The forest industry is in constant evolution. The past decade (and more) has seen significant changes in equipment, markets, land management and more. 2019 will be no different. As the industry moves forward, those working up and down the supply chain – landowners, loggers, foresters, truckers, mills – will face new challenges and be presented with new opportunities.

We never know what is coming next to the industry, but by looking at where we have been, and asking dozens of folks in the industry what they saw as important, I have a view of where we’re likely headed in the coming year.

Pulp and Paper
There are hopeful signs of stability – maybe even some growth – in the pulp and paper industry. After a few years of mill closures and capacity reductions across the industry, we’re now seeing investment, and the potential to regain some markets. Mills have announced new woodyards, paper machine rebuilds, new tissue machines, and conversions of machines from one grade to another.

We’re also seeing a healthy trend of diversifying the grades of paper produced, away from an over-reliance on paper used in communications (like annual reports, or this magazine) and toward tissue and specialty products – like food-grade packaging. A broader range of end products helps insulate mills and markets from the inevitable changes in consumer behavior in a world where no one owns a phone book it is not a competitive advantage having a world-class mill to produce “directory” paper.
Pulp prices are up and expected to stay strong for several years. That’s a factor in Nine Dragon’s decision to restart the mill in Old Town, Maine, and may cause some other facilities to increase capacity. That’s great news for the entire supply chain. I’m not convinced that we’ll see any sustained, meaningful increase in the price paid for pulpwood, but I expect more stable markets and some increased demand.

**Biomass Electricity**

Biomass electricity plants continue to face challenges. An influx of natural gas from fracking has lowered the wholesale price of electricity. While this is great for consumers (like sawmills and paper mills, which use lots of electricity), it is challenging for generators that sell into this highly competitive market. On top of a challenging electricity market, biomass generation has seen revenues from the sale of Renewable Energy Certificates (RECs) decrease and become constrained by both market forces and changes in public policy.

The past few years have seen states in the region work to support biomass plants through public policy. In Maine, state funding provided additional revenue for four biomass plants, with the hope that a few years of operational support would allow plants to find co-location partners or otherwise find ways to operate profitably. One of those plants is now mothballed, and two operate sporadically. New Hampshire just passed legislation to support five older biomass units with three years of above wholesale market power contracts; that law is now being challenged at the Federal Energy Regulatory Commission. New Hampshire also increased the amount of above-market costs that the newest plant – in Berlin – can charge to ratepayers, in effect extending the life of that facility by a few years.

The public support extends these markets – which is great for loggers, landowners, and others that need to move low-grade wood. However, it is becoming increasingly difficult to see how these plants operate profitably in the future without subsidies (or maybe even with them). Ratepayer and taxpayer support is providing a bridge of continued operation, but it’s not clear that this ends with plants operating once support expires. Several plants have sought co-location partners that would use large quantities of steam or electricity as part of their operations; it appears this is easier said than done.

While I don’t see new stand-alone biomass plants in the region, there are certainly opportunities for smaller, customer-sited biomass generation facilities that use combined heat and power. New facilities at Maine Woods Pellets, Hancock Lumber, and Robbins Lumber in Maine suggest that forest industries are well-positioned to pursue such smaller biomass combined heat and power projects. Using biomass for heating commercial
and institutional buildings, while a small market in aggregate, continues to show promise as oil prices trend modestly upward. Look for bigger building owners to once again take a hard look at swapping out oil or propane for chips or pellets, especially in areas that have no access to pipeline natural gas.

Sawmills
It has been good times for most sawmills, and I expect the trend to continue. Even though 2018 saw some rapid changes in lumber prices, the ability to sell product remained relatively stable. Housing starts continue a slow and sustainable upward climb since the dramatic drop of 2008-2009, and with that comes continued markets. While structural lumber is most clearly tied to housing starts, hardwood and pine markets are closely influenced as well. The Northeastern region has a great mix of species and thus is insulated (to some extent) from changes in specific end-use markets or consumer tastes.

