

Energy Efficiency &
Renewable Resources are
Good for Business...
and Government

February 2, 2010





Agenda



- Welcome and introduction
- Energy Trust overview
- Commercial Program Overviews
 - New Buildings
 - Existing Buildings
 - Renewables
- Contact information
- Questions and answers

www.energytrust.org



Our mission

To change how Oregonians produce and use energy by investing in efficient technologies and renewable resources that:

- Develop new sources of clean energy
- Help Oregonians manage energy costs
- Stimulate the economy
- Protect the environment





Energy Trust provides:

- Energy efficiency and renewable energy services for your home and business
- Information to help you decide what to do
- Cash incentives and rebates to encourage you to take action





Eligibility

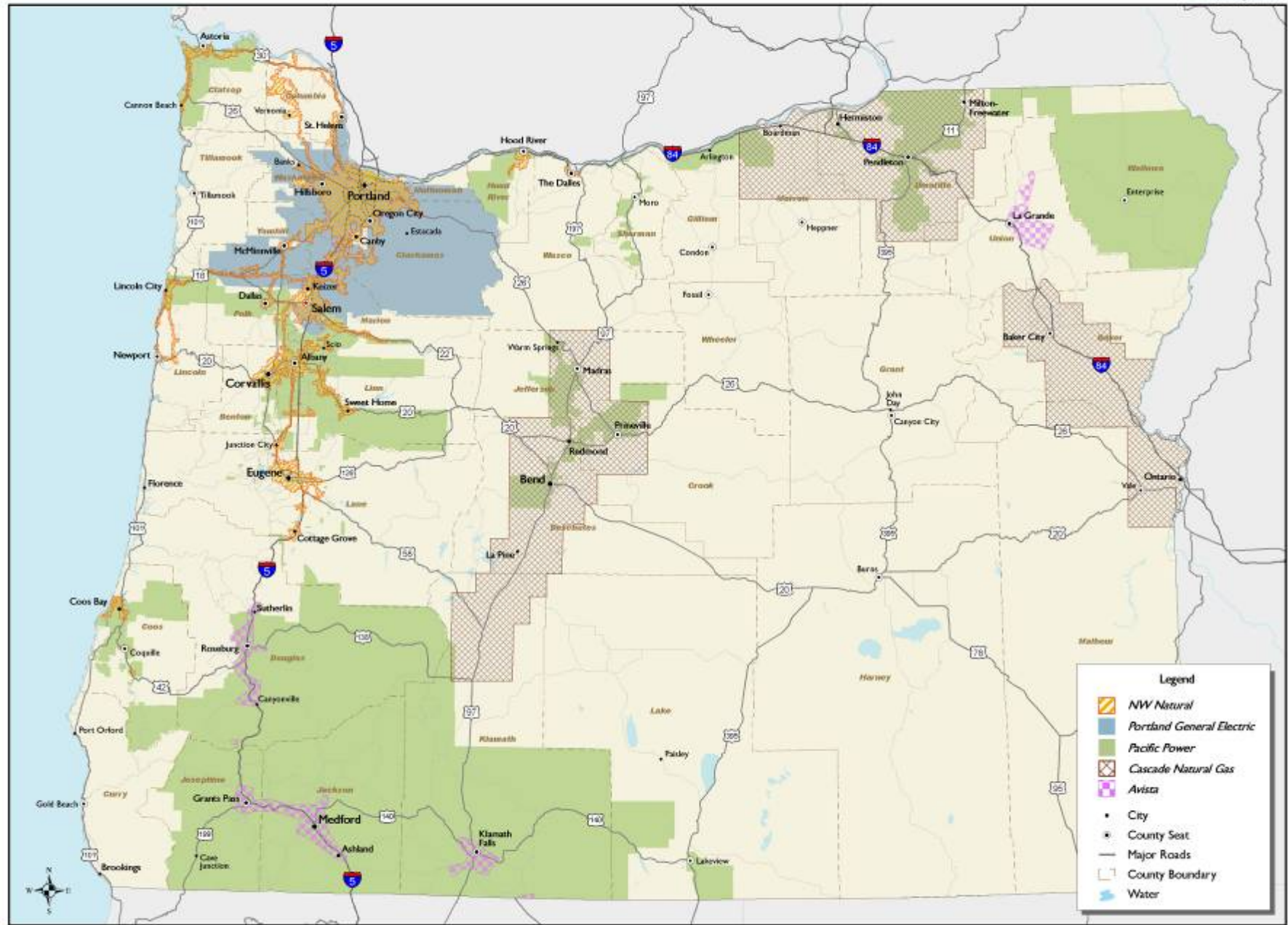
- The project site must be located in Oregon
- Energy Trust serves customers of:
 - *Pacific Power*
 - *Cascade Natural Gas*
 - *NW Natural*
 - *Portland General Electric*
- Customer must pay or plan to pay the Public Purpose charge
- The project must be a commercial, industrial, manufacturing or institutional building

