

**Tennessee Valley Authority**  
**Strategic Sustainability Performance Plan**

**Executive Order 13514**

*Federal Leadership in Environmental, Energy, and Economic Performance*

*Prepared by:*



June 2012

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## Policy Statement

Since its inception, the people of the Tennessee Valley Authority (TVA) have maintained a proud history of environmental leadership. On May 18, 1933, the President signed the TVA Act into law to create an Agency that serves the Valley through its energy, environment, and economic development mission. To this day, TVA remains committed to leading the way in environmental sustainability. TVA's Environmental Policy is to provide cleaner, reliable, and affordable energy to support sustainable economic growth in the Tennessee Valley, and to engage in proactive environmental stewardship in a balanced and ecologically sound manner. TVA's pursuits in these areas benefit the well-being of its employees and customers, the people being served, and the natural resources it stewards.

In August 2010, the TVA Board of Directors adopted a renewed vision that will help TVA lead the Tennessee Valley region and the nation toward a cleaner and more secure energy future. Over the next decade, TVA will place greater emphasis on the following areas: low rates, high reliability, responsibility, cleaner air, more nuclear generation, and greater energy efficiency. By accomplishing these, TVA realizes its vision, meets the needs of its customers, and promotes a strong foundation for a sustainable future.

TVA employees manage many environmental sustainability programs, including technology innovation, environmental stewardship and compliance, a growing renewable energy portfolio, and a comprehensive economic development program. TVA will strive to integrate the goals of Executive Order (E.O.) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* and to understand and address climate change adaptation in its existing innovative programs and new efforts. Pursuant to the E.O., this comprehensive Strategic Sustainability Performance Plan (SSPP) addresses key aspects of TVA's energy, environmental, economic, and social resources and responsibilities in the 21<sup>st</sup> century.

As part of this SSPP, TVA has established specific goals. Annually, TVA will measure and report its progress toward each of these goals using the existing Environmental Management System (EMS) platform and performance reporting process. TVA's SSPP will be driven not only by the goals set forth in E.O. 13514, but also by the TVA Strategic Plan, the 2010 TVA Environmental Policy, and the TVA Integrated Resource and Natural Resource plans. These environmental goals will be an integral part of how TVA does business, and will be tracked along with its other business objectives.

TVA's budget for meeting the TVA SSPP goals will be based upon non-appropriated dollars; therefore, this plan and all proposed goals and projects hereunder shall be subject to the availability of funding as TVA, at its discretion, deems appropriate and practicable.

To conclude, this SSPP is intended for the internal management of TVA only and is not intended to, nor does, create any right or benefits, substantive or procedural, enforceable at law or equity against TVA or the United States, or their officials, employees, or agents or any other person.

Signed,



Dr. Joseph J. Hoagland  
Senior Sustainability Officer

## Executive Summary

TVA's key achievements and challenges for FY 2011 and future plans (FY 2013) toward sustainability are outlined in this summary.

### Key Achievements and Successes

- TVA has consistently met building energy reduction goals and currently is using nearly half the energy of the federal average for goal-subject buildings.
- TVA began a four-year process to upgrade its video and audio conferencing capabilities and increase employee awareness of such capabilities in order to reduce employee business travel, as appropriate, in order to meet the greenhouse gas (GHG) targets.
- TVA ended FY 2011 with an agency renewable energy percentage of 8.4%, which exceeds the FY 2011 goal of 5% and the FY 2013 goal of 7.5%.
- TVA continues to manage its building assets through its TVA Facilities Strategic Plan – removing 100 buildings from the TVA corporate portfolio resulting in a total savings of over \$64 million.
- In FY 2011, TVA surveyed 4,434,619 sq. ft. of covered facilities, meeting the 75% survey goal. These surveys resulted in identification of \$7.9 million in energy and water improvements with a potential cost savings of \$0.83 million per year.
- TVA added 183 flex fuel vehicles, 4 electric vehicles to its fleet, and installed four charge outlets at its Chattanooga Office Complex to support the use of electric vehicles.
- TVA executed an agency-wide waste disposal contract to achieve progress towards waste diversion targets and to establish a reporting process for waste diversion.
- TVA's Office Recycling Program has a 30% recycling rate for office waste at its Knoxville and Chattanooga locations.
- TVA launched a pilot recycling effort for used writing instruments, including pens, markers and pencils.
- TVA's Green Products List, which details over 350 required green products, was revamped to serve as a more user-friendly resource for employees and contractors. As a result of the implemented correction plan, TVA achieved 95% compliance for FY 2011 Q4.
- TVA purchased over 10,300 environmentally preferred (Electronic Product Environmental Assessment Tool [EPEAT] designated) PCs and monitors, and achieved a 99.7% EPEAT purchase rate.
- TVA hosted the first TVA Solar Solutions Forum to bring together Tennessee Valley solar stakeholders to promote innovative solar technology solutions at a collaborative and educational two-day event.