Exports – both of logs and lumber – remain a big question mark for sawmills. With an on-again, off-again tariff war with China, and the uncertainty that brings, both log supply and lumber markets could see some rapid shifts. It is hard to know which direction that is headed, but it appears that the current administration has decided to pursue this issue aggressively – without a clear end-game that mills can plan around.

We are seeing mills get bigger or consolidate, part of the natural evolution of a mature industry. I would expect this trend to continue, and for fewer companies in control of more mills. This past year a few sawmill owners told me they needed to get bigger to compete – and they are taking steps to increase production either by investments at current operations, construction of new mills, or acquisition of competitors.

One issue to watch is markets for mill residuals. Sawmills need to move their chips and sawdust as it is generated, and the loss of some pulp mills and biomass markets has brought some mills to the edge more than once. Most mills tell me they have markets today, but that can change quickly.

Logging
Across the Northeast and Lakes States, loggers tell me they are having a hard time finding and keeping good employees. It’s going to get worse. Until we have a national recession (which is probably on its way, but that isn’t today’s topic), finding employees to work in logging is going to be hard. Individuals that can operate equipment have options – and many of those options pay better and have fewer seasonal disruptions than logging.

It is likely that those individuals that choose to get into logging will do so for lifestyle reasons – they want to work in the woods, they want to follow in the family business, they have sawdust in their blood. It would be wise of the industry to concentrate on finding and nurturing these individuals – and train them with not only the skills necessary to operate harvesting operations but also the knowledge necessary to run a profitable business.

We all know that much of the logging workforce is nearing retirement age, and many have told me they are on their last equipment purchase. That’s a big deal, and we’ll need young leaders to emerge and take their place. There are new or expanded logger training programs in the region – notably New York and Maine – designed to get people ready to start work in the woods (support them if you are asked to – it is an investment in your future). These are great; the next task will be to make sure they have the business chops to survive and thrive in a changing industry.

On the equipment side, I expect that we will see cut-to-length operations replacing whole tree operations in many areas and forwarders will displace skidders as the dominant in-woods transport. That is in part due to expected decreases in biomass market, but also because many landowners (particularly family forest owners, who often live at or near their woods) are asking for low-impact equipment. I’m not saying skidders are going to disappear – they won’t – but expect to see more forwarders in the woods.

Trucking
Trucking is – and will remain – the bottleneck in the forest products industry. A combination of laws and insurance regulations make it hard for young people to get their start in log (or chip) trucking. By the time they have the necessary experience to operate in the woods, they are often settled into driving for another industry.

This sits on top of a nationwide shortage of truck drivers, with the American Trucking Association saying an additional 50,000 drivers are needed nationwide to meet current trucking needs. To put this in perspective, if the entire population of Burlington, Vermont became truckers tomorrow, there would still be a shortage. With this as a backdrop, we can expect trucking from the woods to the mill to be a challenge for the next few years.

While there are ways that public policy can address this (for example, increased weight limits, or the ability of younger drivers to haul across state lines), the wheels of government turn slowly. I expect we are going to see suppliers placing increased value on a mill’s ability to get a truck in, unloaded and back on the road. When there aren’t enough drivers to go around, having drivers consume drive time sitting in line waiting to unload is a waste of a scarce resource.

We often hear about self-driving trucks coming to replace drivers. Someday that will be true, but not today. When it does arrive, I don’t expect that complicated woods to mill routes – involving unmapped roads and log loading – will be the first use case. We’re going to need more drivers for a while.

Conservation and Carbon
Carbon is a forest product, and an increasing number of landowners are looking at ways to monetize this asset. To date most of the activity has been from conservation organizations that are large landowners, but we are hearing of increased interest from private landowners as well. Landowners that don’t have an “exit” – the sale of the timberland – as a core part of their business model are evaluating the opportunity to sell carbon. While such landowners obviously include conservation organization, it also now includes some family trusts or high net worth individuals that expect the land to remain in the family – or in a trust – forever.
When carbon deals happen, there is an impact on wood supply. While most landowners continue to harvest, the volumes coming off the land are greatly reduced, and the forest management is geared toward growth on very long rotations. If we see a marked increase in carbon deals, there will be a time when wood supply is impacted – but not yet.