Energy Trust Service Territories

1-866-ENTRUST
energytrust.org



20 10 0 20 40 Miles



Why Efficiency?



Interesting facts about energy

- From 1977 to 2007, California's energy efficiency policies created nearly 1.5 million jobs while eliminating fewer than 25,000
- Efficiency lowers the cost of acquiring new energy resources; A 5% improvement in U.S. electric efficiency would prevent 90 large coal-fired power plants from having to be built over the next 20 years
- U.S. electrical generators lose more heat energy than Japan uses to run its entire economy
- For every 30 million kilowatt-hours of energy saved, 40 to 100 jobs are created



How can Energy Trust help you?

- Since 2002, Energy Trust has helped Oregon utility ratepayers save more than \$440 million in energy costs
- In 2008, customers saved \$144 million. How much could you save?
- Investment in energy services supports the local economy
 - Our trade allies are located statewide—your local contractors will benefit from your projects
 - Energy service investments are local investments
- Energy Trust has helped avoid 3 million tons of carbon emissions, helping Oregon make progress toward the climate goals that reinforce our high quality of life

Saved energy is money in the bank

Cutting a building's energy use by 30 percent =

- 3 percent increase in rental income OR
- 5 percent increase in net operating income

Improving lighting and comfort boosts productivity and sales, reduces absenteeism

Energy management translates to higher reliability for equipment and processes





Make energy strategic



What's meaningful to government agencies?

- Context for savings
- Relevance to strategic goals
- Value to decision-makers
- Link to financial goals

Metrics to express the value of savings

- Savings per square foot
- Savings per unit of output



Gaining management support

- Focus on the decision-makers and speak in their terms
- Support facilities staff with ideas for energy-saving projects
- Take advantage of resources to make the business case: ENERGY STAR[®], Pacific Power research, Portland General Electric free training, Energy Trust program staff
- Gather anecdotal support from users to support recommendations and decisions – look for success!
- Recognize vendors and contractors who are making clean energy choices
- Use Oregon Department of Energy resources
- DAS Electricity Scorecards - Wow!

Commercial & Industrial Business Energy Solutions

Existing Buildings
New Buildings
Production Efficiency



Existing Buildings



- Energy audits to find low cost, no cost solutions.
- Energy studies to demonstrate savings, estimated costs, and payback
- Incentives for energy-efficient improvements
- Contractor referrals
- Post-installation assistance



Not a lot of digging required

- Lighting
- HVAC
- Controls
- Boilers
- Chillers
- Water heaters
- Cooking
- Even exit signs





Rule of Thumb



- Saves 10% energy
- Payback 1 to 10 years
- Incentive is up to 35% of cost



How to get started

- Contact us at business@energytrust.org
- Enroll your project
- Complete your project
- Receive your incentive
- Pay it forward





Blue Mountain Community College Lighting Project



- 555 fixtures replaced
- Total project costs: \$38,175
- Energy Trust Incentives: \$10,400
- Oregon Business Energy Tax Credits (received as a pass-through): \$11,680

Annual Savings:

- 154,833 kilowatt hours
- \$8,208 in energy costs



New Buildings



Projects we serve:

Commercial new construction

Major renovations

Tenant build-outs

Additions to existing buildings

LEED®

ENERGY STAR®

What we offer:

Financial incentives for energy-efficient equipment and energy studies

www.energytrust.org/newbuildings



New Buildings: Process



- Send enrollment form
- Establish contact with participants
- Assign program specialist

- Energy analysis completed
(Custom projects only)
- Submit Report & Documentation
- Program review
- Incentive approval

- Measures installed
- Changes to measures; Resubmit Report & 520
- Submit invoices and equipment documents
- Program review
- Incentive approval & payment



New Buildings: Early Design Assistance

\$2,500 Max per
project

EARLY DESIGN ASSISTANCE

- Available to Standard, Custom and LEED® Track projects and now Small Commercial Efficiency Pilot.
- Purpose is to help offset the costs of an integrated design charrette and encourage a thorough look at energy savings potential from the project
- Project owner must be committed to achieving at least 10% energy savings beyond Oregon Energy Code
- Incentive is paid upon completion of the charrette and program approval of the meeting minutes or report



New Buildings: Standard Track

Up to
\$500,000 per
project

Prescriptive incentives for purchasing and installing pre-approved energy-efficient equipment.

