Program Options

GoodEnergy

Community Aggregation Program Rates

	Standard Product	Green 50%	Green 100%
Rate	**$0.10470/kWh**	$0.12244/kWh	$0.14019/kWh
Renewable Energy Certificates (RECs)	**Meets all Renewable Energy Certificate requirements**	Includes **50% more Renewable Energy Certificates** (MA Class I RECs), than required by the Commonwealth	Includes Renewable Energy Certificates (MA Class I RECs) equal to **100% of the user's electricity consumption**, in addition to meeting all renewable energy requirements

New Community Aggregation Program Rates

	Optional Basic Product	**Default (Opt-Out Product)**	Optional 100% Renewable Product
Price	15.784 cents/kWh	**16.178 cents/kWh**	17.282 cents/kWh
Renewable Energy	Meets State Minimum (Minimum is 59% 2023, 62% 2024, 63% 2025)	**Adds 10% additional MA Class I renewable energy to State Minimum** **(Total renewables: 69% 2023, 72% 2024 and 73% 2025)**	100% Renewable (Adds MA Class I renewable energy to State Minimum to total 100% every year)
Term	December 2023 to November 2025		

Dartmouth Community Electricity Aggregation

Massachusetts Customer Disclosure Label

The Massachusetts Department of Public Utilities (DPU) requires that we provide our customers with a disclosure label

Municipality: Dartmouth
Contract Period: January 2021 to December 2023

Dartmouth Community Electricity Aggregation ($ per kilowatt hour)	Standard	100% Green	50% Green	
All Customers	$ 0.10470	$ 0.14019	$ 0.12244	
Generation prices do not include regulated charges for customer service and delivery.				

New England System Power	
Fuel	**Percentages**
Biomass	0.0%
Coal	0.4%
Diesel	1.9%
Digester Gas	0.0%
Efficient Resource	0.0%
Energy Storage	0.1%
Fuel Cell	0.0%
Hydro: Large	2.1%
Hydro: Small	0.0%
Jet	0.0%
Landfill gas	0.0%
Municipal Solid Waste	0.1%
Natural Gas	61.4%
Nuclear	7.5%
Oil	7.8%
Solar Photovoltaic	0.4%
Trash-to-energy	0.1%
System Mix	18.1%
Wind	0.0%
Wood	0.0%
Total	**100%**

Note: Electricity customers in New England are served entirely from the New England integrated power grid and not any one particular generating unit. Power source percentages are based on the April 2021 - March 2022 information, the most recently available data.

Product Details				
	Standard	**100% Green**	**50% Green**	
Source	Percentage	Percentage	Percentage	
MA Class I RPS Requirement	18%	18%	18%	
Other RPS Requirements	31%	31%	31%	
Additional MA Class 1	0%	100%	50%	
System Power	51%	0%	1%	
Total	**100%**	**149%**	**100%**	

Note: The MA RPS calendar year 2021 obligation is 49%. RECs will be retired to meet the entire RPS obligation. MA Class I is just a part of the total RPS obligation.

Air Emissions			
	Carbon Dioxide (CO_2)	Nitrogen Oxide (NO_x)	Sulfur Dioxide (SO_2)
	(in lbs/MWh)	(in lbs/MWh)	(in lbs/MWh)
Regional Average	625.60	0.5686	0.3395
New Units	895.00	0.0600	0.0100
Constellation	660.02	0.7070	0.3674

Note: the Constellation emissions factor is reflective of the entire load in MA and does not take into account voluntary REC purchases made for customers.

Labor Information
24% of the electricity from System Power came from power sources with a union contract with their employees.

See reverse side and the terms of service for further information on this label. You may also call
- Constellation toll-free at (844) 813-7876
- Massachusetts Department of Public Utilities at (877) 886-5066.

LABEL DESCRIPTION

Generation Price and Contract:

Generation Price is for electricity at usage levels that are typical for residential and small commercial customers. Contract items present the length of your contract for generation service, and the price terms included in your contract. See your recent bills to determine average monthly use, and your Terms of Service for additional information.