Land Management
Technology will become an increasingly important tool for foresters and others working in the woods. Already we have seen many companies adopt real-time mapping for harvest planning, communication as a job progresses, and tracking activities. These mapping tools can provide data that allows users to monitor and improve skidding efficiency, answer questions from landowners, and target BMP closeout work.

I also expect we will see increased use of drones in forest management. For mapping, checking up on and documenting harvester operations, and post-harvest inspection, drones will become increasingly common. A few years ago, drones were a toy; today I am hearing from a number of foresters – those that work for large landowners and consulting foresters working on family forests – that use drones as a key tool in their management operations. There are regulatory limits on how and when they can be used; addressing these limitations could open up a range of applications.

I don’t expect these and similar technologies to take over quickly, or to displace foresters. I do expect a continued increase in both use and applications, to the point where in a few years the use of these technologies is considered a common tool to improve land management, contractor efficiency, and environmental compliance.

Emerging Markets
For over a decade, I have heard that large-scale production of liquid fuels from wood is only a year or so away. Sadly, I expect to write this same sentence a year from now. Technologies that produce bio-oil, ethanol, or other liquid fuels from wood certainly exist, but progress is a slow march. In New Hampshire, a hospital is heating with wood-based liquid fuel, produced in Canada. A credible proposal was made to site a bio-oil facility at a closed biomass plant in upstate New York, but the market for end users hasn’t developed, yet. Similar dynamics exist in Maine, and likely in other spots across the region. One issue coming onto everyone’s radar is that the federal incentives, known as the Renewable Fuel Standard, currently give a huge advantage to projects using plantation-grown wood as the feedstock. Developing a project in areas with natural regeneration will be a challenge until this bizarre policy is addressed.
Mass timber, including cross laminated timber (CLT), has been touted as a promising new market in the Northeast. Using mass quantities of lumber to form panels, CLT can be used to build wooden mid-rise buildings (for example, residential or commercial building five to eight stories tall). In a region with lots of small cities and lots of mid-rise construction, CLT and similar technologies offers a new market for wood – displacing steel and cement as building materials.

Despite much excitement about the opportunity CLT presents, it remains a “coming” technology across the region. Two CLT plants have been announced in Maine; neither has broken ground. Large projects aren’t yet being announced that will use CLT, and many architects and designers aren’t yet aware of the opportunity. While mass timber construction has been a reality in Europe of over a decade and a number of projects are underway in the Pacific Northwest and a little in the northeast, there isn’t yet a critical mass to move the industry forward. That said, lots of people and organizations are working on this, and it’s coming. And when it does, don’t expect it to use huge amounts of new timber – it will likely just use some of the existing production of structural timber already being produced in the region – at least to start.

Forest Certification
In two decades forest certification has gone from a unique idea to something so common that the main thing I hear about is the paperwork. I expect forest certification to continue to grow, with an increasing number of landowners participating as a condition of market access (often dictated by the end customer), but the rate of growth has certainly slowed since most of the landowners of size are already certified to one or more system. That noted, there is a big question mark around participation in one of the leading certification programs – the Forest Stewardship Council (FSC). A new FSC Standard is coming out, requiring conformance by 2020. I am hearing concern about the cost and complexity from a number of landowners in the region, and I would not be surprised if we saw a decrease in the number of acres certified to the FSC Standard.

Conclusion
As with any year in memory, there are challenges and opportunities to look forward to in the forest products industry in the northeast U.S. But I am optimistic that the creative, hardworking business people in this industry will capitalize on the opportunities and address the challenges as they always have, by doing exactly what they have to in order to innovate and keep their business moving in the right direction.

Eric Kingsley is a partner at Innovative Natural Resource Solutions LLC, a forest industry consulting firm with offices in New Hampshire and Maine. He can be reached at kinglsey@inrsllc.com