## **Key Challenges, Lessons Learned, and Tradeoffs**

- The E.O. 13514 applicability of TVA's vehicle fleet has been uncertain, making the implementation of various vehicle fleet strategies more difficult. TVA has concluded discussions with the Office of Management and Budget (OMB) on this issue toward addressing its vehicle fleet strategies.
- TVA has turned its attention to retrofitting multiple smaller buildings due to the OMB rule change that emphasized numbers of building reporting verses square footage reporting. This change has "reduced" TVA's progress toward the associated goal due to its previous focus on the largest office buildings.
- The availability of E85 fuel is limited within the Tennessee Valley region.
- TVA also determined that retrofitting the Sustainable Guiding Principles to smaller buildings has a much lower payback.

## **Future Plans**

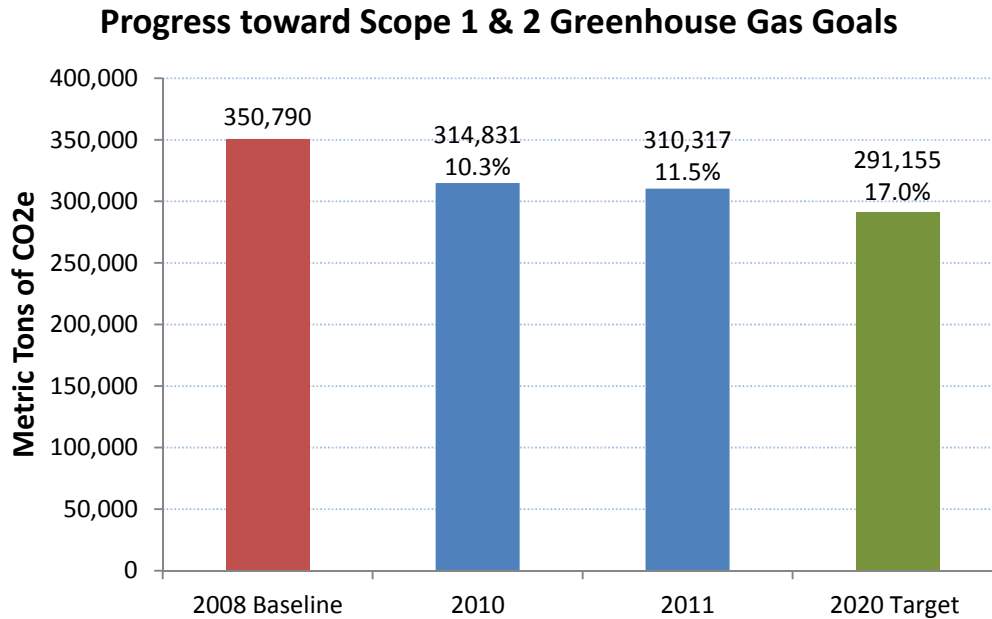
- TVA is focusing on expanding its renewable program to support a shift to cleaner energy; we actively promote residential, commercial, and industrial energy efficiency programs.
- TVA is targeting research and development programs to support electric vehicles, charging infrastructure, and charging energy efficiency.
- TVA is planning for the third year of hosting the Utility Environmental Benchmarking Forum, with a focus to improve utilities' environmental performance.
- TVA's Fleet Plan will be revised to focus on a long-term integrated strategy for reducing petroleum consumption and increasing alternative fuel usage.
- TVA plans to reduce its industrial water use by switching from wet ash handling and storage to dry ash handling and storage. Once this is accomplished the resulting non-potable water savings will well exceed the goal.
- TVA's Natural Resource Plan (NRP) Climate Sentinel Monitoring is expected to begin in FY 2013. Additional detail is provided in TVA's Climate Change Adaptation Action Plan (Appendix 2).
- TVA plans to continue adopting the Electric Utility Industry Sustainable Supply Chain Alliance's (EUISSCA's) best practices, standards, and metrics as part of the TVA Integrated Supply Chain Sustainability Strategy and will establish appropriate targets for focused improvements.