Power Sources:

The electricity you consume comes from the New England power grid, which receives power from a variety of power plants and transmits the power throughout the region as needed to meet the requirements of all customers in New England. When you choose a power supplier, that supplier is responsible for generating and/or purchasing power that is added to the power grid in an amount equivalent to your electricity use. Known Resources include resources that are owned by, or under contract to, Constellation. System Power represents power purchased in the regional electricity market. Biomass refers to power plants that are fueled by wood or other plant matter. Hydro resources of greater than 30 megawatts in size are deemed “large hydro.” All other hydro resources are deemed “small hydro.”

Emissions:

Emissions for each the following pollutants is presented next to the regional average emission rate and the emission rate from a hypothetical new generation facility.

Carbon Dioxide (CO_2) is released when fossil fuels (e.g., coal, oil and natural gas) are burned. Carbon dioxide, a greenhouse gas, is a major contributor to global warming.

Nitrogen Oxides (NO_x) form when fossil fuels and biomass are burned at high temperatures. They contribute to acid rain and ground-level ozone (or smog), and may cause respiratory illness in children with frequent high level exposure. NO_X also contribute to oxygen deprivation of lakes and coastal waters which is destructive to fish and other animal life.

Sulfur Dioxide (SO_2) is formed when fuels containing sulfur are burned, primarily coal and oil. Major health effects associated with SO_2 include asthma, respiratory illness and aggravation of existing cardiovascular disease. SO_2 combines with water and oxygen in the atmosphere to form acid rain, which raises the acid level of lakes and streams, and accelerates the decay of buildings and monuments.

Labor Data:

The information on this label regarding whether generators or suppliers operate under collective bargaining agreements is provided to inform you about whether the energy was produced in plants where employee wages and working conditions are mutually determined by employees and management, and protected by union contracts.

For more information:

Constellation Customer Service: (844) 813-7876

Massachusetts Department of Public Utilities: (877) 886-5066

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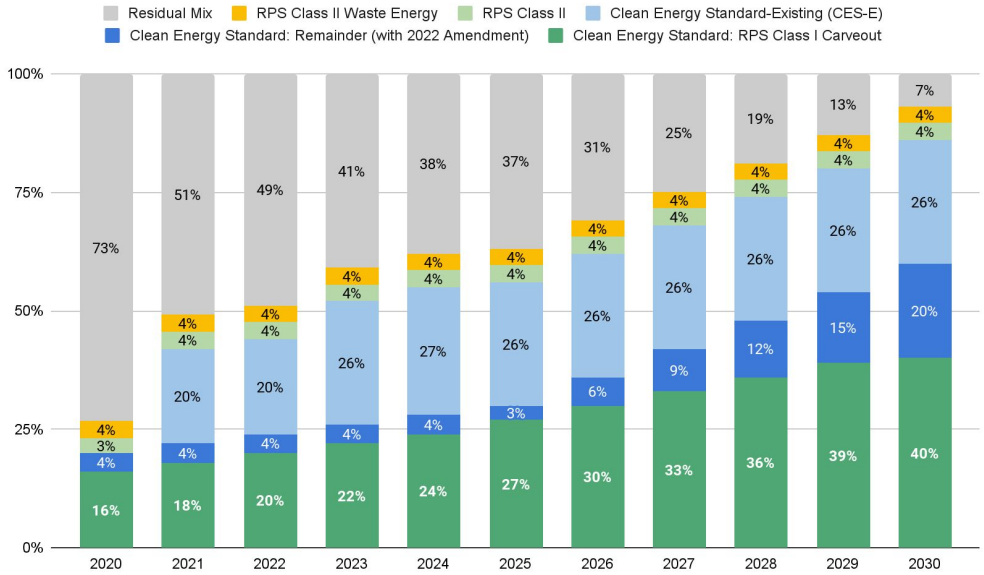
Minimum Renewable Energy Content Requirements in MA

Year	Clean Energy Standard*		CES-Existing^	RPS Class II**	RPS Class II Waste Energy**	Total
	RPS Class I Carveout	Remainder				
2020	16%	4%		3%	4%	27%
2021	18%	4%	20%	4%	4%	49%
2022	20%	4%	20%	4%	4%	51%
2023	22%	4%	26%	4%	3.5%	59%
2024	24%	4%	27%	4%	4%	62%
2025	27%	3%	26%	4%	4%	63%
2026	30%	6%	26%	4%	4%	69%
2027	33%	9%	26%	4%	4%	75%
2028	36%	12%	26%	4%	4%	81%
2029	39%	15%	26%	4%	4%	87%
2030	40%	20%	26%	4%	4%	93%

