Opinion

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Your Turn
Ted Crane
Guest columnist

Playing well with the power industry

One of the power industry's better-kept secrets is that green energy sources don't always play well with traditional, large-scale power generation equipment. Integrating the two presents challenges.

Solar, wind and even hydropower are intermittent sources of energy (nighttime, calm days and dry spells get in the way), but the power industry must provide continuous service.

Older, coal-fired generators do not "turn on and off" easily and cannot be used as backup. It's expensive to construct new gas-fired installations, not to mention the issues related to gas production.

Big batteries are needed to store energy produced when the sun shines, the wind blows or the water falls, so it can be used when green energy isn't available ... and for peak usage periods like scorching summer afternoons.

New England's largest battery is mechanical. A "pumped-storage hydroelectric" battery is inside a mountain in Northfield, Massachusetts. Energy is stored by pumping water uphill and recovered, when needed, by letting it flow back down.

Like spicy foods, though, this solution isn't for everyone: Are there any caverns for storage underneath the Finger Lakes? Too much salt? Could they be used for this purpose?

Cheaper and more efficient versions of the ubiquitous chemical battery are a hot topic. All too often, we hear about potentially revolutionary advances in battery tech, but the key word is "potentially."

The cost of lithium-ion batteries has fallen rapidly: About 85% less than 10 years ago, and as much as 30% less than just last year. It still takes many batteries to store large amounts of power, but it can be done less expensively then in the past.

Some power utilities are installing massive battery banks to service peak power periods. The cost is less than building new generation plants, let alone running them.

Other utilities are taking a different approach. Green Mountain Power, serving 265,000 customers in Vermont, has a dream — and an ongoing program — to place whole-house batteries in every home. These would capture green energy and provide service during power interruptions — effectively allowing the utility to shed load during peak power demand moments.

Tompkins County can follow this example. A PPP (public-private partnership) with local power utilities, including traditional fossil-fuel generators and developers of large-scale solar, wind and hydroelectric facilities, could explore ways to decentralize power production and storage. The goals would be to reduce reliance on aging, expensive fossil-fuel generation, provide increased reliability for consumers, and in the long run, save money.

All of this is closely tied to the ineluctable transition to EV (electric vehicle) transportation. Solar PV systems, together with battery storage, can collect daylight power and transfer it to an idle vehicle at night. Outside of the elusive/free/commercial charging station, charging at home is the least expensive way to fill an EV fuel tank (electric "fuel" is a lot cheaper — perhaps half as much — than gasoline).

EV charging at home, with power from PV, is cheaper yet (by as much as six times, or 12 times compared to gasoline) and is pollution free.

Ted Crane is a Dandy resident.

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Stop asking youth what they want to be when they grow up

Your Turn
Kasey Schalich
Guest columnist

American kids routinely face one question: "What do you want to be when you grow up?"

During a recent interaction with undergraduates, I realized that the focus of this ageless question is just this: What do you want? This question frames a career more on a person's desires and less on what one can give to others with their work.

It may seem like a small matter, but if marketing has taught us anything, the framing of a product — or a question — is incredibly powerful. Put another way: If the question is focused primarily on what we want or get out of something, the way we think about the answer will be the same.

Recently, I sat down with 10 undergraduate students participating in a summer sustainability in agriculture program at Cornell. Selected for the internship in part for their potential to be our future leaders, they were asked what they wanted out of a career. The answers were "money, lots of money," "job security" and "good benefits and company culture." It was disappointing. But maybe this is not their fault; these students grew up constantly being asked a question that only centered their own desires.

Fortunately, this is something we can address by asking our future leaders a better question. Instead of asking "What do you want to be?" or "What career do you want?" we should ask "What problems in our community or world do you want to work on?"

The traditional question assumes that a career is mostly about self-fulfillment; the re-focused question assumes that our abilities and passions are tools to be used to address problems in our communities and world. Reframing this question ensures that they will be not bystanders, but leaders, disrupters, and active workers in addressing our collective humanitarian challenges.

In a final discussion group with the same students, I decided to try the new question out: "What problems in our community or world do you want to work on?" Their response was perceptible: they went from post-lunch drowsiness to inspired. A few hastily wrote the question down to remember, while others named global problems they cared about. A sort of collective responsibility seemed to fill the air. It wasn't exactly like one of those scenes when the Avengers assemble, but it was close.

Young adults find satisfaction in a challenge. Being told to work only for our personal financial security or status is never truly satisfying, but using our gifts and talents to serve a bigger purpose than ourselves always will be.

We must cultivate a generation of servant-hearted community and world leaders who are challenged to face, own, and act on the problems we share. Their cultivation is the responsibility of all of us: parents, teachers, siblings, relatives, and community leaders. What kind of adults will the kids you know today grow up to be? What kind of leaders will we have in 10, 20, 30 years? While we don't know these answers, at least for now we may have a better question.

Kasey Schalich is a PhD candidate in the Animal Science department at Cornell University.

LETTER TO THE EDITOR

Trump doesn't 'misstate,' he lies

try has access to the facts. Therefore, there is no ex-