**Table 1: Size and Scope of Agency Operations**

<b>Agency Size and Scope</b>	<b>FY 2011</b>
Total Number of Employees as Reported in the President's Budget	12,457
Total Acres of Land Managed	328,000
Total Number of Facilities Owned	2,304
Total Number of Facilities Leased (GSA and Non-GSA lease)	35
Total Facility Gross Square Feet (GSF)	28,512,948
Operates in Number of Locations Throughout U.S.	7
Operates in Number of Locations Outside of U.S.	0
Total Number of Fleet Vehicles Owned	1,966
Total Number of Fleet Vehicles Leased	0

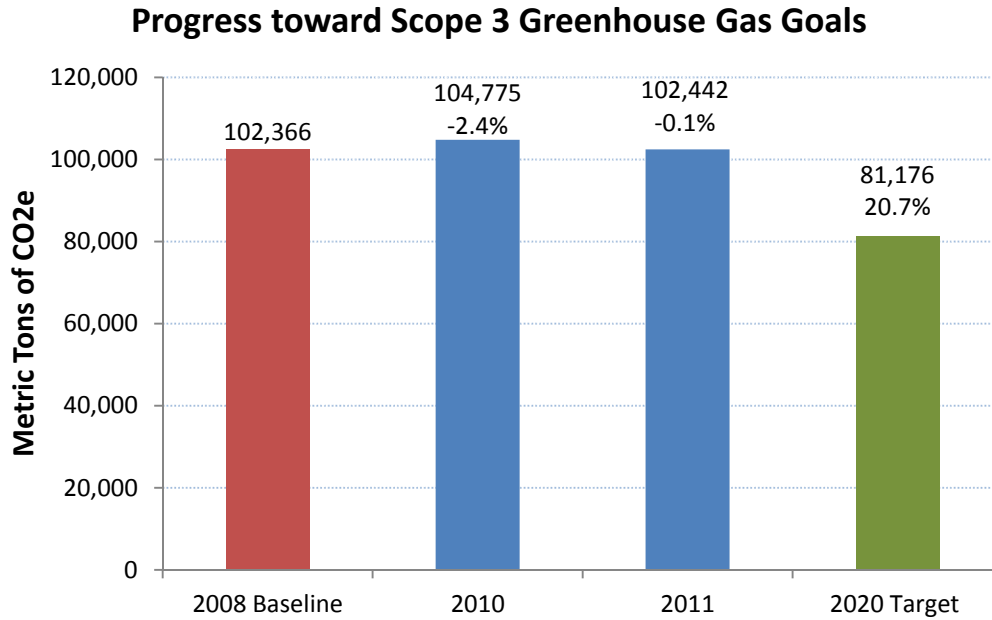
## Goal 1: Greenhouse Gas Reduction and Maintenance of Agency Comprehensive Greenhouse Gas Inventory

### Agency-Specific Performance Metrics for Scope 1 & 2 GHG Emissions Reduction:



Note: E.O. 13514 requires each agency to establish a scope 1 & 2 GHG reduction target for FY2020. The target for this agency is 17% compared to FY2008. The red bar represents the agency's FY2008 baseline. The green bar represents the FY2020 target reduction. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2008 baseline.