**This incorporates the State's 2022 proposal that will accelerate the increase in the CES, starting in 2026.*
^CES-Existing after 2026 may be adjusted by formula, but is set at 20% be default.
***Component percentages for Class II and Class II Waste Energy are rounded to nearest whole number.*

GoodEnergy

Minimum Renewable Energy Content Requirements in MA



Definitions

Minimum renewable energy content: is defined in by the Department of Public Utilities* as including: Clean Energy Standard (including RPS Class I), Clean Energy Standard Existing Generation, RPS Class II, and RPS Class II Waste Energy. The Alternative Energy Portfolio Standard and Clean Peak Energy Portfolio Standard are not included in the definition of minimum renewable energy content.

Residual mix: Power that is not sourced from renewables is typically from the Residual Mix (i.e. the mix of all other sources of power on our shared New England electricity grid). That Residual Mix is primarily natural gas, although other fuels may present.

Clean Energy Standard, or CES: has a carveout for a portion that must be met with RPS Class I sources. The portion that is **not** carved out is referred to in this document as the "**CES Remainder**"

*See 19-07-A at 43-45 https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12159003

Supporting New Resources

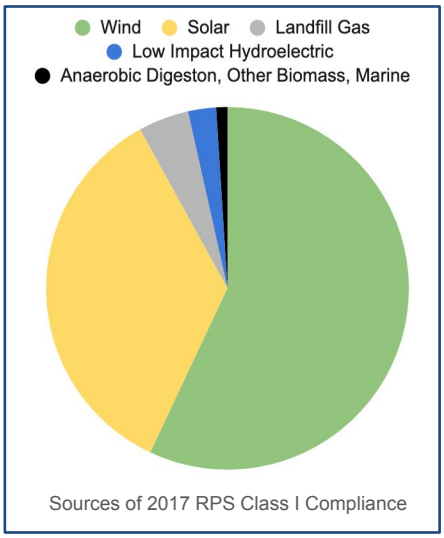
- RPS Class I
- Clean Energy Standard (CES)

Maintaining Existing Resources

- RPS Class II
- RPS Class II Waste-to-Energy
- Clean Energy Standard-Existing (CES-E)

RPS Class I

- "Electricity production from qualified new renewable energy facilities" https://www.mass.gov/service-details/program-summaries
- Percentage increases annually
- May come from the sources shown at right and must:
  - Have started operation after 1997
  - Be located within New England, New York or Eastern Canada



Sources of 2017 RPS Class I Compliance

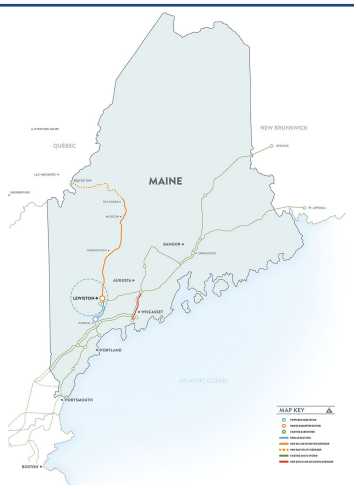
Clean Energy Standard (CES)

- "CES is designed to increase procurement of new clean energy over time" - https://www.mass.gov/doc/frequently-asked-questions-massdep-clean-energy-standard/download
- Percentage increases annually
- RPS Class I compliance counts toward the CES
- The remainder (or net) can be met with sources that meet these criteria:
  - RPS-Class I eligible **OR** demonstrate net lifecycle GHG emissions of at least 50% below those from the most efficient natural gas generator (e.g., hydro);
  - Be located in the ISO-NE control area, **OR** be located in an adjacent control area and utilize new transmission capacity; **AND**
  - Have commenced commercial operation after December 31, 2010

Clean Energy Standard (CES)

Currently, there is no large hydro or nuclear available to meet the the CES, therefore the remaining 4% comes from more MA Class I.

However, new transmission was under construction and if completed, eligible large hydro will become available from Canada.



