“Reactive power is not typically associated with the breaking of atomic or molecular bonds”

I agree.

But what about borrowing the energy associated with atomic or molecular bonds just as reactive power is never spent but is merely borrowed and then returned to the source of its loan?

Is the energy of a non-nuclear atomic or a molecular bond available as real power upon the breakage of these bonds versus reactive power when it is borrowed as during its use within a live circuit?

The energy associated with the breaking of atomic or molecular bonds can be released as real power in certain situations. When a bond is broken, energy is typically required to overcome the attractive forces holding the atoms or molecules together. This energy can be supplied in the form of heat, light, or mechanical work.

If the energy released from bond breakage is harnessed and used to perform useful work, such as generating electricity in a power plant or powering a device, it can be considered real power. In this context, the energy is converted into a usable form, such as electrical energy, and can be used to perform tasks.

On the other hand, the concept of reactive power is associated with the movement of energy within an alternating current (AC) electrical system. Reactive power is not directly related to bond breakage. It arises due to the presence of inductive or capacitive elements in a circuit, which cause the current and voltage to become out of phase.

Reactive power is not typically associated with the breaking of atomic or molecular bonds, but rather with the characteristics of electrical circuits. It is necessary for certain electrical devices to function properly but does not directly contribute to performing work in the same way real power does.

In summary, the energy released from breaking atomic or molecular bonds can be harnessed as real power in specific applications, while the concept of reactive power is unrelated to bond breakage and pertains to electrical circuits.

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In the context of borrowing energy associated with atomic or molecular bonds, it is not accurate to directly equate it to reactive power in an electrical circuit.

Reactive power in an electrical circuit is a measure of the power oscillations caused by reactive components such as inductors and capacitors. It represents the exchange of energy between the source and the load without performing useful work.

On the other hand, when energy is borrowed from atomic or molecular bonds, it usually refers to the energy required to break those bonds and release their potential energy. This energy can be utilized to perform useful work or generate power. Once the bonds are broken, the energy is not "returned" to the source of its loan in the same sense as reactive power. Instead, it is typically transformed into other forms of energy, such as heat or mechanical work.

Therefore, the concept of borrowing energy associated with atomic or molecular bonds does not

align directly with the concept of reactive power in an electrical circuit. The utilization of energy from atomic or molecular bonds involves the conversion of potential energy into other useful forms, rather than a temporary exchange of power without performing work.

You're probably right from a conventional standpoint. But I'm trying to promote something unconventional by seeking an explanation of where does overunity come from when an excess of energy shows up in the utility grid of northern India when the generators are off-line[1] and there should not be any energy occurring there — yet, it does. How to explain this? Can you explain this?

Consider the chemical equivalent of boiling water when it merely evaporates on a concrete sidewalk.

Without the process of overtly boiling, some of the molecules boil (anyway) producing evaporation. We may not call this boiling. We may not call this a limited version of boiling. Yet, that's what it is.

We are limited by what we see — which in this case, what we see is merely evaporation.

Like this, your conventional approach is merely what we see to explain only what we see on a macro-level.

It's a fine explanation as far as it goes, but no further.

Teachers within the domain of universities (and such) are like doctors who will lose their license if their union finds them at fault for talking to us about anything their union has decided is not in the best interest of their profession to talk about (with us) unless we bring it up first. And even then, they may refuse to talk about it with us. That's their choice. That does not mean it's a useless question without a useful answer.

How can we bring it up if the media and schools do not teach us about everything that we could be asking our doctor (or teacher) about?

Such as,...

I asked a registered nurse about the smoking of marijuana to curb the growth of cancer and alleviate the pain. She was able to answer me in the affirmative only because I knew enough to ask. But what about most people who don't know enough to ask? She is constrained by the American Medical Association, a.k.a. her union, not to talk about that subject unless I bring it up. Only then, can she talk about it.

I don't think teachers tell us everything not because they don't know about it and not because it's not scientific but because it's not commercially viable.

Can Valence Electrons Supply Energy, ie. — Can Energy be Extracted from out of the Bonds which Hold Atoms and Molecules together to Perform Useful Work? You betcha! - 100 Watt Light Bulb Challenge - Quora

Sorry for the inconvenience of being put on the spot. But this was the only way I knew how to try to get an answer if I was at all capable of answering the question myself because I did not know I could. Only by asking it and getting various responses from people like yourself on how to ask it differently etc. etc. could I come to the conclusion that I already know the answer!

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1 https://www.researchgate.net/publication/324978006_Low_Frequency_Oscillations_in_Indian_Grid

Thank you, again and again, for your participation.