## Agency-Specific Performance Metrics for Scope 3 GHG Emissions Reduction:

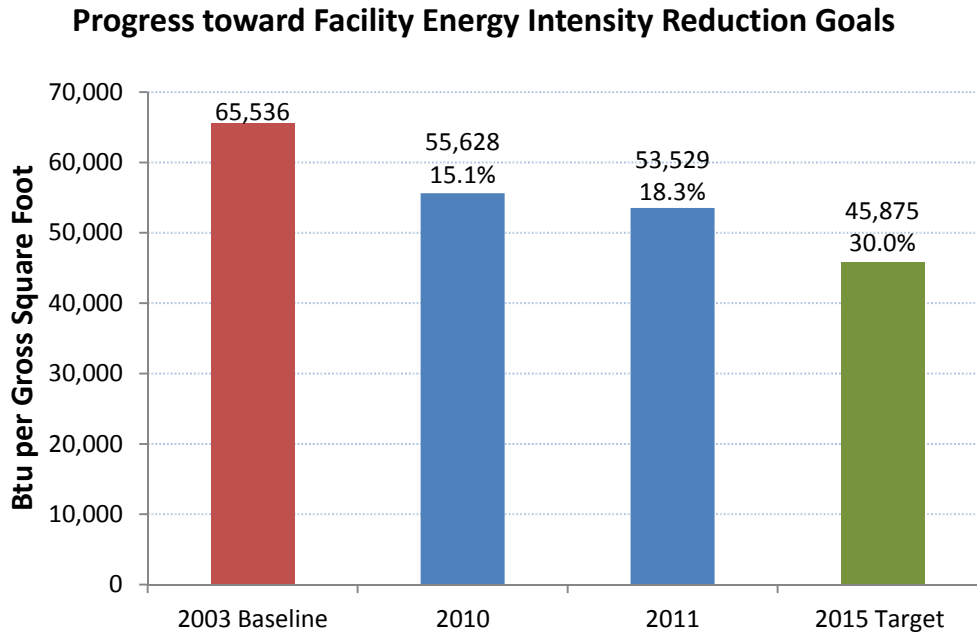


Note: E.O. 13514 requires each agency to establish a scope 3 GHG reduction target for FY2020. The FY2020 target for this agency is 20.7% compared to the FY2008 baseline. The red bar represents the agency's FY2008 baseline. The green bar represents the FY2020 target reduction. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2008 baseline. A negative percentage reflects an increase in scope 3 greenhouse gas emissions.



## Goal 2: Buildings

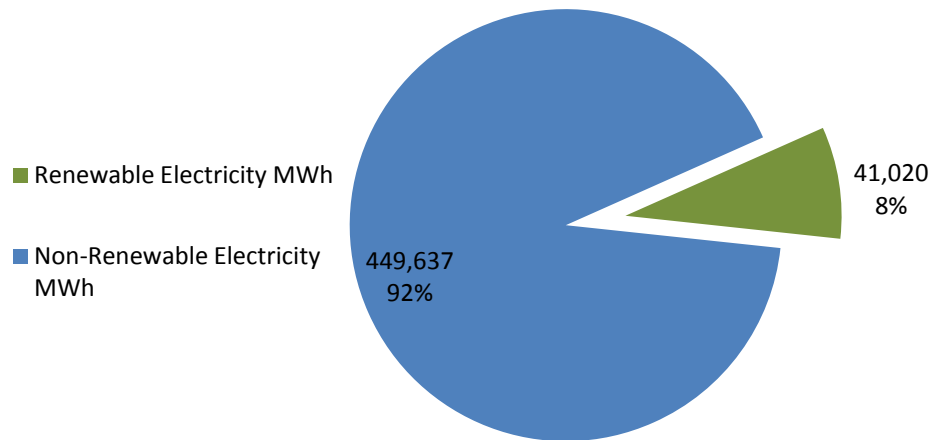
### Agency-Specific Performance Metrics for Facility Energy Intensity Reduction:



Note: EISA requires agencies to reduce energy intensity by 18% for FY2011, compared to an FY2003 baseline; a 30% reduction is required by FY2015. The red bar represents the agency's FY2003 baseline. The green bar represents the FY2015 target reduction. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2003 baseline.