The Clean Energy Connect (orange line) is a new transmission project under development. https://www.necleanenergyconnect.org/map

RPS Class II

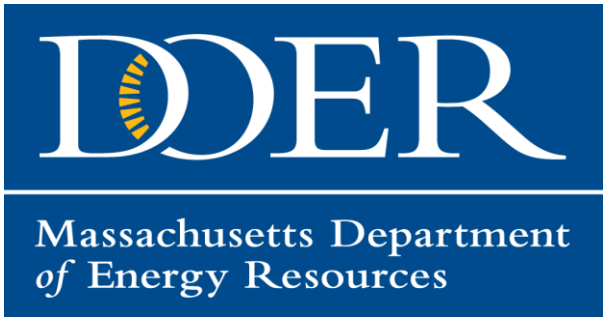
- "Financial incentives for the continued operation of qualified pre-1998 renewable generation units" - https://www.mass.gov/service-details/program-summaries
- Percentage may fluctuate, but relatively steady
- May come from same sources has Class I and located in same locations but must have started operation after before 1998
- Historically this is met primarily by hydropower, but in 2017 wind was majority

RPS Class II - Waste Energy

- Percentage is fixed
- Waste Energy facilities must be located within Massachusetts

CES-Existing (CES-E)

- "CES-E is intended to maintain the historic contribution of existing clean energy generation units going forward" - https://www.mass.gov/doc/frequently-asked-questions-massdep-clean-energy-standard/download
- Percentage can fluctuate in order to maintain a consistent total purchase quantity
- May come from the sources that:
    - Are located in either Massachusetts, New Hampshire, Connecticut, or Eastern Canada (Quebec or Newfoundland and Labrador);
    - Commenced commercial operation before January 1, 2011; AND
    - Are a nuclear or hydroelectric generation unit with a nameplate capacity greater than 30 MW.



2020 ANNUAL COMPLIANCE REPORT

EXECUTIVE SUMMARY

RENEWABLE ENERGY PORTFOLIO STANDARD (RPS)
ALTERNATIVE ENERGY PORTFOLIO STANDARD (APS)
CLEAN PEAK ENERGY STANDARD (CPS)
CLEAN ENERGY STANDARD (CES)

November 30, 2022

Renewable and Alternative Energy Division
Department of Energy Resources
Executive Office of Energy and Environmental Affairs
Commonwealth of Massachusetts

Executive Summary

The Renewable Energy Portfolio Standard (RPS) is a statutory obligation created by the Electricity Restructuring Act of 1997 and activated by regulations in 2002. The statute was first revised by the Green Communities Act of 2008, which identified the original RPS as Class I, added a second class of RPS, Class II, and created the Alternative Energy Portfolio Standard (APS). The RPS and APS statutes were further modified by the Competitively Priced Electricity Act of 2012,[1] the Renewable Thermal Act of 2014,[2] the Energy Diversity Act of 2016,[3] and the Act to Advance Clean Energy of 2019.[4]

The Clean Energy Standard (CES) was successfully introduced in 2018 and complements the other portfolio standards to ensure that the greenhouse gas emission reductions set by the Commonwealth can be achieved. The CES is administered by the Massachusetts Department of Environmental Protection (MassDEP).[5]

The Clean Peak Standard (CPS), created under An Act to Advance Clean Energy[6] which was signed into law in August 2018, provides incentives to clean energy technologies that can supply electricity or reduce demand during seasonal peak hourly demand periods. In 2020, the CPS had its first positive minimum standard of 1.5%.

The RPS, APS, CPS, and CES regulations require Massachusetts Retail Electricity Suppliers to obtain, each year, a certain percentage of their retail customers' electricity supply from resources qualified under each portfolio standard. The RPS, APS, CPS, and CES requirements do not apply to municipal light plants.

Overall, the RPS, APS, CPS and CES programs operated successfully in 2020. In part the success was the result of a lower load obligation, and therefore a lower portfolio standard obligation, due to the reduction in business demand related to the Covid-19 pandemic.

Load Obligation

In 2020, the load obligation was 43,673,802 MWh, a 2.3% decrease from 2019 (44,705,757 MWh), and the lowest load obligation on record since the RPS program began in 2003.

In accordance with MassDEP's Clean Energy Standard (310 CMR 7.75 (9)(b)4), the reported 2020 load (43,673,802 MWh) was equivalent to 94% of the reported 2018 load (46,409,960MWh).

Three Retail Electricity Suppliers did fail to meet their 2020 compliance requirements, two of which had also been non-compliant in 2019. The obligations of the non-compliant suppliers accounted for approximately 2% of the total obligation of the RPS Class I. In 2021, the Department of Energy Resources (DOER) incorporated financial security provision into its regulations as a protection mechanism for rate payers should Retail Electricity Suppliers fall into non-compliance.

Renewable Energy Certificates (RECs)

To achieve RPS, APS, CPS and CES compliance, each Retail Electricity Supplier must obtain enough renewable generation certificates to satisfy its minimum standard obligation or make an Alternative Compliance Payment for enough credits to satisfy the minimum standard obligation.

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[1] Chapter 209 of the Acts of 2012
[2] Chapter 251 of the Acts of 2014
[3] Chapter 188 of the Acts of 2016
[4] Chapter 227 of the Acts of 2019
[5] In agreement with the Massachusetts Department of Environmental Protection, DOER's annual report on RPS and APS will also serve as the Annual Clean Energy Resource Report as specified in 310 CMR 7.75(9)(b), Clean Energy Standard
[6] An Act to Advance Clean Energy

Each renewable generation certificate represents the renewable generation attributes of one MWh of electricity generated during the Compliance Year by a qualified Generation Unit (however, the MWh value of some SREC II generation is discounted by SREC factors related to project size or type of location, and Clean Peak Energy Certificates may represent more or less than one MWh of generation because of locational, seasonal, or peak hour factors and the vintage of the generation unit.

Under the APS program, an Alternative Energy Certificate (AEC) represents either the MWh-equivalent of the fuel savings in thermal energy or the direct Useful Thermal Energy generated from APS-qualified facilities as determined by the APS regulations for each specific alternative energy technology.

In 2020, no separate qualifying generators were eligible to produce stand-alone Clean Energy Credits (CECs). Therefore, RPS Class I RECs were used to meet the meet the CES obligation.

Eligible Resources and Fuel Types

Eligible RPS Class I resources include post-1997 renewable generation units located in New England or in adjacent electricity control areas[7], while eligible resources for RPS Class II - Renewable include pre-1998 renewable generation units (primarily small hydropower) located in New England or in adjacent electricity control areas. The following fuel types are eligible for RPS Class I and RPS Class II:

- solar photovoltaic or solar thermal;
- wind;
- ocean thermal, wave or tidal energy;
- fuel cells using an eligible RPS Class I or II renewable fuel;
- landfill methane gas;
- hydroelectric;
- low-emission, advanced biomass power conversion technologies using an eligible biomass fuel such as wood, manufactured biomass fuel, by-products or waste from animals or agricultural crops, food or vegetative material, algae, organic refuse derived fuel, anaerobic digester gas and other biogases that are derived from such resources;
- marine or hydrokinetic energy; and
- and geothermal energy.

Eligible Class II waste-to-energy generation units must be pre-1998 waste-to-energy plants located in Massachusetts which meet certain MassDEP recycling requirements.

Eligible APS resources include air and ground source heat pumps, solar thermal or solar thermal electric energy, woody biomass, liquid biofuels, biogas, fuel cells, and waste-to-energy thermal in addition to Combined Heat and Power (CHP).

Eligible CPS resources included RPS Class I resources qualified after January 1, 2019, qualified RPS resources paired with battery storage, stand-alone batteries, and demand response assets.

Certificate Production

The total number of RPS Class I RECs generated (net of SRECs and SREC IIs) equaled 9,896,519 MWh, which represents a growth rate of 18.4%, a slight decline from the 19.8% increase in 2019. Some of these RECs also qualified for portfolio standards in other jurisdictions and may have been used for compliance in other New England states (mostly Connecticut, New Hampshire, and Rhode Island). In addition, some RECs were used to

[7] These include New York (NYISO), New Brunswick, Nova Scotia, Prince Edward Island and Quebec.

meet voluntary green product requirements that exceed RPS requirements.[8] In addition, RPS Class I RECs can also be used to meet the CES obligation.

Compliance

RPS Class I

An adequate supply of RECs existed in the market to meet the RPS and CES obligations with suppliers banking 256,982 Class I RECs, the lowest in five years.

Overall, wind resources accounted for 48.9% of the total RPS Class I REC generation (including SRECs and SREC IIs) while solar photovoltaic arrays accounted for 39.9%

Solar Carve-Out (SCO)

The SCO market was slightly over-supplied in 2020 with suppliers banking 42,190 SRECs, the highest in five years. Participants also provided 23,864 SRECs to the clearinghouse auction, also the highest in five years. ACP receipts for SCO fell to $438,528 in 2020 from $9,642,672 in 2019.

Solar Carve-Out II (SCO II)

The SCO II program was more in-balance in 2020 than previous years with suppliers banking 40,299 SREC IIs, the highest in five years. ACP receipts fell to $3,807,168 in 2020, down from $15,572,070 in 2019.

RPS Class II Renewable and RPS Class II Waste-to-Energy

The RPS Class II Renewable Energy program was comparatively more out of balance than previous years because of the increase in the minimum standard from 2.6884% in 2019 to 3.2056% in 2020. ACP credits increased from $364,324 in 2019 to $4,037,699 in 2020.

The RPS Class II waste-to-energy program was mostly in balance.

Alternative Portfolio Standard (APS)

The APS market was over-supplied. Only 265 ACP credits were utilized for compliance, totaling ACP payments of $6,228, down from $205,394 in 2019. Suppliers banked 477,619 AECs, a record.

Clean Peak Energy Standard (CPS)

The CPS program was under-supplied. However, 76% of the obligation was met with exempt load credits. ACP credits amounted to 146,935 MWh totaling $6,612,075 in ACP receipts.

[8] Class I RECs retired as "Voluntary Renewable Energy (VRE) purchases," will reduce the number of emissions allowances that can be sold in the RGGI Auction for a future year which will serve to reduce the regional emissions allowance cap for non-renewable thermal power plants. See 225 CMR 13.14, DOER CO2 budget trading program auction regulation. More information about RGGI can be found at http://www.rggi.org/.

Clean Energy Standard (CES)

The minimum standard was 20% in 2020 and exemption of load was not allowed. All CECs used to meet the CES obligation were eligible RPS Class I RECs. Only 2,825 ACP credits were used for $151,646 in ACP receipts, down from $1,250,752 in 2019.

Supplier Compliance

Sixty-two (62) Retail Electricity Suppliers (including the three state-regulated investor-owned utilities) served Massachusetts retail customers in 2020 (see Tab 13. Suppliers), a decrease of two from 2019. Fifty-nine (59) suppliers fully discharged their compliance obligations through the purchase of the required number of renewable certificates or by making ACPs. Three suppliers were non-compliant as noted above (see Tab 14. Non-Compliance).

A summary of the 2020 compliance is shown in the table below.

Summary of Compliance, 2020

RPS/APS Class	Net Minimum Standard*	Net Total Obligation (MWh)	Renewable Certificates Used to Meet Obligations (MWh)	ACP Credits Used to Meet Obligations (MWh)	Alternative Compliance Payments ($)
RPS CLASS I (NET)	10.43%	4,554,489	4,509,034	643	$ 46,020
RPS SCO *	1.61%	703,774	694,189	1,142	$ 438,528
RPS SCO II *	3.77%	1,645,162	1,613,833	12,048	$ 3,807,168
RPS CLASS II Renewable	3.21%	1,400,048	1,246,261	137,477	$ 4,037,699
RPS CLASS II Waste-to-Energy	3.50%	2,183,727	1,499,756	10,497	$ 123,340
APS	5.00%	2,161,580	2,161,580	265	$ 6,228
CPS	0.41%	179,230	31,189	146,935	$ 6,612,075
CES **	4.19%	1,831,367	1,808,026	2,825	$ 151,646
TOTAL* **	**21.0319%**	**14,659,377**	**13,563,868**	**311,832**	**$ 15,222,703**

* Solar carve out requirements are subsets of the overall RPS Class I requirement of 16%
** CES total obligation is 20%. The RPS Class I obligation counts towards meeting the overall obligation making the net minimum standard 4%.
*** Total number of certificates and ACP credits may not exactly match total obligation due to 1) rounding of individual obligations, and 2) the non-compliance of three suppliers (See Tab 14). Certificates Used to Meet Obligations includes banked certificates from prior compliance years.