in: Lore, Mechanics

Energy Capacity

Unused Mod Capacity increases the Warframe's Energy at the start of missions.

> Start missions with ***|AMOUNT|*** *Energy*

> Energy recovers at ***|AMOUNT|*** *per second*

—In-game Description

Energy of a Warframe is a resource used mainly to cast abilities. Warframes have 4 abilities that at base, cost up to 100 energy to cast. Almost every Warframe has their own energy-pool with varying capacities depending on the types and costs of their various abilities, with the exceptions of  Hildryn,

Contents

energy but instead using a cooldown system.

Like health and shields, a Warframe's energy capacity scales with their rank and through the use of mods or buffs. It is also worth noting that the words "power" and "energy" are often used interchangeably by members of the community.

Increasing Energy Capacity

Mods

Endurance Drift

Flow

Primed Flow

Archon Flow

Auxiliary Power Adrenaline Boost

These are the only mods currently in the game that increase energy capacity. It is worth noting that Flow, Primed Flow, and Archon Flow cannot be used together. Auxiliary Power only works on Archwings, and Adrenaline Boost in Conclave.

Formula For Modded Energy Capacity

These mods increase the energy capacity of a Warframe with the following the formula:

$$\text{Energy}_{total} = \text{Energy}_{max} + (\text{Energy}_{base} \times \text{Mod Multiplier})$$

So taking Volt Prime as an example, with 200 base energy and 300 max energy he will have:

- With Flow: $300 \times (1 + 1.0) = 600$
- With Primed Flow: $300 \times (1 + 1.85) = 855$
- With Primed Flow and Endurance Drift: $300 \times (1 + 1.85 + 0.10) = 885$

Buffs

The only buff currently available to increase energy capacity is Cephalon Suda's Entropy effect. Entropy will release a 25-meter AoE radial attack around the player, dealing 1000 Magnetic damage and applying the Magnetic Status Effect to enemies in range, increasing damage dealt to their shields. It will also restore 25% of the player's base Energy, and provide a (base) Energy boost of +25% for 30 seconds.

Entropy Spike

Entropy Flight

Entropy Burst

Entropy Detonation

Synoid Gammacor

Synoid Simulor

Arcane Helmets

These Arcane Helmets are retired helmets that in the past used to grant increased energy capacity to their respective Warframes.

Ash Locust Helmet

Banshee Reverb Helmet

Ember Phoenix Helmet

Mag Gauss Helmet

Vauban Esprit Helmet

Azure Archon Shard

The Azure Archon Shard is a guaranteed reward from defeating Archon Boreal that can provide a flat increase to Energy Capacity after all bonuses are taken into account. Regular Shards provide **50** additional Energy Max, while Tauforged Shards provide **75**.

Archon Shards can only be obtained through Archon Hunts, which are unlocked after completing Veilbreaker,

completing Whispers in the Walls, and Deep Archimedea, after obtaining Rank 5 for the Cavia Syndicate

Starting Energy

Starting Energy refers to how much energy a Warframe starts a mission with, when reviving from Death, or going through a Sanctuary Onslaught conduit.

Warframe	Starting Energy (energy on spawn)	Rank 0 Energy Capacity (base capacity)	Rank 30 Energy Capacity (after ranking bonus applied)
Ash	50	100	150
Ash Prime	50	100	150
Atlas	50	175	225
Atlas Prime	75	215	265
Banshee	100	175	225
Banshee Prime	125	215	265
Baruuk	150	200	300
Baruuk Prime	150	200	300
Caliban	75	140	190
Chroma	75	175	225
Chroma Prime	100	200	300
Citrine	50	130	180
Dagath	50	175	225
Dante	50	200	270
Ember	75	175	225
Ember Prime	75	175	225
Equinox	100	175	225
Equinox Prime	115	200	250
Excalibur	50	100	150
Excalibur Prime	100	175	225
Excalibur Umbra	100	175	225
Frost	50	100	150

Warframe	Starting Energy (energy on spawn)	Rank 0 Energy Capacity (base capacity)	Rank 30 Energy Capacity (after ranking bonus applied)
Gara	75	175	225
Gara Prime	75	175	225
Garuda	50	140	240
Garuda Prime	100	220	320
Gauss	100	175	225
Gauss Prime	100	175	225
Grendel	100	175	225
Grendel Prime	115	200	250
Gyre	100	190	240
Harrow	50	100	150
Harrow Prime	125	140	190
Hildryn	0	0	0
Hildryn Prime	0	0	0
Hydroid	75	140	190
Hydroid Prime	100	175	225
Inaros	50	100	150
Inaros Prime	75	140	190
Ivara	75	215	265
Ivara Prime	100	250	300
Jade	125	150	200
Khora	75	140	190
Khora Prime	100	175	225
Kullervo	150	175	225
Lavos	0	0	0

