comprehend the big picture about the energy industry, and who will strengthen existing and foster new connections between WVU students and the energy industry as well as the federal and state agencies that regulate it. Thus, a vital part of the curriculum will include internships with energy-related industries and/or regulatory agencies. This internship initiative has been specifically funded, in part, by the Benedum Foundation.
- Additionally, in order to promote and support both the business plan competition and the internship initiative, and in order to assure that the curriculum is responsive to the employment needs of both the public and private energy and environment sectors, Benedum has funded the establishment of an *E\*Quad* Advisory Board. This advisory board will be comprised of representatives from private industry, governmental regulatory agencies, industry coalitions, WVU Extension, as well as faculty and administration and will be an ongoing source of curriculum support, curriculum evaluation, and potential additional programmatic funding.
- E\*Quad will be representative of WVU's stated goal of promoting study in and mastery of science, technology, engineering and math (STEM), while placing those disciplines in an economic and entrepreneurial context. STEM based requirements for this major will include: a minimum of Introduction to Calculus (MATH 150) for math, at least two GEC 2b science courses with a laboratory, and applied science courses to fulfill the Environment component of E\*Quad.

## 2. Description of Program Content:

The proposed catalog description is presented in Attachment I. Attachments II and III show a matrix of courses in each of the four E\*Quad areas and a suggested four year plan of study, respectively. Attachment IV contains communications with other academic units which have signed off on increased enrollment in their courses via inclusion as restrictive electives for this major.

## 3. Assessment Plan:

Our plan will include both formative and summative components. The former will include performance measures such as GPA, SEI, peer evaluation of teaching, and student input. The latter component will involve periodic surveys of Capstone internship employers as well as employers of E\*Quad graduates to assess the preparedness of students. The curriculum will subsequently be adjusted for observed deficiencies. In addition, the Advisory Board will provide students and faculty advisors with suggestions for curriculum improvement and additional performance measures to enhance program

quality. This should ensure that there will be constant feedback on student preparedness and improvement in the curriculum.

3. Other Institutions in WV Offering Similar Programs:

No university or college in West Virginia offers a similar degree combining energy and environmental management with entrepreneurial and economic concepts into one degree. Environmental Science or Studies degrees are offered at Davis & Elkins College, Marshall, and Shepherd Universities. However, none of these degrees covers the breadth proposed in this degree.

4. Anticipated Student Demand:

We expect that within a three year period, between 75 and 100 majors will be enrolled in this program, with approximately 25 students at each classification (freshman, sophomore, etc.). We make this projection based on expressions of student interest in energy and entrepreneurial topics in our current courses and major (e.g., Environment and Natural Resource Economics (ENRE)). Note that we are not proposing to replace the ENRE major; instead, E\*Quad will be a new major alongside ENRE (and Agribusiness Management) under the existing BS in Resource Management, in the process broadening our undergraduate offerings.

5. Need for Additional Resources:

No additional physical or capital resources are anticipated. The E\*Quad major will be implemented with existing faculty and course offerings. Specifically, it will integrate existing courses from law, environmental protection, entrepreneurship, energy, finance, management, economics, communications, accounting, geology, forestry, agronomy, marketing, biology and engineering. As such, it will result in higher enrollments in these courses, although some of these majors will come from currently undeclared majors and transfer from other majors across WVU.

## ATTACHMENT I - CATALOG DESCRIPTION

### Environmental and Energy Resources Management Major (*E\*Quad*)

The objective of this major is to examine the interdisciplinary relationships involved in the business of energy production and utilization along with associated environmental management, regulatory and policy issues. This major will provide a strong foundation for students interested in pursuing a career in the growing energy and environmental sectors of the economy, whether in private business, government, consulting, or for entrepreneurial ventures of their own design. Upon completion of this degree, students are expected to understand how to coordinate the management of these resources across regulatory, institutional and socio-economic structures. Selected students, upon completion of this degree, may find it desirable to obtain a graduate degree to further expand their career opportunities.

Course Requirements	Credit Hours
General Education Curriculum	
1) Communication (ENGL 101 & 102 OR ENGL 103)	3-6
2) Basic Math and Sciences	
Groups A, B and C (Must include two four-credit hour courses, each with a laboratory)	14-15
3) The Past and Its Traditions	3
4) Contemporary Society	3
5) Artistic Expression	3
6) The Individual in Society (incl WVUE or equiv)	4
7) American Culture	3
8) Western Culture	3
9) Non-Western Culture	3
GEC Total	39-43
Required Coursework	29
ARE 199 (1 hr), 201 (3), 382 (3), 421 (4), and 445 (3)	
RESM 440 and 441 <i>or</i> 442 (3 hrs), 480 (3), 491 (2+3), and 494 (1)	
Writing (W) course (3 hrs)	
Restricted Electives	36
Student will select at least three courses from restricted elective topics of: Economics, Energy, Entrepreneurship, and Environment	
Free Electives	12-16
<b>Total</b>	<b>120</b>



## NOTES ON CATALOG DESCRIPTION

**Requirements for the Major:** Courses to provide a fundamental understanding of each of the 4 E's (Energy, Environment, Entrepreneurship, and Economics), including ARE 382 (Ag & Natural Resource Law, including coverage of legal, regulatory, and policy issues), ARE 421 (Rural Enterprise Development, including business planning and entrepreneurship), ARE 445 (Energy Economics), ARE 482 (Enterprise Operation Law, including coverage of legal issues relating to natural resource use), ARE 199 (Orientation, to the degree, requirements, curriculum options, student responsibilities and opportunities), ARE 201 (Principles of Resource & Energy, a problem-solving approach dealing with various aspects of the energy supply line), RESM 440 (Foundations of Applied GIS, part of their tool-kit), RESM 441 or 442 (GIS course lab), RESM 480 (Environmental Regulation), RESM 491 (two-semester Internship Capstone), and RESM 494 (two-semester Seminar).

**Restricted Electives:** Will build on above-listed required coursework. At least three courses will be selected in consultation with the advisor in each of the following four areas. These courses can be selected from among the following choices in each area. Note that, except for ENGR 101 (Engineering Problem Solving I), all courses are to be at least at the 200 level.

### Restricted Elective List:

#### 1. *Economics (REQUIRED AREA: minimum of 3 courses)*

ARE 220	Introductory Environmental and Resource Economics.
ARE 410	Environmental and Resource Economics
ARE 450	Agricultural, Environmental & Resource Policy
ECON 202	Principles of Macroeconomics
ARE 401	Applied Demand Analysis or ECON 301 Intermediate Micro-Economic Theory
ECON 302	Intermediate Macro-Economic Theory

#### 2. *Energy (REQUIRED AREA: minimum of 3 courses)*

DSGN 340	Design for Energy Efficiency
DSGN 470	LEED Green Building Systems
ENGG 1XX	(Intro to Engineering for non-engineering majors) – New Course
WDSC 444	Bio-Based Energy Systems
RESM 480	Land Use Planning Law

#### 3. *Entrepreneurship (REQUIRED AREA: minimum of 3 courses)*

AGEE 421	Agricultural and Natural Resource Communications
ARE 204	Agribusiness Management or BUSA 320 Survey of Management
ARE 431	Marketing Agricultural Products or BUSA 330 Survey of Marketing
ARE 461	Agribusiness Finance or BUSA 340 Survey of Finance

4. *Environment (REQUIRED AREA: minimum of 3 courses)*

ARE 450	Agricultural, Environmental & Resource Policy
AGRN 455/ENVP 455	Reclamation of Disturbed Soils
ENVP 355	Environmental Sampling and Analysis
ENVP 455	Reclamation of Disturbed Soils
ENVP 415	Hazardous Waste Training
ENVP 460	Environmental Impact Assessment
GEOG 205	Natural Resources
GEOG 207	Climate and Environment
GEOG 415	Global Environmental Change
WMAN 200	Restoration Ecology

**Courses to be modified/added:**

RESM 491. Professional Field Experience. 5 hr. (This is a variable-credit course, which will be divided into two components: a 2-hour course and a 3-hour course during consecutive summers or semesters. Given that it is a variable-credit course, and as per confirmation from the Registrar's Office, students can register for this course more than once and receive credit as well as a grade each time it is taken).

ENGR 1XX. Engineering Problem Solving I (new course being developed toward E\*Quad and/or other non-engineering majors). 3 hr.  
(included in the attachments is an e-mail indicating that we have a commitment from the Statler College to offer this course).

An alternative, more student-friendly view of the requirements and restricted electives is shown in the matrix contained in Attachment II.

## ATTACHMENT II – COURSE MATRIX FOR E\*QUAD

This proposed major integrates four areas: **Energy, Environment, Economics, and Entrepreneurship (E\*Quad)**. This major will provide a strong foundation for those interested in pursuing a career in the growing energy/environmental sector of the economy. This major will employ an interdisciplinary approach, drawing on faculty of several divisions in the Davis College and faculty from other WVU colleges. Students completing this coursework will be prepared for employment in the private sector, governmental agency employment, consulting, and for entrepreneurial ventures of their own design. The matrix below reflects a combination of required and restricted electives that a student can take for the E\*Quad major. As part of the restricted electives, students have to select at least 3 courses at the 200 level or beyond from each of the four “E” areas listed below.

<b>E</b> NERGY	<b>E</b> NVIRONMENT	<b>E</b> NTREPRENEURSHIP	<b>E</b> CONOMICS
ARE 187: ENERGY RESOURCE ECONOMICS ( <i>Required</i> )  ARE 445: ENERGY ECONOMICS ( <i>Required</i> )  DSGN 340: DESIGN FOR ENERGY EFFICIENCY  DSGN 470: LEED GREEN BUILDING SYSTEMS  ENGR 1XX: ENGINEERING PROBLEM-SOLVING (new section to be created for non-majors)  WDSC 444 (BIO-BASED ENERGY SYSTEMS)  RESM 480: LAND USE PLANNING LAW	ARE 382: NATURAL RESOURCE LAW ( <i>Required</i> ) ARE 445: ENERGY ECONOMICS ( <i>Required</i> ) RESM 480: ENVIRONMENTAL REGULATION ( <i>Required</i> ) RESM 440: FOUNDATIONS OF APPLIED GIS + LAB (RESM 441 OR 442) ( <i>Required</i> ) ARE 450: AG, ENV, RESO POLICY ARE 493L: LAND USE PLANNING AGRN 455: SOIL RECLAMATION ENVP 355: ENV SAMPLING & ANALYSIS ENVP 415: HAZARDOUS WASTE TRAINING ENVP 455: SOIL RECLAMATION ENVP 460: ENV IMPACT ASSESSMENT GEOG 205: NATURAL RESOURCES GEOL 207: CLIMATE & ENVIRON GEOG 415: GLOBAL ENV CHANGE WMAN 200: RESTORATION ECOLOGY	ARE 421: ENTERPRISE DEVELOPMENT ( <i>Required</i> )  ARE 482: ENTERPRISE OPERATION LAW ( <i>Required</i> )  AGEE 421: AGRICULTURAL AND NATURAL RESOURCE COMMUNICATIONS  ARE 204 or BUSA 320: MANAGEMENT  ARE 431 or BUSA 330: MARKETING  ARE 461 or BUSA 340: FINANCE	ARE 150: INTRODUCTORY MICROECONOMICS ( <i>Required</i> )  ARE 445: ENERGY ECONOMICS ( <i>Required</i> )  ARE 450: AG, ENV, RESO POLICY  ARE 220: INTRODUCTORY ENVIRONMENTAL AND RESOURCE ECONOMICS  ARE 410: ENV & RESOURCE ECONOMICS  ECON 202: INTRODUCTORY MACROECONOMICS  ARE 401: APPLIED DEMAND ANALYSIS or ECON 301: INTERMEDIATE MICROECONOMIC THEORY  ECON 302: INTERMEDIATE MACROECONOMIC THEORY

**PREREQUISITE COURSES:** Course work in introductory calculus, physics, accounting, and economics are prerequisites for courses required for this major.

**INTEGRATIVE COURSE ACROSS ALL FOUR AREAS (Required):** ARE 201 (Principles of Resource & Energy)

**ORIENTATION & INTERNSHIP COURSES (Required):** ARE 199 (Orientation), RESM 491 (Internship/Capstone), and RESM 494 (Seminar)

## ATTACHMENT III – EXAMPLE PLAN OF STUDY FOR E\*QUAD

The following is a suggested sequence of courses required for the major and courses meeting the WVU General Education Curriculum (GEC). Although there are no required GEC courses, some of the courses suggested below may meet GEC requirements and also serve as prerequisites for courses required for the E\*Quad major. The actual plan of study for each student is determined in consultation with and approval of the academic advisor.

First Year			
<u>Fall:</u>		<u>Spring:</u>	
ENGL 101 (Composition and Rhetoric) [GEC 1]	3	PHYS 101 (Introductory Physics) [GEC 2B]*	4
MATH 150 (Applied Calculus) [GEC 2A] *	3	PLSC 206 (Principles of Plant Science) [GEC 2C]*	4
BIOL 101 & 103 (General Biology)[GEC 2B]*	4	ARE 150 (Intro Ag & Agribusiness Economics) [GEC 6]*	3
ARE 187 (Energy Resource Economics) [GEC 4]*	3	GEC Objective: Pick one 3 - 9	3
WVUE 191 (Freshman Orientation)	1		
Total	14	Total	14

Second Year			
<u>Fall:</u>			
ENGL 102 (Composition and Rhetoric) [GEC 1]	3	<i>Energy</i> RESM 450 (Land Use Planning Law)	3
ARE 199 (Orientation)	1	<i>Economics</i> ARE 220 (Intro. Environmental/Resource Econ)	3
ARE 110 (Agribusiness Accounting) *Pre-requisite for ARE 421	3	<i>Environment</i> GEOG 205 (Natural Resources)	3
GEC Objective: Pick One 3 - 9	3	<i>Economics</i> ECON 202 (Principles of Macroeconomics) (GEC 8)*	3
<i>Energy</i> ENGR 1XX (Engineering Problem Solving— for non-majors)	3	Free Elective	3
Total	13	Total	15

<b>Third Year</b>
-------------------

<u><b>Fall:</b></u>		<u><b>Spring:</b></u>	
ARE 421 (Rural Enterprise Development) Required course	4	RESM 480 (Environmental Regulation) Required course	3
ARE 382 (Agriculture & Natural Resource Law) Required course	3	GEC Objective: Pick One 3 - 9	3
<i>Entrepreneurship</i>		<i>Environment</i>	
ARE 431 (Marketing Ag. Products)	3	ENVP 415 (Haz. Waste Training)	3
<i>Energy</i>		<i>Entrepreneurship</i>	
DSGN 340 (Design for Energy Efficiency)	3	AGEE 421 (Agri/Natural Resource Communication)	3
RESM 440/441 (Foundations of Applied GIS) Required course	3	Free Elective:	3
RESM 491 (Intro. Internship between sophomore and junior years) (Required)	2		
<b>Total</b>	<b>18</b>	<b>Total</b>	<b>15</b>

<b>Fourth Year</b>
--------------------

<u><b>Fall:</b></u>		<u><b>Spring:</b></u>	
<i>Economics</i>		RESM 494 (Seminar) Required course	1
ARE 401 or Econ 301 (Applied Demand Analysis or Intermediate Microeconomics)	3	ARE 201 (Prin. Resource & Energy) Required course	3
GEC Objective: Pick One 3 - 9	3	ARE 410 (Environmental & Resource Econ) Writing course	3
ARE 445 (Energy Economics) Required course	3	<i>Entrepreneurship</i>	
RESM 491 (Capstone taken in summer between junior and senior years)(Required)	3	ARE 461 (Agribusiness Finance)	3
Free Elective	3	<i>Environment</i>	
		ARE 450 (Agriculture, Environmental & Resource Policy)	3
		Free Elective:	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16</b>

**\* May also count in meeting GEC requirements.**

**Credit hour totals for above suggested sequence:**

<b>GEC 1</b>	<b>6</b>
<b>GEC 2</b>	<b>15</b>
<b>GEC 3 - 9</b>	<b>22</b>
<b>Required</b>	<b>29</b>
<b>Restricted Electives</b>	<b>36</b>
<b>Free Electives</b>	<b>12</b>
<b>TOTAL</b>	<b>120</b>

# **ATTACHMENT IV – EMAIL AND LETTER CORRESPONDENCE FOR SIGN-OFF OF RESTRICTED ELECTIVE COURSES**

## Listing of Correspondence

Course(s)	Approval from:
BUSA 330 and 340	Karen France, Associate Dean
DSGN 340 and 470	Chris Haddox (Instructor)
ECON 202, 301, and 302	Clifford Hawley (Department Chair)
ENVP 155, 355, 415, 455, & 460; ARGN 455	Barton Baker (Division Director)
WDSC 444	Kaushlendra Singh (Instructor)
WMAN 200	Jim Anderson (Instructor)
ENGG 1XX	Warren Myers (Associate Dean for Academic Affairs, Statler College)
GEOG 205, 207, and 415	Steve Kite (Department Chair)



September 26, 2012

Alan Collins  
Professor and Assistant Director  
Division of Resource Management  
Davis College of Agriculture, Natural Resource and Design  
West Virginia University

Dear Professor Collins: *Alan*

We received your request for information regarding whether the College of Business and Economics (B&E) could ensure that we would be able to accommodate the enrollment demand for BUSA 330, Survey of Marketing, and BUSA 340, Survey of Finance, associated with your new Energy, Environment, Entrepreneurship and Economics (EQuad) degree program.

B&E has the resources to accommodate your forecasted number of students (i.e., less than 20) taking each course (BUSA 330 and BUSA 340), provided your students are encouraged to preregister on or shortly after their designated priority dates. The courses are restricted by classification, meaning freshmen and sophomores are excluded from registering for them during the regular academic year. Because of the high demand for enrollment in the course by students pursuing the Minor in Business Administration and other programs requiring restricted electives in business administration, it will be necessary for the EQuad majors to register for them promptly on or shortly after their designated priority dates. The courses are offered as mass lecture each regular term (BUSA 330 in the spring and BUSA 340 in the fall) as well as on-line in the summer semester.

Please let me know if you require additional information.

Best,

A handwritten signature in blue ink, appearing to read 'Karen'.

Karen R. France  
Associate Dean, Academic Affairs

Phone: 304-293-7600  
Fax: 304-293-5652  
[www.cb.wvu.edu](http://www.cb.wvu.edu)

Office of the Dean  
PO Box 5025  
Morgantown, WV 26506-6025

Equal Opportunity/Affirmative Action Institution



Hey Alan,

Geez...I thought for sure I had gotten back to you after we talked about this on the field trip to Nic and Sera's house. Sorry!! Yes.....it would be fine to have students from the EQuad take my courses DSGN 340 and DSGN 470.

I assume this won't happen for a few semesters...until final approval for the EQuad program is obtained...correct? I ask only for classroom size planning purposes.

OK...shout as needed.

Chris

J. Chris Haddox, LEED AP,  
Visiting Assistant Professor, Sustainable Design  
Division of Design & Merchandising  
West Virginia University  
704M Allen Hall Box 6124  
Morgantown, WV 26505

Alan,

I am in receipt of your Sept 14, 2012 letter regarding your new degree program (acronym EQuad) and your September 19, 2012 letter regarding the new degree program with acronym ENRE. Both letters outline the increases that you expect in enrollments in various Economics classes.

I write to say that in both cases the increases in enrollment that you outlined can be accommodated by Economics.

Sincerely,  
Cliff Hawley

Dr. Clifford B. Hawley  
Professor and Chair,  
Department of Economics  
West Virginia University  
Morgantown, WV 26506-6025  
tele: 304-293-7865  
fax: 304-293-5652 (call first)  
email: CBHawley@mail.wvu.edu



West Virginia University

Davis College of Agriculture, Natural Resources and Design

October 4, 2012

TO: Alan Collins

FROM: Barton S. Baker

A handwritten signature in cursive script, reading 'Barton S. Baker'.

SUBJ: (EQuad) Course Demand

The Division of Plant and Soil Sciences anticipates that the additional students expected to take courses in the Division should EQuad be approved can be accommodated. None of the courses from Plant and Soil Sciences listed as restricted electives: ENVP 155, ENVP 355, ENVP 415, ENVP 445, ENVP 460, and AGRN 455 had maximum enrollment when last taught.

Division: 504-293-4817  
Faculty: 504-293-8028  
Fax: 504-293-2860

Division Plant and Soil Sciences  
PO Box 6100  
Morgantown, WV 26506-6100

Equal Opportunity/Affirmative Action Institution

Dr. Alan Collins:

I understand that you have listed the course, WDSC 493B (WDSC 444) as an elective in the newly proposed major in Energy, Environment, Entrepreneurship, and Economics (EQuad). I fully support this great initiative of the new major. I am glad to confirm that the additional enrollment demand from the new major for the above listed course will be met.

Thank you,

Sincerely,

Kaushlendra Singh

---

Kaushlendra Singh, PhD

Assistant Professor of Wood Science and Technology (Bioenergy and Biofuels)

Division of Forestry and Natural Resources

West Virginia University, Morgantown, WV

Phone Number: (304) 293-7643

---

Dr Collins:

I am happy to allow WMAN 200 (Restoration Ecology) to be included in the new proposed major in Energy, Environment, Entrepreneurship, and Economics (EQuad). I strongly support this program and look forward to having additional students enrolled.

Please let me know if I can be of additional assistance.

Best,

Jim Anderson

James T. Anderson, Ph.D.

Director, Environmental Research Center & Professor, Wildlife Ecology and Management

Davis-Michael Professor of Forestry and Natural Resources

Program Coordinator, Wildlife & Fisheries Resources Program

West Virginia University

PO Box 6125; 312A Percival Hall

Morgantown, WV 26506-6125

[jim.anderson@mail.wvu.edu](mailto:jim.anderson@mail.wvu.edu)

(304) 293-3825 Office

(304) 276-8956 Cell

<http://wildlife.wvu.edu/>

[www.erc.davis.wvu.edu](http://www.erc.davis.wvu.edu)

[www.wvnaturalhistory.org](http://www.wvnaturalhistory.org)

Thank you as well Gerard. I will be meeting with Melissa Morris tomorrow to discuss the ENGR 1XX class we'll develop for you. Do you need to have a syllabus to submit with the plan for the new degree and what would be the first semester that you would want the course to run? We also had our college senior leadership committee meeting this morning. I was able to give Dean Cilento and our departmental chairs a summary of our conversation. That group is ok with a degree title of Environmental and Energy Resources Management. Thank you as well for the NSF link to the white paper.

Regards,

Warren R. Myers, Ph.D., C.I.H.  
Associate Dean for Academic Affairs  
Statler College of Engineering and Mineral Resources  
West Virginia University  
Voice: 304.293.4334

Dr. Alan Collins, Professor and Assistant Director  
Division of Resource Management  
P.O. Box 6108  
West Virginia University  
Morgantown, WV 26506

Dear Alan,

The Department of Geology and Geography is supportive of the B.S. in Energy and Environmental Management as proposed by the Division of Resource Management in the WVU Davis College of Agriculture, Natural Resources, and Design.

The specific three Geography courses listed out of 10 on the "Restricted Elective List 4. *Environment (REQUIRED AREA: minimum of 3 courses)*": GEOG 205 Natural Resources, GEOG 207 Climate and Environment, and GEOG 415 Global Environmental Change are popular offerings and their inclusion on this elective list may cause these courses to reach maximum enrollment earlier in the registration period. However, we anticipate the annual demands from students in the Energy and Environmental Management program (~30% of 25-30 students per year projected in the program after three years) will not alter the availability of these courses to students within the Environmental Geoscience or Geography majors nearly as much as the intrinsic growth in the two ECAS majors (both are in the top three most rapidly growing majors in our college).

While there is overlap in some of the energy and environment content of the program with the existing Environmental Geoscience B.A. degree in our Department, we find that the Energy and Environmental Management program focus on entrepreneurship and economics set the programs apart as synergistic rather than redundant. We would encourage students in the Energy and Environmental Management who wish to have an even broader perspective to take additional geography and geology offerings.

We also believe the new Energy and Environmental Management curriculum will differ significantly from any potential Environmental Geoscience B.S. we might propose in the near future, and that our endorsement of the Energy and Environmental Management in no way hinders or precludes the Department of Geology and Geography proceeding with a more science-and-math based Environmental Science B.S. proposal.

Finally, although the Energy and Environmental Management curriculum would not meet existing math and science criteria for a B.S. degree in the Eberly College, a survey of requirements of other B.S. programs in the Davis College indicates the program is in line with many other B.S. degrees in that college and, presumably, other B.S. degrees in agricultural colleges throughout the country.

In summation, we welcome an Energy and Environmental Management degree and look forward to its contributions to the energy and environment "mountain of excellence" at WVU.

J. Steven Kite, Chair

## **Memorandum**

Date: August 26, 2013

To: Faculty Senate Executive Committee

From: Lisa Weihman, Chair  
General Education Curriculum Oversight Committee

Re: GEC Actions

The General Education Curriculum Oversight Committee met on May 6<sup>th</sup> and recommends the following courses for Faculty Senate approval:

### **Approved New GEC Course:**

CDFS 101, Introduction to Child Development and Family Studies (Obj. 6)

### **Approved New GEC Writing Courses:**

#### **GEC Objectives** (for information only)

1. Communication (ENGL 101 & 102, or ENGL 103 only; W courses evaluated separately)
2. Basic Math & Scientific Inquiry (Total: 13+ hr, including 1 Lab) [Note 2A = Math & Stats (3+ hr required); 2B = Natural & Physical Sciences (7+ hr required); 2C = Natural Resources & Environment (may be used toward Total)]
3. The Past and Its Traditions (3+ hr)
4. Contemporary Society (UNIV 101 & 3+ hr)
5. Artistic Expression (3+ hr)
6. The Individual in Society (3+ hr)
7. American Culture (3+ hr)
8. Western Culture (3+ hr)
9. Non-Western Culture (3+ hr)

W. Writing (1 course, audit/application requires separate “W” form)





***Draft: West Virginia Advisory Council of Faculty 2013-  
2014 Issues  
“Creating a Continuum of Learning”***

***In order to better serve our students, the community, the state, and our institutions of learning, West Virginia higher education faculty support and endorse the following—***

***For the West Virginia Legislature:***

- ◆ Protect higher education from further Budget Cuts, making both public and higher education immune from debilitating cuts;
- ◆ Resolve the PEIA Problem, including lack of transparency and continuously rising costs and falling benefits;
- ◆ Refine and strengthen SB330 so that it accomplishes its original intent, specifically by changing the unrealistic 5% salary differential goal between constituent groups (non-classified staff, classified staff, and faculty) to a more realistic average salary relationship, in order to accommodate the margin of error;

***For the West Virginia HEPC and CCTC:***

- ◆ Advocate maintaining and increasing the percentage of faculty who are full-time in order to assure academic integrity of programs, to recruit high-quality faculty, and to ensure institutional stability.
- ◆ Assure higher education faculty involvement in the new placement criteria commissioned by SB359 and required by Smarter Balance;
- ◆ Continue progress in shared governance by engaging the ACF in the work of the HEPC and CTCC.

***For Our Institutions:***

- ◆ Promote Smarter Balance and transitioning to the Common Core (Next Generation Standards) in order to encourage a greater “Pre-K through College Connection” and to assure the continuum of learning and linkage between higher and public education;
- ◆ Advocate for faculty personnel issues, including salary compression relief, staffing stability, and shared governance to promote student success;
- ◆ Promote Budget and Institutional Transparency;

# State of West Virginia's Budget Forecast

West Virginia Higher Education Board of Governor's Summit

August 2013

Mike McKown

State Budget Office

# The West Virginia Fiscal Picture

Little or No Revenue Growth in FY 2014

Coal Mining in decline; Will Gas pick up slack?

Foreign Exports key to growth – Declining in 2013

Baby Boomers now becoming senior citizens

Transfer Payments growing

Teacher Retirement System: Only 20 More Years Funding with 10%+ of  
Total General Revenue

Workers' Compensation Solvent by CY2016?

Federal Health Care & Medicaid

## **National Fiscal Concerns**

### **Major U.S. Cities Pension Funds Stressed**

Detroit in Bankruptcy, Chicago downgraded due to \$19 Billion unfunded pension debt

### **Illinois - just 5 years from exhausting its pension fund.**

(Unfunded liabilities at \$96 Billion and climbing)

**Nationwide Public Retirement Systems – The number of retirees is growing  
5 times faster than the number of working members.**

### **Federal Government accumulates over \$1.75 Billion of new debt every day.**

Estimated FY13 Federal government expenditures \$3.455 Trillion

Estimated FY13 Federal government receipts \$2.813 Trillion

Estimated FY13 Federal government deficit \$0.642 Trillion

Future deficits are still predicted to be \$630 Billion per year even with current budget adjustments

Medicare, Medicaid & Social Security make up 62% of Federal spending

### **Federal Government's accumulated debt continues to grow - \$16.7 TRILLION.**

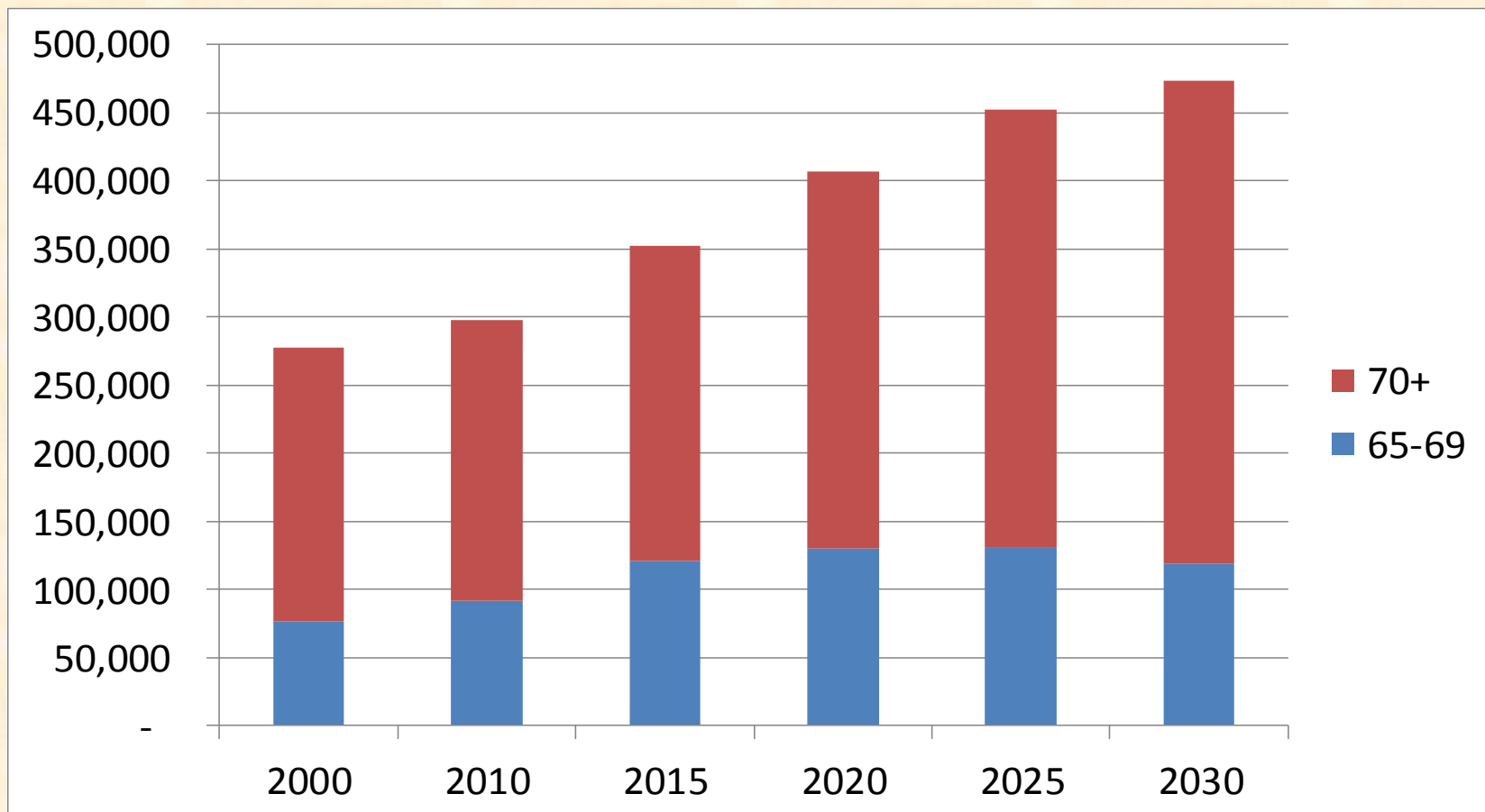
(debt per citizen \$53,000, debt per taxpayer \$148,000)

US Debt Ceiling is \$16.7 Trillion - another budget battle looming this Fall

US GDP as of June 2013 = \$16.5 Trillion

# Senior Population to Rise 37% within 10 Years

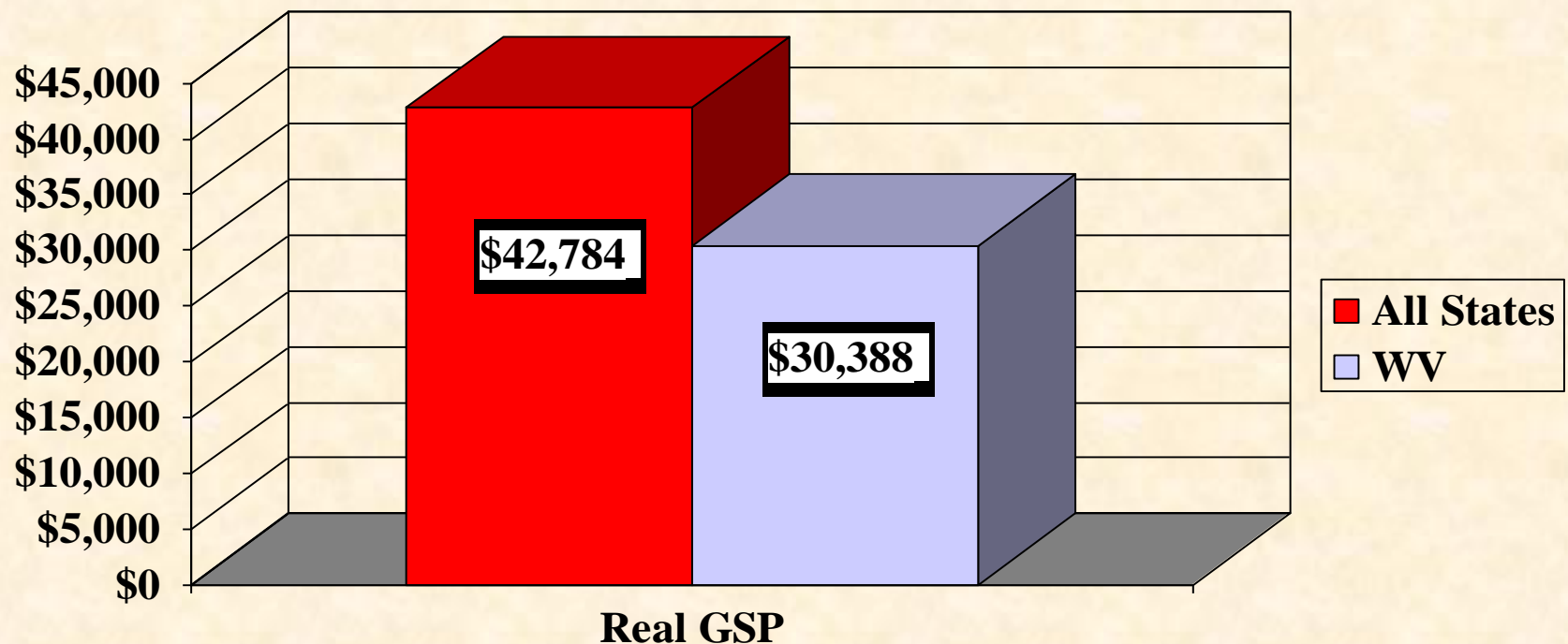
Source: WV University Bureau of Business & Economic Research



# Per Capita GSP Much Lower in West Virginia

Lower Than Average Capacity To Raise Revenue

Source: U.S. Bureau of Economic Analysis-2012

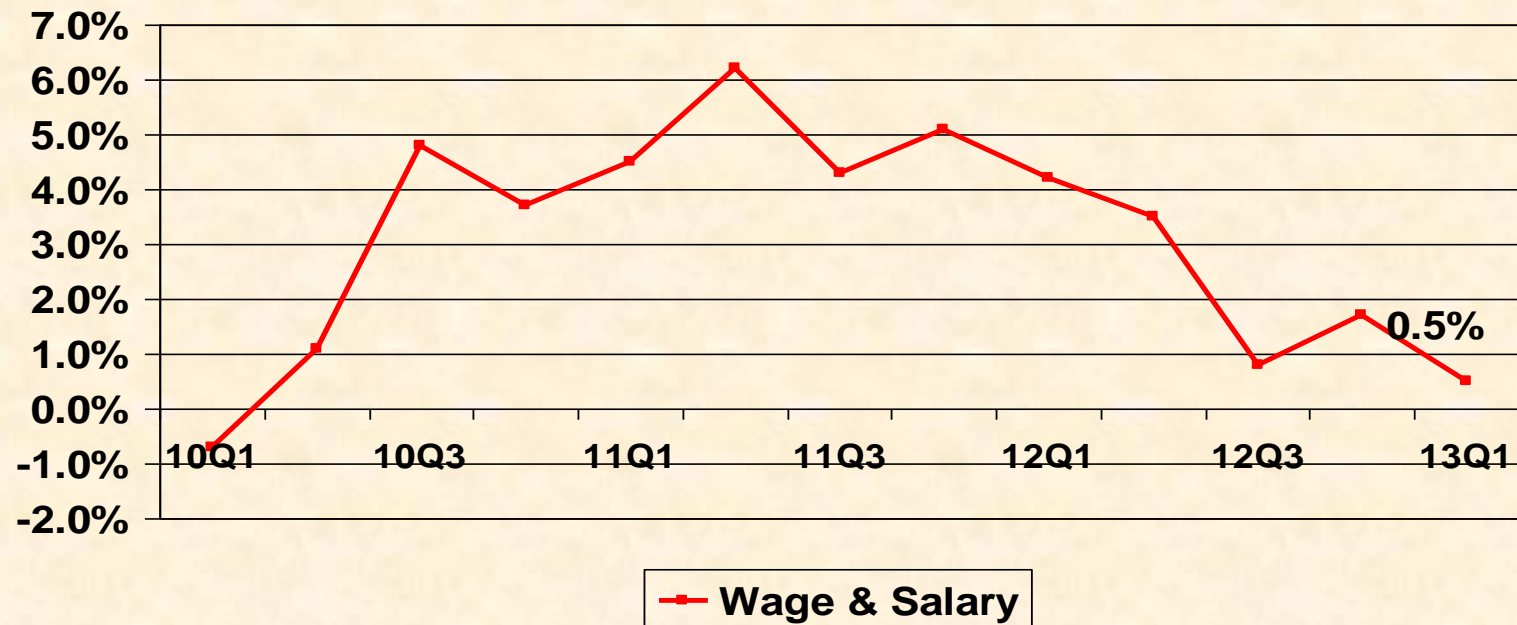


# Wage Growth Very Sluggish Over Past Year

## Quarterly Wage & Salary Income Growth Trend -West Virginia

Source: U.S. Bureau of Economic Analysis

### Seasonally Adjusted Annual Rate

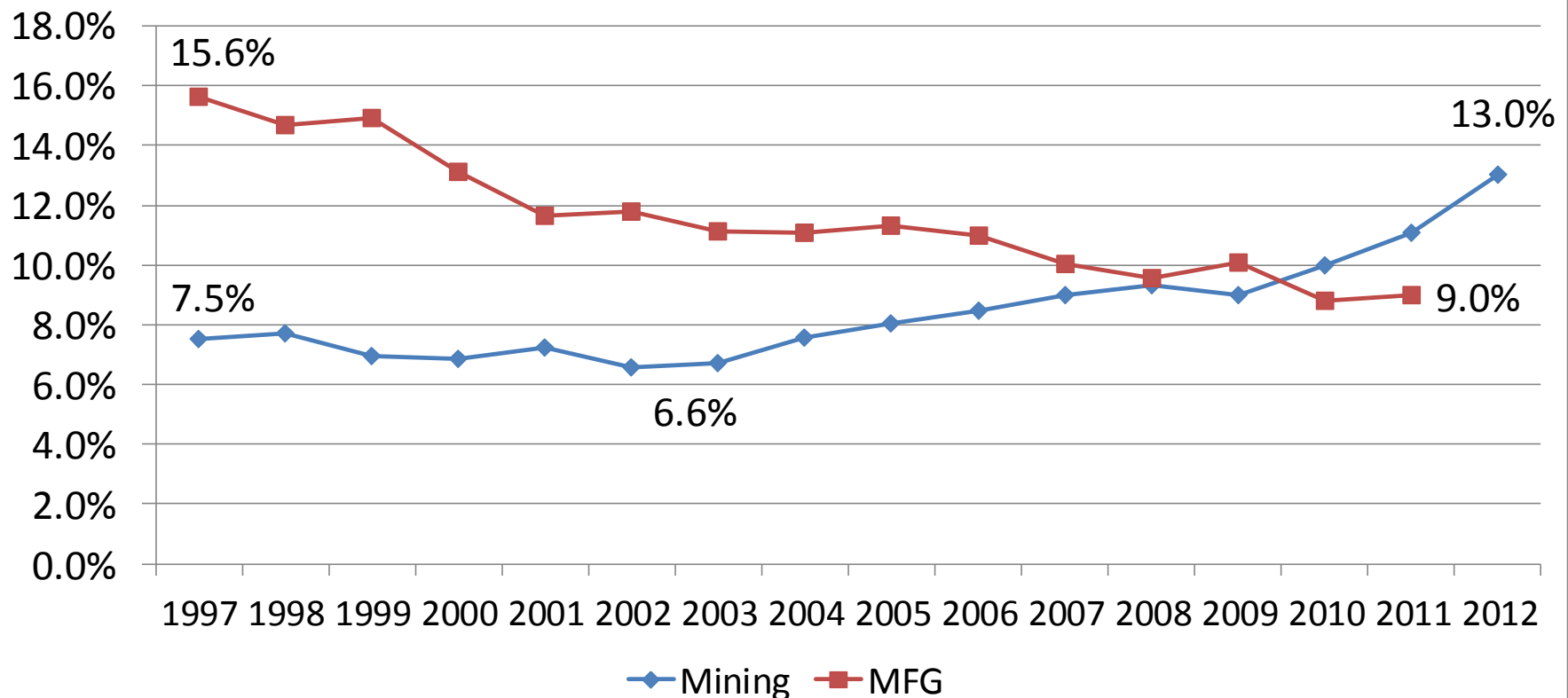




# Mining Industry Share of Economy Grows 2002-2012

Source: U.S. Bureau of Economic Analysis