If combined with Custom Track, total project maximum is \$500,000.

NATURAL GAS MEASURES:

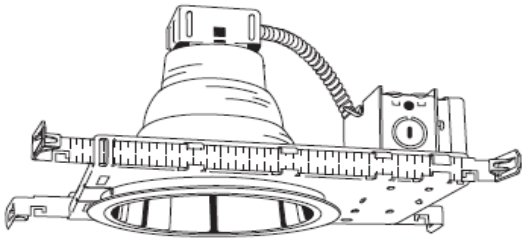
- Domestic hot water
- Heating equipment
- Food service equipment

ELECTRICAL MEASURES:

- Lighting & controls
- Motors & drives
- HVAC equipment
- Heat pumps
- Chillers
- Air to air heat exchangers
- Demand control ventilation
- Ice machines
- Food service equipment



New Buildings: Standard Track



6" Frame-in
LP6F

FLUORESCENT
Non-IC
New or Remodel Construction

FEATURES & SPECIFICATIONS

INTENDED USE

Recessed frame-in rated Non-IC. Approved for all ceiling and wiring types. New Construction or Remodel applications.

LISTING

UL Listed to US and Canadian safety standards.

Damp location listed. (See trim selection for wet location listing.)

GENERAL CHARACTERISTICS

Application	3 or 2- F32T8 120 to 277 "N".87 BF
Category	Linear Fluorescent
Ballast Type	Electronic High Efficiency Multivolt Instant Start

Compact Fluorescent Fixtures		Qty	Unit Incentive	Total Incentive	Fixture Type
Efficiency Requirements: - Compact fluorescent lamp - Electronic ballast - UL Listed - Hard-wired fixture	CF 7 to 26 Watts hard-wired		\$25		
	CF 27 to 55 Watts hard-wired	36	\$35	<u>\$1,260</u>	
	CF ≥ 56 Watts hard-wired		\$45		

Input



New Buildings: Custom Track

Up to
\$500,000
per project

Incentives based on estimated savings demonstrated through an energy analysis. Baseline is Oregon Energy Code. If combined with Standard Track, total project maximum is \$500,000.

NEW CONSTRUCTION:

- Incentives are calculated at \$0.10/kWh and \$0.80/therm saved.

MAJOR RENOVATION:

- Lighting incentives - \$0.17/kWh not to exceed 100% of incremental cost
- Mechanical incentives - \$0.20/kWh and \$1/Therm not to exceed 100% of incremental cost



New Buildings: Additional Incentives

\$25,000 Max per project

TECHNICAL ASSISTANCE (Custom Projects)

Up to \$25,000 or \$0.05/kWh and \$0.40/therm (based on annual estimated savings) to discuss energy efficiency options with an energy advisor and cover the costs of an energy analysis and application to the New Buildings program. This incentive is available in addition to the \$500,000 base incentive.

- \$500 available to ST projects

\$40,000 Max per project

COMMISSIONING (Custom Projects)

Provides incentives to commission energy measures approved under the Custom Track. Incentive is \$0.03/kWh and \$0.20/therm. Commissioning incentive is part of the \$500,000 Custom Track incentive cap.



New Buildings: LEED® Track

Up to
\$500,000
per project

Incentives for projects that achieve LEED NC or CS certification from the US Green Building Council – Versions 2.0, 2.1, and 2.2 – and LEED V.3.

CANNOT BE COMBINED WITH OTHER TRACKS

ENERGY SAVINGS INCENTIVES:

Incentives calculated at \$0.10/kWh and \$0.80/therm for New Construction; \$0.18/kWh and \$1.00/therm for Major Renovations



LEED[®] Track Incentives

Two calculation methods:

1. **Whole Building Simulation** – incentives based on annual energy savings results approved by USGBC

2. **Prescriptive Path** – incentives based on the number of credits achieved
 - ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (EAc1)
 - Advanced Buildings Core Performance Guide (EAc1)



Additional incentives for LEED® projects

\$40,000
Combined max
per project

Enhanced Commissioning and Measurement and Verification

Provides incentives to LEED® NC & CS Track projects that receive Energy and Atmosphere Credit points 3 & 5 for Enhanced Commissioning and Measurement and Verification.