Warframe	Starting Energy (energy on spawn)	Rank 0 Energy Capacity (base capacity)	Rank 30 Energy Capacity (after ranking bonus applied)
Limbo Prime	125	215	265
Loki	100	175	225
Loki Prime	125	215	265
Mag	75	140	190
Mag Prime	100	215	265
Mesa	50	100	150
Mesa Prime	65	140	190
Mirage	125	175	225
Mirage Prime	125	175	225
Nekros	50	100	150
Nekros Prime	75	140	190
Nezha	125	175	225
Nezha Prime	125	175	225
Nidus	50	100	150
Nidus Prime	75	140	190
Nova	100	175	225
Nova Prime	150	215	265
Nyx	100	175	225
Nyx Prime	150	175	225
Oberon	75	175	225
Oberon Prime	100	215	265
Octavia	100	175	225
Octavia Prime	100	215	265
Protea	50	175	225

Warframe	Starting Energy (energy on spawn)	Rank 0 Energy Capacity (base capacity)	Rank 30 Energy Capacity (after ranking bonus applied)
Qorvex	50	150	200
Revenant	50	140	190
Revenant Prime	100	175	225
Rhino	50	100	150
Rhino Prime	50	100	150
Saryn	50	175	225
Saryn Prime	100	200	300
Sevagoth	75	140	190
Sevagoth Prime	100	175	225
Styanax	50	175	225
Titania	100	175	225
Titania Prime	125	215	265
Trinity	75	175	225
Trinity Prime	125	175	225
Valkyr	50	100	150
Valkyr Prime	100	175	225
Vauban	75	175	225
Vauban Prime	100	175	225
Volt	50	100	150
Volt Prime	125	200	300
Voruna	50	100	150
Wisp	150	200	300
Wisp Prime	150	200	300

Warframe	Starting Energy (energy on spawn)	Rank 0 Energy Capacity (base capacity)	Rank 30 Energy Capacity (after ranking bonus applied)
Wukong Prime	65	145	195
Xaku	50	160	230
Yareli	50	200	300
Zephyr	50	100	150
Zephyr Prime	75	175	225

Formula

Starting Energy can be increased with unspent mod capacity.

The formula followed is:

$$\text{Final Starting Energy} = \text{Starting Energy} + 5 \times \text{Free Mod Capacity}$$

When Preparation is equipped, the formula becomes:

$$\text{Final Starting Energy} = \text{Starting Energy} + 5 \times \text{Free Mod Capacity} + (\text{Energy Total}$$

Mods

Preparation Follow Through

Effective Energy Capacity

Casting Effective Capacity

Similarly to how one can define the concept of "Effective Health" by weighting the number of hit-points with the corresponding damage reduction, one can also define the concept of casting effective energy capacity by weighting the energy capacity using the Ability Efficiency factor:

$$\text{Effective Energy Capacity}_{casting} = \frac{\text{Energy Capacity}}{2 - \text{Ability Efficiency}}$$

Since casting cost can not be reduce under 25% of the base cost, the highest possible upper-bound for the effective energy capacity is:

$$\text{Effective Energy Capacity} \leq 4 \times \text{Energy Capacity}$$

Toggle Effective Capacity

Since the efficiency of toggle abilities depends also on the duration, in that case the formula becomes:

$$\text{Effective Energy Capacity}_{toggle} = \frac{\text{Energy Capacity} \times \text{Ability Duration}}{2 - \text{Ability Efficiency}}$$

For the case where no energy is recovered and a constant rate of energy is drained, one can also consider the effective toggle duration as follows:

$$\text{Effective Toggle Duration} = \frac{\text{Effective Energy Capacity}_{toggle}}{\text{Base Drain Rate}}$$

$$\text{Effective Toggle Duration} = \frac{\text{Energy Capacity} \times \text{Ability Duration}}{\text{Base Drain Rate}(2 - \text{Ability Efficiency})}$$

$$\text{Effective Toggle Duration} = \frac{\text{Energy Capacity}}{\text{Modified Drain Rate}}$$

Due to the definition of the terms, there are many ways in-which the formula for effective toggle duration can be expressed.

Apart from toggle duration, this can be used to work out the effective duration granted per energy pick up.