## Agency-Specific Performance Metrics for Renewable Energy:

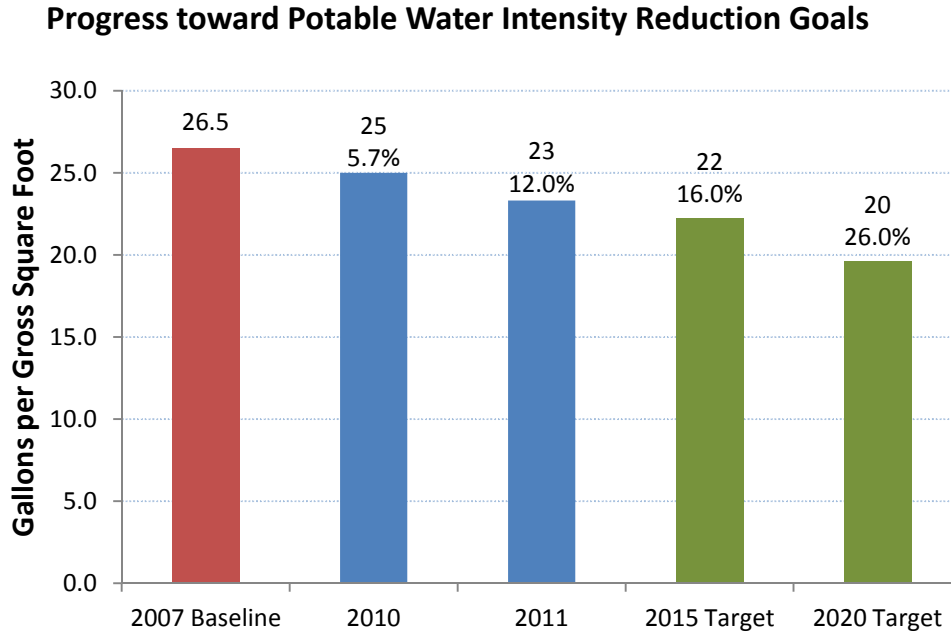
### Use of Renewable Energy as a Percentage of Electricity Use



Note: EAct requires agencies to increase the use of renewable energy as a percentage of electricity use to 5% by FY2010-2012 and 7.5% by FY2013 and beyond.

## Goal 4: Water Use Efficiency and Management

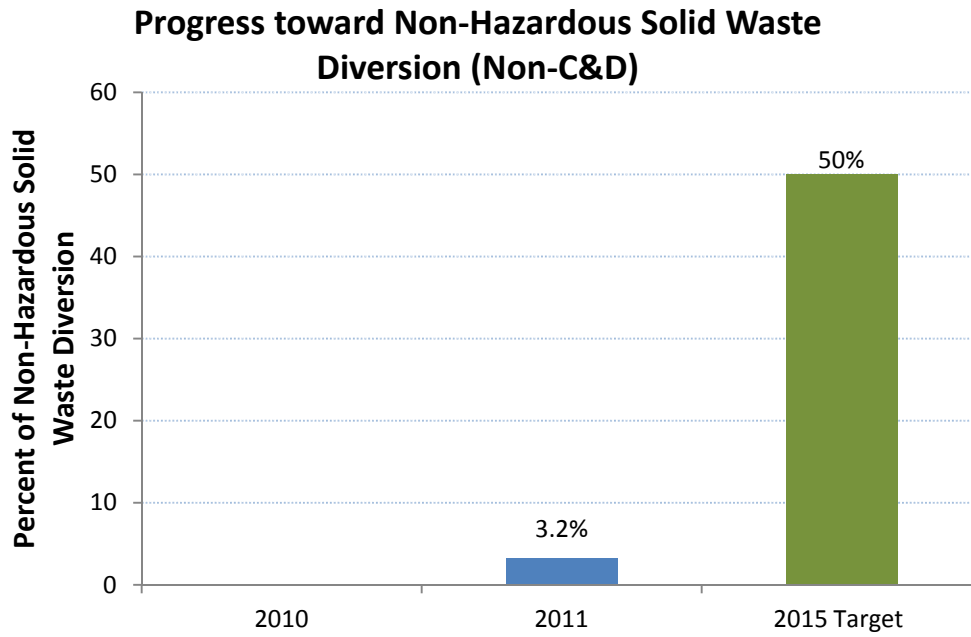
### Agency-Specific Performance Metrics for Potable Water Intensity Reduction:



Note: E.O. 13514 requires agencies to reduce potable water intensity by 2% annually through FY2020, compared to an FY2007 baseline. Consequently, by FY2011 agencies are required to reduce potable water intensity by 8%, compared to an FY2007 baseline. A 16% reduction is required by FY 2015 and a 26% reduction is required by FY2020. The red bar represents the agency's FY2007 baseline. The green bars represent the FY2015 and FY2020 target reductions. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2007 baseline.