Incentive is \$0.03/kWh and \$0.20/therm for the combined credits up to a maximum of \$40,000 in addition to the LEED® NC & CS Track incentives.



New Buildings: ENERGY STAR® Track

\$2,000 to
\$30,000 per
project

Incentives for projects that achieve the ENERGY STAR building performance certification from Environmental Protection Agency (EPA).

INCENTIVES:

- Post-construction incentive – available to projects occupied after January 1, 2007
- Available for new construction and major renovations
- Projects must have 12-months of post-construction energy data.
- Based on the rating received by the EPA's Energy Star certification program (75 or better)
- Limited to building types allowed by the EPA
- Not available to projects that have participated in the LEED or Custom Tracks



Small Commercial Efficiency pilot

What is it?

- A prescriptive program for integrated design and energy efficiency for office, retail, public assembly, or school buildings 10,000 – 70,000 SF.
- A program that integrates energy efficiency with green building and offers added incentives for achieving Earth Advantage Commercial certification.
- A path to reduce energy use by 10 – 30% by following the Core Performance Guide – Oregon Edition

Incentive Summary (All Amounts are additive)

	Early Design Assistance	Design Process Strategies	Package Installation Incentives			
Building Type	Early Design Charrette	Chapter 1	Core Package	Enhanced Package	Earth Advantage Commercial Incentive	Cx Incentive
Office	\$2,500	\$0.10/sf	\$0.40/sf	\$0.40/sf	\$0.10/sf	\$0.10/sf
School			\$0.30/sf	\$0.30/sf		
Retail			\$0.50/sf	\$0.50/sf		



Walla Walla Memorial Hospital



Estimated Annual Savings:

- 817,939 kilowatt hours
- \$52,000 in energy costs

- High-efficiency chillers used as heat pumps
- R-19 wall and R-30 roof insulation
- High-efficiency lamp fixtures with electronic ballasts
- Compact fluorescent lamps, 9- to 26-watt, hard wired
- Project cost: \$321,253
- Energy Trust incentives: \$77,792
- Oregon Business Energy Tax Credit: \$81,471



Contact the New Buildings Program

New Buildings Program (877)467-0930

www.energytrust.org/newbuildings

Contact Name Ed Wales, PMP, LEED AP

Contact Title Outreach Manager

Energy Trust New Buildings Program

503-348-4619

ewales@peci.org

Renewable Energy

Solar Electric
Solar Water Heating
Hydroelectric Power
Biopower
Wind Power



Energy Trust Solar Incentives



Projects with solar electric or solar hot water are eligible for additional incentives through Energy Trust's Solar Program.

Requires installation by an Energy Trust Solar Trade Ally.

Commercial Projects (For Profit – 30 kW-200kW)	Systems under 30,000 watts	Systems over 30,000 watts	Max. Incentive (200,000 watts)
Pacific Power	\$1.00/watt	Varies from \$1.00 to \$0.50/watt	\$100,000
PGE	\$1.25/watt	Varies from \$1.25 to \$0.75/watt	\$150,000

Solar Program Contact:
Dave McClelland, Incentive applications

dave.mcclelland@energytrust.org 503-459-4073





Energy Trust PV Incentives (cont.)

Commercial Projects (<i>Non-profit or government</i>)	Systems under 30,000 watts	Systems over 30,000 watts	Max. Incentive (200,000 watts)
Pacific Power	\$1.25/watt	Varies from \$1.25 to \$0.75/watt	\$150,000
PGE	\$1.50/watt	Varies from \$1.50 to \$1.00/watt	\$200,000



PGE Only – Large or Multiple Systems (>200 kW total per owner per year)	Per watt incentive rate	Max. Incentive (800,000 watts)
For-profit and Third Party Owned	\$0.75/watt	\$600,000 per customer \$500,000 per site
Non-profit or government	Not Available	-----