Examples

Suppose a Prowling Ivara has a modded drain of 0.25 energy/sec. An orb of 50

$$\frac{50}{0.25} = 200 \text{ seconds}$$

Considering the same Ivara with full energy pool of 744 capacity, she can remain in prowl for:

$$\frac{744}{0.25} = 2,976 \text{ seconds} \approx 50 \text{ minutes}$$

Restoring Energy

Energy does not naturally regenerate over time unless the Energy Siphon aura mod is equipped by at least one member of the squad. Otherwise, energy must be restored either by picking up Energy Orbs (and Health Orbs with Equilibrium) or by a few other means. Trinity and Harrow are the two Warframes with an inherent ability to explicitly restore energy to all Warframes within the squad, and Nekros can Desecrate nearby corpses for a chance to drop more Energy Orbs. Limbo has, and grants, access to the Rift Plane, a dimension in which Warframes regenerate energy over time consistently. The Zenurik Focus tree grants the Energy Pulse and Wellspring abilities; the former being a passive that restores additional energy over-time when picking up Energy Orbs, and the latter being an active ability that creates a dome that restores energy over-time to all Warframes that walk through it.

Two other mods can allow for what can be significant energy restoration by converting a portion of the damage received by enemy attacks on a Warframe's Health into energy: Hunter Adrenaline and Rage. However, these are obviously very risky for many frames and are only suitable for those that are rather "health-tough" with strong base Health, Armor and self-healing; frames that typically rely on constant Stealth or a Shield-Gating defense will not be able to benefit much from these mods.

Besides the Entropy effect from Cephalon Suda, the Blight effect from Red Veil also restores 25% of the player's base energy, and provides a base movement speed boost of +10% for 30 seconds. Squad Energy Restores are consumables that can grant energy to nearby teammates in varying amounts, up to 400 total. When using a Prime Warframe, moving close to a Death Orb will cause it to release a radial wave that restores 250

energy to all nearby Warframes within a small radius, this effect can only occur once per orb.

It is important to note that on most occasions, toggled abilities disable energy generation from team abilities, consumables, or passive regeneration methods. Some exceptions to this are Chroma (Spectral Scream and Effigy) and partially Equinox (Pacify & Provoke and Mend & Maim).

***Casting any abilities will temporary stop any passive energy regeneration methods from working,** due to the the **"drain" needs to be accounted for**, it is suspected that this draining is **coded to be treated like any toggled/channeled abilities**. Frames that casts frequently will benefit from passive energy regeneration far lesser than those who casts lesser due to this mechanic.

Abilities

Equinox | Garuda | Gauss | Gyre | Harrow | Helminth | Limbo | Octavia

Equinox's Passive

Edit

When Equinox collects Health Orbs or Energy Orbs, **10%** of the restored amount is converted into additional Energy and Health respectively.

- This effect stacks with Equilibrium for up to **120%** conversion.

Aside from the aforementioned abilities, there are a few others that have varying chances to drop/spawn Energy Orbs which can be picked up by anyone in a squad.

Hildryn | Nekros | Nezha | Protea

4

100

+**25**/s

+**25**/s/enemy

+**50**/dodge

Aegis Storm

Take the skies and rain Balefire rockets down on the enemy. Nearby enemies are blasted into the air where they will create an Energy Orb every few seconds. When shields run out the

Strength:
100 / 125 / 150 / 200 (Radiation damage per second)
100 / 300 / 400 / 500 (Impact damage on deactivation)

Duration: N/A

Range:

enemies are smashed into the ground.

Introduced in Update 24.4 (2019-03-08)

8 / 10 / 12 / 15 m (energy field max radius)

Misc:
8-18 s (energy orb drop interval)

While not restoring energy directly nor indirectly, Grendel has the unique ability to increase energy gained from all sources and methods mentioned so far, this affects the Warframe itself and allies.

2
50

Nourish

Regenerate health as Grendel absorbs nourishment from enemies in his gut. While he digests, enemies that attack or are attacked by Grendel suffer Viral Damage and energy sources provide more energy. These buffs extend to squad mates.

Introduced in Update 26.0 (2019-10-31)

Strength:
20% (damage on digestion)
600 / 700 / 800 / 1000 (self heal on cast)
1.5 / 1.65 / 1.8 / 2 x (energy multiplier)
100 / 150 / 200 / 250 (Viral damage on hit)
+40% / +50% / +60% / +75% (Viral damage buff)

Duration:
10 / 15 / 20 / 25 s (buff duration)

Range:
10 / 15 / 20 / 25 m (buff radius)
12 m (splash radius)

Misc:
10 (Viral status stacks)
2 s (explosion cooldown)

Subsumable to Helminth

Mods

Warframes | Weapons | Archwing | Augments | Companions | Conclave

Dreamer's Bond

Energy Nexus

Energy Siphon

Equilibrium

Hunter Adrenaline

Rage

Arcanes

Arcane Energize

Emergence Dissipate

Exodia Brave

Primary Exhilarate

Energy Reduction

Sorties with the *Energy Reduction* condition is the only way to reduce a Warframe's Total Energy capacity. This also reduces passive energy regeneration effects, like Energy Siphon and Zenurik's abilities.

There are also some instances where a Warframe's energy can be expended and/or stopped from regenerating. Nightmare Mode's *Energy Drain* condition slowly drains 15 energy per second throughout the mission. On top of its regular effects, a Magnetic proc will drain 90 energy over 3 seconds, or 30 energy per tick. In Conclave, No Current Leap nullifies passive energy regeneration in exchange for increased mobility.

Using Energy as Health

Mods

Gladiator Finesse Quick Thinking

These mods stop lethal damage by allowing hits to drain your energy after your Health is depleted in exchange for occasionally staggering the player. They synergize extremely well with Rage and Hunter Adrenaline since all the health drained before taking lethal damage would ensure that there is enough energy for the mods to consume.

Patch History

Update 35.0 (2023-12-13)

- Increased the Starting Energy of the following Prime Warframes so that they have higher Energy Capacity compared to their base version:
  - Grendel Prime from 100 to 115
  - Inaros Prime from 50 to 75
  - Ivara Prime from 75 to 100
  - Khora Prime from 75 to 100
  - Limbo Prime from 100 to 125
  - Nidus Prime from 50 to 75

Game System **Mechanics**		Edit [Collapse]
Currencies		Credits • Orokin Ducats • Endo • Platinum • Aya • Regal Aya • Standing
General	**Basics**	Arsenal • Codex • Daily Tribute • Empyrean • Foundry • Market • Mastery Rank • Nightwave • Orbiter • Player Profile • Reset • Star Chart
	Lore	Alignment • Fragments • Leverian • Quest
		Corpus • Grineer • Infested • Orokin • Sentient •

	Social	Chat • Clan • Clan Dojo • Leaderboards • Trading
	Squad	Host Migration • Inactivity Penalty • Matchmaking
	Player Housing	Clan Dojo • Dormizone • Drifter's Camp • Orbiter
Gameplay	**Basics**	Affinity • Buff & Debuff • Death • Hacking • Invisible • Maneuvers • One-Handed Action • Open World • Pickups • Radar • Stealth • Tile Sets • Void Relic • Waypoint
	Damage Mechanics	Critical Hit • Damage • Damage Redirection • Damage Reduction • Damage Reflection • Damage Type Modifier • Damage Vulnerability • Health • Status Effect
	Enemies	Bosses • Death Mark • Enemy Behavior • Eximus (Overguard) • Lich System
	Mission	Arbitrations • Archon Hunt • Break Narmer • Empyrean • Invasion • Sortie • Tactical Alert • The Circuit • The Steel Path • Void Fissure
	Activities	Captura • Conservation • Fishing • K-Drive Race • Ludoplex • Mining
	PvP	Duel • Conclave (Lunaro) • Frame Fighter
	Other	Gravity • Threat Level
Equipment	**Modding and Arcanes**	Arcane Enhancements • Archon Shard • Fusion • Mods (Flawed, Riven) • Polarization • Transmutation • Valence Fusion
	Warframe	Attributes (Armor, **Energy**, Health, Shield, Sprint Speed) • Abilities (Augment, Casting Speed, Helminth System, Passives, Duration, Efficiency, Range, Strength)
	Weapons	Accuracy • Alternate Fire • Ammo • Area of Effect • Attack Speed • Bounce • Critical Hit • Damage Falloff • Exalted Weapon • Fire Rate • Hitscan • Holster • Incarnon • Melee • Multishot • Noise • Projectile • Projectile Speed • Punch Through • Recoil • Reload • Ricochet • Trigger Type • Zoom

	Drifter and Duviri	Decrees • Drifter Combat • Drifter Intrinsics • Kaithe
	Other	Archwing • Companion • K-Drive • Necramech • Parazon • Railjack
Technical	**General**	AI Director • Drop Tables • HUD • Key Bindings • Material Structures • PBR • Rarity • RNG • Settings • String Interpolation • Text Icons • Upgrade
	Software, Networking, and Services	Cross Platform Play • Cross Platform Save • Dedicated Servers • EE.cfg • EE.log • File Directory • Fonts • Network Architecture • Public Export • Public Test Cluster • Stress Test • Warframe Arsenal Twitch Extension • World State
	Audio	Mandachord • Music • Shawzin • Somachord • Sound
	Mathematical	Calculating Bonuses (Additive Stacking, Multiplicative Stacking) • Condition Overload (Mechanic) • Enemy Level Scaling • Maximization • User Research

Categories

Languages