## Mining vs Manufacturing Share of Current \$ WV GDP

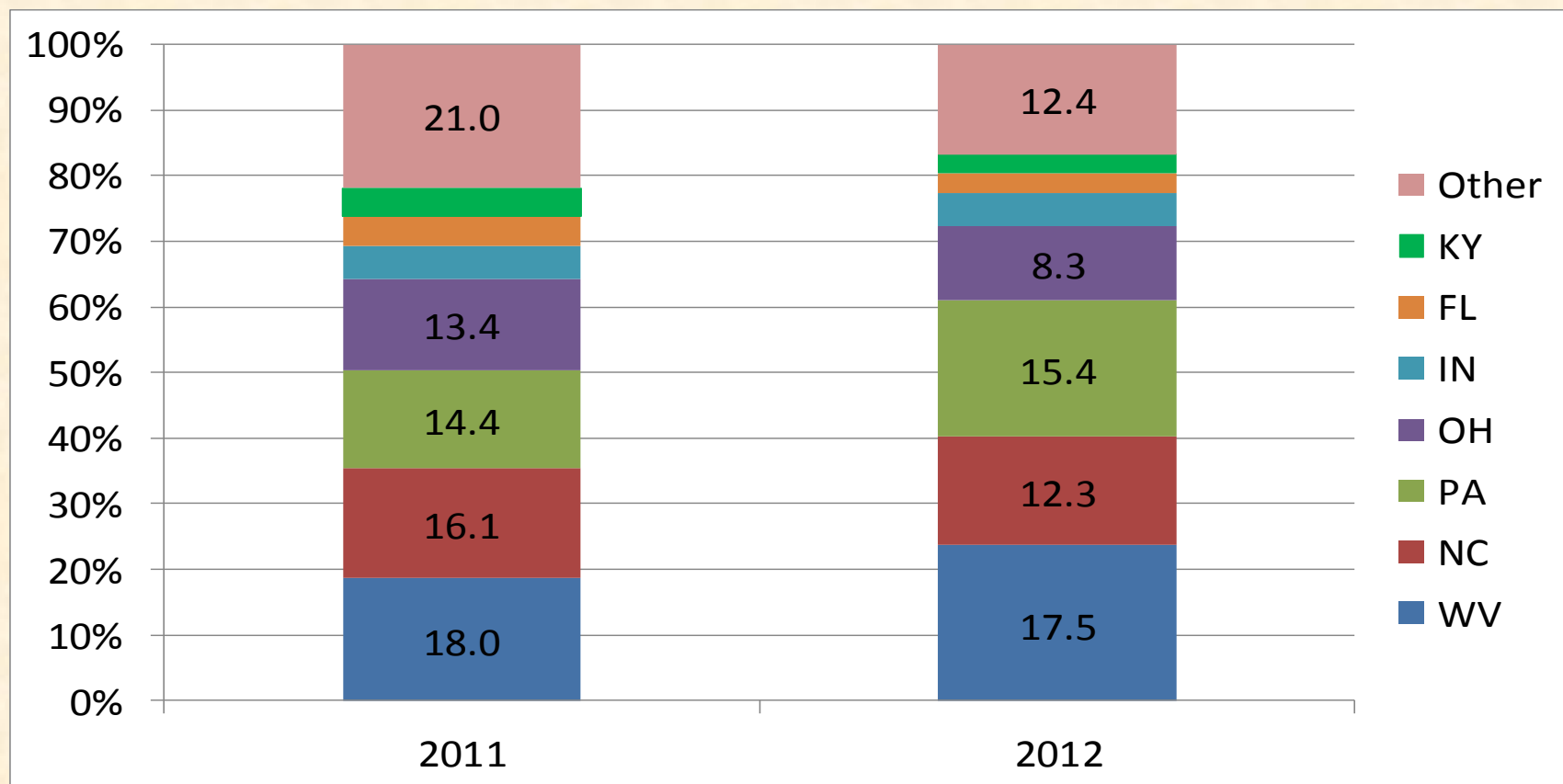




# Domestic Distribution of WV Coal

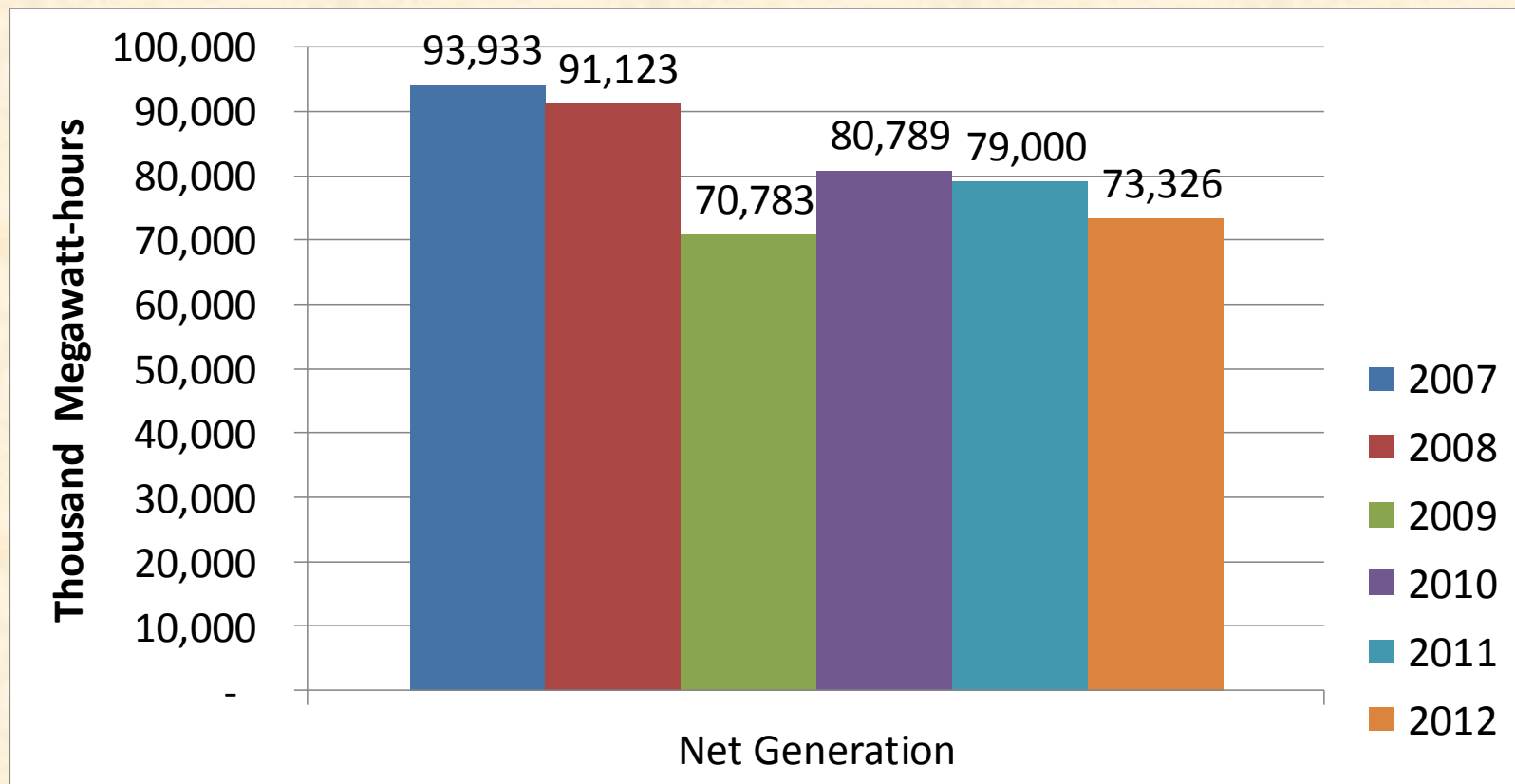
Sales to 24 States-Domestic Distribution Down 23% in 2012

Source: U.S. Department of Energy



# West Virginia Electric Power Generation: Down 7.2% in 2012 & 21.9% Below 2008

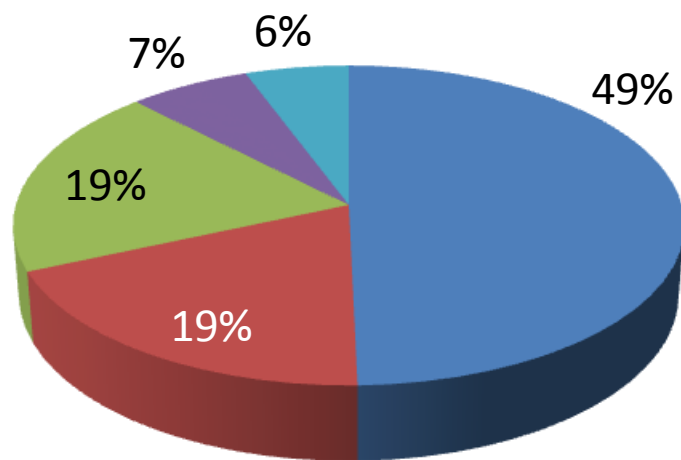
Source: U.S. DOE, Energy Information Administration



# Electric Power: Coal Losing Market Share to Gas

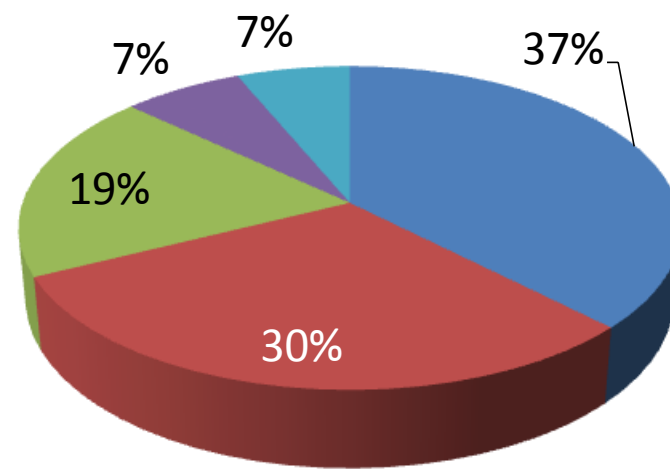
Source: U.S. Energy Information Administration

## Net Generation 2005



■ Coal      ■ Natural Gas  
■ Nuclear   ■ Hydro Conv  
■ All Other

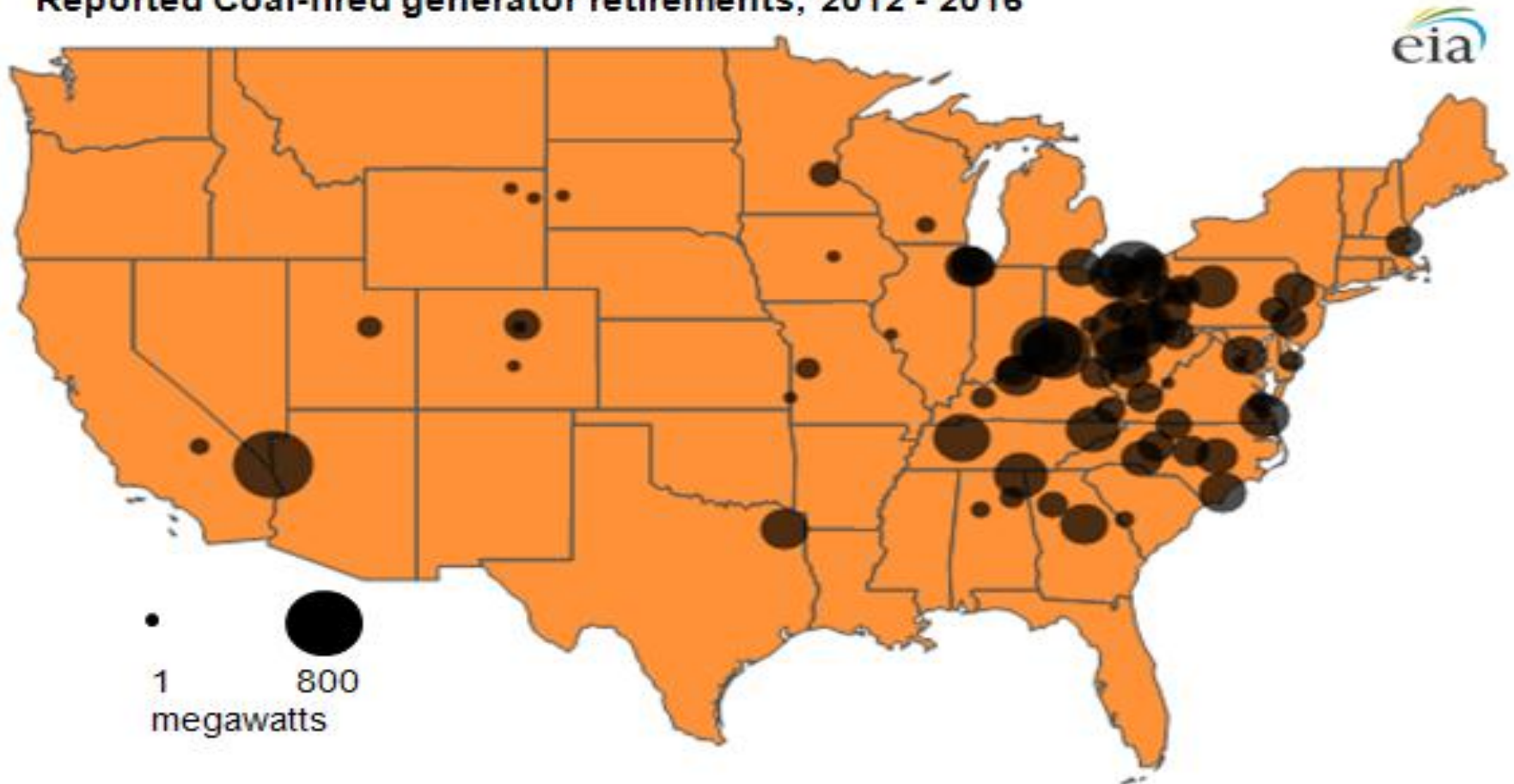
## Net Generation 2012



■ Coal      ■ Natural Gas  
■ Nuclear   ■ Hydro Conv  
■ All Other

## 27 Gigawatts (8.5%) of Coal-Fired Capacity To Retire

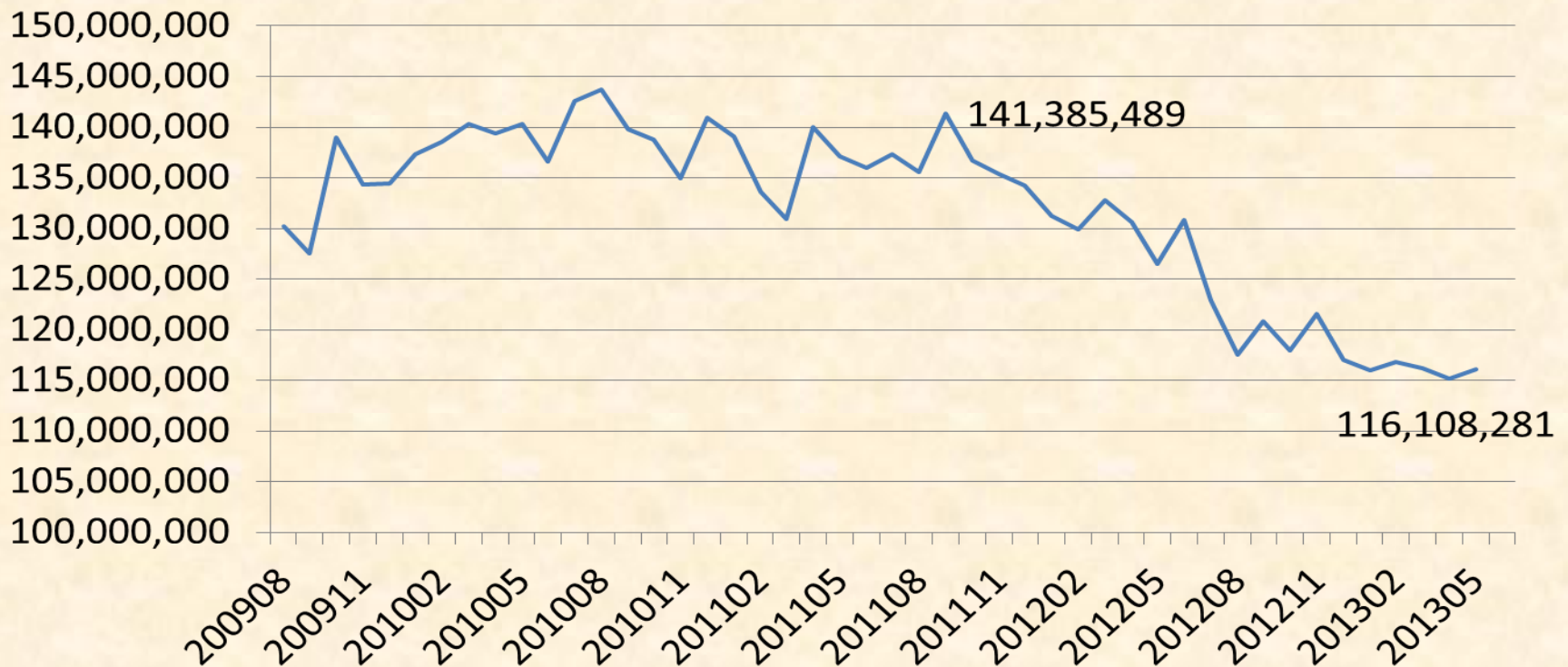
**Reported Coal-fired generator retirements, 2012 - 2016**



# 12 Month Trailing Trend - Coal Sales

Workers' Compensation Severance Tax Return Data

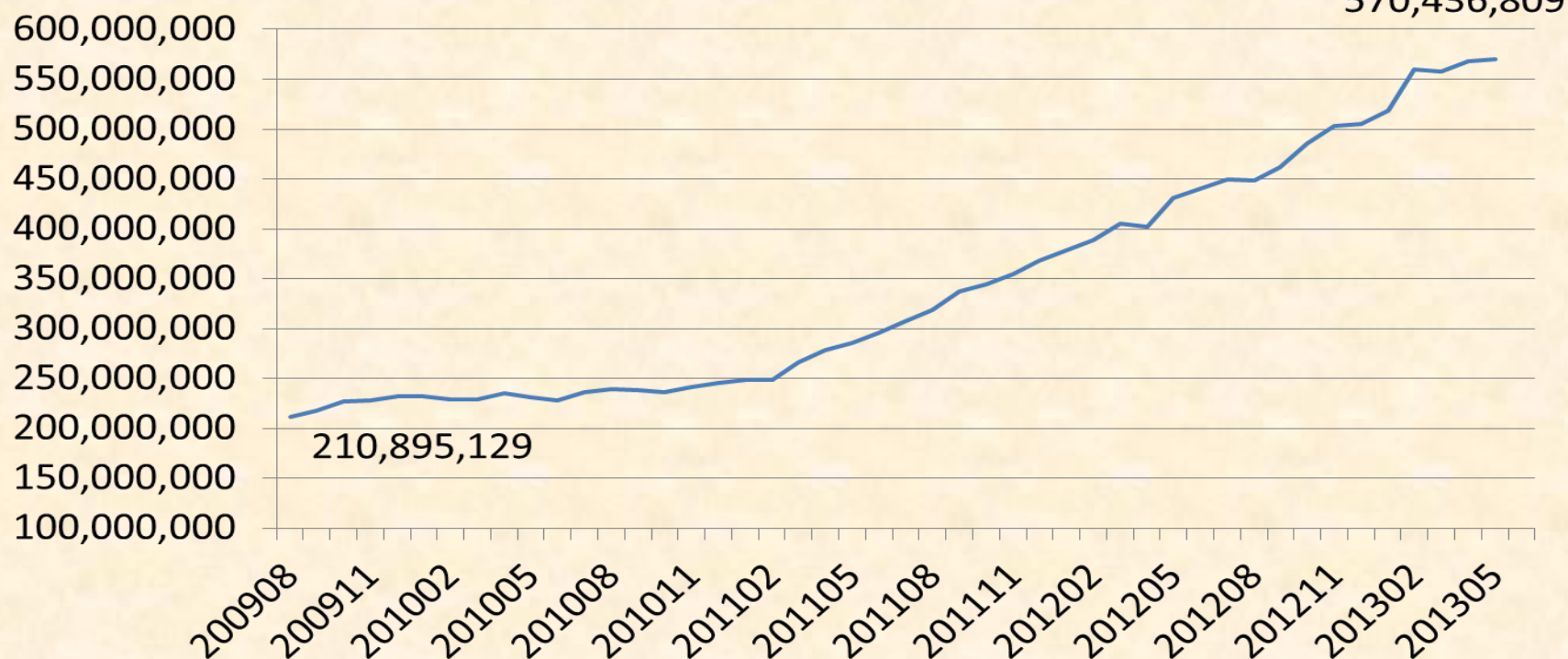
**Tons**



# 12 Month Trailing Trend: Taxable Natural Gas Sales

Workers' Compensation Severance Tax Return Data

**MCF**

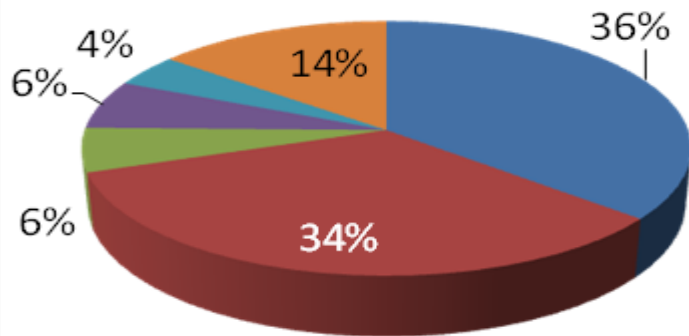




# General Revenue Fund: Sources of Revenue

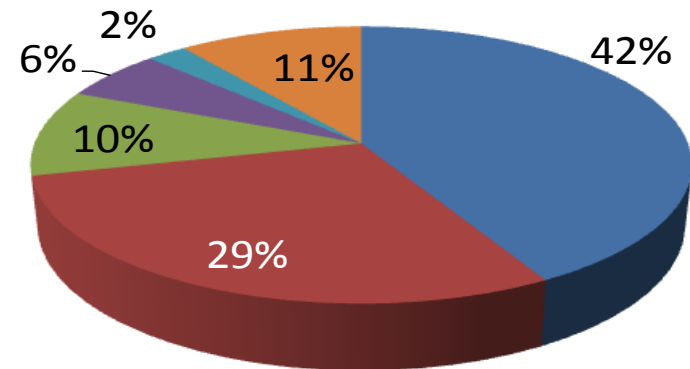
More Reliance on Severance Tax & Income Tax  
From 42% to 52%

## General Revenue 2003



■ PIT                      ■ Sales & Use  
■ Severance            ■ CNIT  
■ Lottery                ■ All Other

## General Revenue 2013



■ PIT                      ■ Sales & Use  
■ Severance            ■ CNIT  
■ Lottery                ■ All Other

State of West Virginia  
**General & Lottery Appropriations**

<u>Department</u>	<u>FY 2009</u>	<u>% of total</u>	<u>FY 2014</u>	<u>% of total</u>
Public Education	1,918,411,298	44.24%	2,075,009,882	46.10%
Health & Human Resources	\$ 862,091,049	19.88%	\$ 982,565,987	21.83%
Higher Education	483,015,423	11.14%	483,031,845	10.73%
All Others	1,073,107,891	24.75%	960,888,869	21.35%
Total	<u>\$ 4,336,625,661</u>		<u>\$ 4,501,496,583</u>	



## State Of West Virginia General & Lottery Revenues

(in millions \$)

	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18
<b><u>General</u></b>	Actual	Actual	Actual	Actual	Actual	Budget	Estimate	Estimate	Estimate	Estimate
Personal Income Tax	1,558	1,447	1,593	1,689	1,746	1,767	1,872	1,980	2,144	2,241
Sales / Use Tax	1,110	1,096	1,148	1,216	1,193	1,204	1,231	1,256	1,304	1,360
Corporate Net Income	270	233	303	188	238	230	218	209	192	183
Severance Tax	360	400	441	468	410	431	454	440	421	409
All Others	604	582	579	542	517	504	495	525	560	561
total	3,902	3,758	4,064	4,103	4,104	4,136	4,270	4,410	4,621	4,754
% change		-3.7%	8.1%	1.0%	0.0%	0.8%	3.2%	3.3%	4.8%	2.9%
<b><u>Lottery</u></b>										
Racetrack Video	310	275	258	274	230	174	172	172	172	172
Limited Video	206	199	199	265	204	188	188	188	188	188
Traditional Games	41	40	36	46	38	32	32	32	32	32
Table Games	18	17	32	38	34	32	32	32	32	32
total	575	531	525	623	506	426	424	424	424	424
% change		-7.7%	-1.1%	18.7%	-18.8%	-15.8%	-0.5%	0.0%	0.0%	0.0%

## Rainy Day Funds

### Balances As of June 30

		Rainy Day <u>Part A</u>	Rainy Day <u>Part B</u>	Rainy Day <u>Total</u>	% of Gen Rev <u>Approps</u>
1995	\$	20,564,051		\$ 20,564,051	
1996		54,706,193		54,706,193	
1997		57,370,043		57,370,043	
1998		67,562,784		67,562,784	
1999		64,580,523		64,580,523	
2000		73,218,878		73,218,878	
2001		79,085,244		79,085,244	
2002		56,178,309		56,178,309	
2003		57,750,613		57,750,613	
2004		53,574,931		53,574,931	
2005		79,302,478		79,302,478	2.29%
2006		124,153,400	\$ 234,897,672	359,051,072	9.97%
2007		235,075,887	279,869,088	514,944,975	13.75%
2008		289,801,853	291,275,043	581,076,896	14.65%
2009		236,619,573	236,006,003	472,625,575	11.99%
2010		276,949,590	279,073,100	556,022,690	14.65%
2011		342,320,538	316,806,578	659,127,115	17.38%
2012		523,689,609	327,698,977	851,388,585	20.06%
2013		557,992,969	356,472,702	914,465,671	21.09%
Today		552,195,242	348,811,176	901,006,419	21.78%

General & Lottery Funds  
FY 2015  
Summary of Requested 7.5% Budget Cuts  
(in \$s)

Department	Beginning Base Budget	Excluded from 7.5% cut	7.5% cut
Legislative	24,742,872	24,742,872	0
Judicial	121,511,992	121,511,992	0
Executive	44,348,629	0	3,326,147
Administrative	81,580,118	55,524,381	1,954,180
Commerce	76,737,309	18,067,125	4,400,264
Public Education	2,109,458,877	1,995,102,696	8,576,714
Education & The Arts	51,179,440	14,171,778	2,775,575
Environmental Protection	7,739,841	0	580,488
Health & Human Services	1,085,999,074	920,542,399	12,409,251
Military Affairs & Public Safety	365,876,222	217,641,492	11,117,605
Revenue	39,796,939	12,000,000	2,084,770
Transportation	6,717,821	0	503,837
Veterans' Assistance	11,321,694	6,836,188	336,413
Senior Services	63,049,496	40,736,458	1,673,478
Higher Education	482,429,969	49,000,000	32,507,248
Miscellaneous Boards	66,400,000	66,400,000	0
Total	4,638,890,293	3,542,277,381	82,245,968

**Six Year Financial Plan  
Through FY 2018  
General & Lottery Revenues**  
(In Thousands \$) (as of 8/9/2013)

DRAFT

	Actual 2013	Budgeted 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018
<b>Estimated Revenue</b>						
General Revenue	\$4,104,138	\$4,136,001	\$4,270,201	\$4,410,171	\$4,620,600	\$4,754,050
General Revenue - Surplus from previous FY	214,765	0	0	0	0	0
Lottery	177,308	136,982	127,955	127,956	127,956	127,956
Lottery - Surplus from previous FY	(4,491)	35,481	0	0	0	0
Excess Lottery	202,988	163,922	170,949	170,949	170,949	170,949
Excess Lottery - Surplus from previous FY	(5,023)	96,544	0	0	0	0
Total Available	\$4,689,685	\$4,568,930	\$4,569,105	\$4,709,076	\$4,919,505	\$5,052,955
<b>Estimated Expenditures</b>						
Base Budget		\$4,520,291	\$4,638,891	\$4,852,509	\$4,932,979	\$5,072,373
<b>Expenditure Growth:</b>						
Retirement Systems	538,250	38,923	2,000	2,000	2,000	2,000
Medicaid	426,063	149,695	99,213	36,058	49,686	56,862
PEIA	338,424	(3,647)	21,000	28,000	24,000	17,000
Salary Enhancements	0	6	50,575	0	51,000	0
Public Education	1,412,901	(11,321)	55	512	573	752
Higher Education	486,882	(26,719)	500	0	(3,000)	0
All Other	1,317,771	(28,337)	40,275	13,900	15,135	13,000
<b>Total Ongoing Base Budget</b>	<b>\$4,520,291</b>	<b>\$4,638,891</b>	<b>\$4,852,509</b>	<b>\$4,932,979</b>	<b>\$5,072,373</b>	<b>\$5,161,987</b>
One Time Expenditures & Adjustments	135,516	(48,931)	24,580	35,000	5,000	5,000
<b>Estimated Balance (Gaps)</b>	<b>\$33,878</b>	<b>(\$21,030)</b>	<b>(\$307,984)</b>	<b>(\$258,903)</b>	<b>(\$157,868)</b>	<b>(\$114,032)</b>

Note: This six-year financial plan is a tool for analyzing future budgets and any gaps must be balanced.