Commercial PV and Water Heating Tax Incentives

- Federal tax benefits
 - 30% investment tax credit
 - Eligible with Alternative Minimum Tax
 - Can take as a *grant* under new Federal stimulus – applications accepted after Aug 1, 2009
 - 5 year accelerated depreciation (MACRS)
 - USDA REAP Grants
- State tax benefits
 - 50% tax credit (BETC)
 - 10% per year for 5 years
 - Pass-through option available
 - Eligible cost may be capped
 - Accelerated Depreciation

Consult your tax professional





City of Pendleton



- 100 kW system on roof of Water Treatment Plant building
- 200 kW ground-mounted system at second WWTP facility
- Both installed with third-party ownership model

\$400,000 total incentives from Energy Trust

200 kW system received Pacific Power Blue Sky grant





Pepsi-Frito Lay Warehouse



- 172 kilowatt solar electric system in Klamath Falls
- \$210,000 incentives from Energy Trust
- \$444,412 in Business Energy Tax Credits
- Loan from ODOE: \$950,000
- Projected 50,000 kilowatt hours of electricity back to the Pacific Power grid



Solar water heating Uses for Business and Government

- Recreation centers
- Housing & Residential (care centers, detention facilities)
- Restaurants/ Food service
- Lodging industry
- Process heating





Energy Trust Solar Water Heating Incentives



- LEED-NC Track:
\$0.30/kwH, \$5.20/therm
- Incentive based on
calculated solar water
heating energy savings

Commercial Projects	PGE/Pacific Power with Electric Water Heating	Northwest or Cascade Natural Gas with gas water heating	Maximum Incentive
Commercial Hot Water	\$0.40 per first year kilowatthour savings	\$6.00 per first year Therm savings	35% of project cost



The Allison Hotel and Resort



- 3,694 square feet of solar collectors
- System cost: \$367,600
- Energy Trust incentive: \$48,594
- Therm Savings: 8,099 per year



Energy Trust Solar pool heating Incentives



- Custom, standard, multifamily, existing: \$1.50/therm or \$.10/kWh
- LEED-NC Track: \$0.70/therm
- Incentive based on calculated solar pool heating energy savings
- *No Federal Tax Credit*

Commercial Projects	PGE/Pacific Power with Electric Water Heating	Northwest or Cascade Natural Gas with gas water heating	Maximum Incentive
Commercial Pool Heating	\$0.10 per first year kilowatthour savings	\$1.50 per first year Therm savings	35% of project cost



Hood River Aquatics Center

- 2,300 square feet of solar collectors
- System cost: \$60,377 when completed
- Energy Trust incentive: \$5,940
- Therm Savings: 3,960



Complete ETO Package



	Efficiency	Solar PV	Solar WH	Total Incentives
East Portland Community Center	\$56,016	\$155,500	\$3,498	\$215,014
The Allison	\$99,400	\$77,853	\$48,594	\$225,847





Biopower program

- Incentives up to 100% of above market costs for projects producing electricity from eligible resources (dairy waste, wood waste, landfill gas, or municipal wastewater)
- Proposal-driven
- Financial assistance for preparing feasibility studies



City of Gresham Biopower Project



- 395 kW combined heat and power system
- Total project cost: \$1,352,274
- Energy Trust incentive: \$82,379
- BETC with pass-through: \$287,801
- Annual cost savings (energy and maintenance): \$166,282
- Payback after incentives and tax credits: 5.9 years



Wastewater treatment facilities

Energy Trust may:

- Co-fund engineering & feasibility studies
- Evaluate project design
- Provide funding to lower project costs
- Provide matchmaking with funding sources
- Assist with interconnection studies
- Supply case studies to support targeted outreach

Energy Trust Solar Program Process

- The Trade Ally Contractor will:
- File Energy Trust Incentive Application – Form 220 (PV) or 223 (SWH)
- Have Energy Trust inspectors review design and savings estimates
- Receive confirmation of incentive
- Proceed with installation
- Upon completion: Arrange for Energy Trust Inspection



First things First: Solar Customer Process

- Do some research and education:
- Evaluate your own energy use
- Know your own agency's goals, financial thresholds, tax liability, and desires *before* continuing
- Specify what kind of solar energy system will provide the most benefits
 - Solar Photovoltaic
 - Solar Water Heating

Solar Customer Process (continued)

- Consider your available space for a solar system
- Understand your Ownership Options
 - Direct-owned
 - Third Party PPA or EPA
- Get a Site Assessment and/or Hire a Solar Consultant
- Select a Trade Ally Solar Contractor



Energy Trust renewables contacts

Solar

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Wind

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Questions?



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