## Goal 5: Pollution Prevention and Waste Reduction

### Agency-Specific Performance Metrics for Non-Hazardous Solid Waste Diversion (Non-C&D):






Note: E.O. 13514 requires that by FY2015 agencies annually divert at least 50% of non-hazardous solid waste from disposal. The green bar represents the FY2015 target. The blue bars show actual progress toward the target.




## Goal 7: Electronic Stewardship and Data Centers

EPEAT	POWER MANAGEMENT	END-OF-LIFE	COMMENTS
			60% Power Management compliant.




### EPEAT:

	95% or more Monitors and PCs/Laptops purchased in FY2011 was EPEAT Compliant Agency-wide
	85-94% or more Monitors and PCs/Laptops purchased in FY2011 was EPEAT Compliant Agency-wide
	84% or less Monitors and PCs/Laptops purchased in FY2011 was EPEAT Compliant Agency-wide

### Power Management:

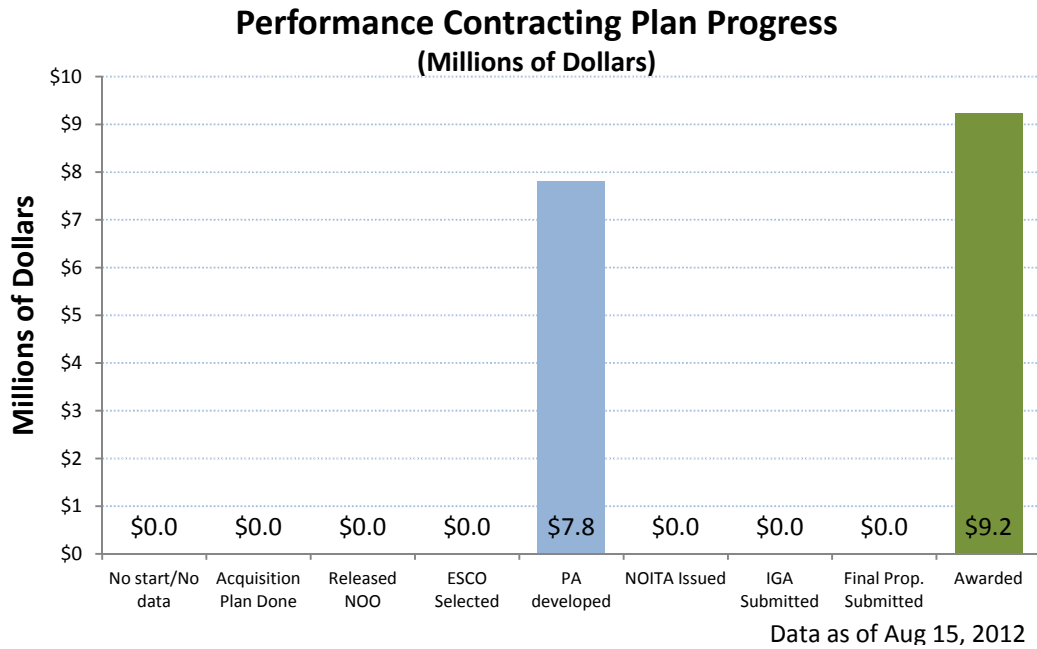
	100% Power Management Enabled Computers, Laptops and Monitors Agency-wide
	90-99% Power Management Enabled Computers, Laptops and Monitors Agency-wide
	89% or less Power Management Enabled Computers, Laptops and Monitors Agency-wide

### End-of-Life:

	100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor or Certified Recycler (R2, E-Stewards)
	100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor or non-Certified Recycler
	Less than 100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor or non-Certified Recycler

## President's Performance Contracting Commitment

### Agency-Specific President's Performance Contracting Commitment Metrics:



### Agency-Specific President's Performance Contracting Commitment Metrics:

